

MARSHALL UNIVERSITY GRADUATE CATALOG

2016-2017

Susan Tams, M.B.A., Ed.D.
Editor

Huntington and South Charleston, West Virginia

**Marshall University is accredited
as an institution of higher learning by:**

**The Higher Learning Commission of the
North Central Association of Colleges and Schools**
30 North LaSalle Street, Suite 2400
Chicago, IL 60602
Toll-free 1-800-621-7440



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Contact Directory

Academic Affairs.....304-696-6690

Admissions

Graduate304-746-1900

International304-696-7250

Colleges and Schools

College of Arts and Media304-696-6433

College of Business304-696-2314

College of Education and Professional Development

Huntington.....304-696-3130

South Charleston.....304-746-2030

College of Information Technology and Engineering

Huntington304-696-5453

South Charleston304-746-2041

College of Liberal Arts304-696-2350

College of Health Professions.....304-696-6750

College of Science.....304-696-2372

Graduate College304-696-6606

Joan C. Edwards School of Medicine304-691-1700

School of Pharmacy.....304-696-7302

Departments and Divisions

Accounting304-696-2310

Adult and Technical Education

(Leadership Studies)304-746-2514

Anatomy and Cell Biology304-696-7382

Anthropology304-696-6700

Art and Design304-696-6760

Athletic Training.....304-696-2929

Biochemistry and Molecular Biology.....304-696-7301

Biological Sciences.....304-696-3148/5413

Biomedical Sciences.....304-696-7322

Business Administration304-746-8964

Chemistry304-696-2430

Classics304-696-6749

Communication Disorders304-696-3640

Communication Studies304-696-6786

Counseling

Huntington304-696-2383

South Charleston304-746-1925

Criminal Justice.....304-696-3083

Dietetics304-696-4336

Early Childhood Education

Huntington304-696-3101

South Charleston304-746-1996

Economics/Finance304-696-2311

Educational Foundations.....304-696-2333

Elementary Education

Huntington304-696-3101

South Charleston.....304-746-1996

Engineering

Huntington304-696-2695

South Charleston.....304-746-2087

English304-696-6600/6601

Environmental Science.....304-746-2045

Exercise Science.....304-696-6490

Finance/Economics304-696-2311

Forensic Science304-691-8931

Geography304-696-4364

Geology.....304-696-6720

Health Care Administration304-746-8964

Health Informatics.....304-696-2718

History.....304-696-6780

Human Resource Management.....304-746-8964

Humanities304-746-2022

Journalism and Mass Communications304-696-2360

Journalism Division.....304-696-4635

Mass Communications Division.....304-696-6025

Kinesiology, School of304-696-6490

Latin.....304-696-6749

Leadership Studies.....304-746-2514

Literacy Education

Huntington304-696-2333

South Charleston.....304-746-2027

Management, Marketing

and Management Information Systems.....304-696-5423

Mathematics.....304-696-6482

Medicine.....304-691-1050

Microbiology.....304-696-7335

Modern Languages.....304-696-6730

Music.....304-696-3117

Nursing.....304-696-6750

Obstetrics/Gynecology.....304-691-1460

Pathology.....304-696-7326

Pediatrics304-691-1371

Pharmacology.....304-696-7313

Philosophy.....304-696-6749

Physical Therapy, School of.....304-696-5611

Physical and Applied Science304-696-6738

Physiology304-696-7362

Political Science304-696-6636

Psychiatry304-691-1550

Psychology	
Huntington	304-696-6446
South Charleston	304-746-1932
Radiology	304-696-7246
Religious Studies	304-696-6749
Safety Technology	304-696-4664
School Psychology	304-746-1932
Secondary Education	
Huntington	304-696-3101
South Charleston	304-746-1996
Sociology	304-696-6700
Spanish	304-696-2743
Special Education	
Huntington	304-696-2340
South Charleston	304-746-2034
Sport Administration	304-696-6490
Surgery	304-691-1280
Technology Management	304-746-2078

Resources and Centers

African American Students'	
Programs, Center for	304-696-5430
Alumni Affairs	304-696-3134
Artists Series	304-696-6656
Athletics	304-696-5408
Ticket Office	304-696-4373
Attorney for Students	304-696-2285
Bookstore	
Huntington	304-696-3622
South Charleston	304-746-2501
Bursar	304-696-6620
Toll-free	800-438-5384
Campus Christian Center	304-696-2444
Career Services	304-696-2370
Center for Teaching and Learning	304-696-2206
Center for Environmental, Geotechnical	
and Applied Sciences	304-696-5453
Center for International Programs	304-696-6265
Community Clinical Services Center	
Dunbar	304-766-2674
Counseling Services	304-696-3111
Dining Services (Sodexo)	304-696-2534
Disability Services, Office of	304-696-2271

H.E.L.P. Program/Learning Disabilities	304-696-6252
ID Card Office	304-696-6843
Information Technology Service Desk	
Huntington	304-696-3200
South Charleston	304-746-1969
Toll-Free	1-877-689-8638
INTO Marshall	304-696-4635
Libraries	
Drinko	304-696-2320
Circulation	304-696-2321
Reference & Instruction Services	304-696-2334
Government Documents	304-696-2342
Health Sciences	304-696-1750
Morrow Stacks	304-696-2343
South Charleston	304-746-8910
Special Collections	304-696-2343
MUOnLine Design Center	
Huntington	304-696-7117
South Charleston	304-746-1948
Multicultural Affairs	304-696-4677
Office of Outreach	
and Continuing Studies	304-696-4723
Prevention Resource Center	304-766-6301
Psychology Clinic	304-696-2772
Registrar	304-696-6410
Residence Services	304-696-6765
Student Activities	304-696-6770
Student Center	304-696-6472
Student Financial Assistance	304-696-3162
Student Government	304-696-6435
Study Abroad	304-696-2465
Telecommunication	304-696-8965
Theatre	304-696-6442
Tutoring Office	304-696-6622
Veterans Affairs	304-696-5278
Women's Center	304-696-3338
Writing Center	304-696-6254

Campuses and Other Locations

Beckley Center	304-256-0266
Mid-Ohio Valley Center	304-674-7200
South Charleston Campus	304-746-2500
Teays Valley Regional Center	304-757-7223

Toll-Free Numbers and World Wide Web Sites

The Graduate Admissions Office has a toll-free telephone number for use by students anywhere in West Virginia. Complete information about Admissions and the Graduate College is available below:

Toll-free telephone number: 1-800-642-9842 (Graduate Admissions Office, South Charleston)

Website: www.marshall.edu/graduate



About This Catalog

The Marshall University Graduate Catalog fulfills two primary functions:

1. The rules and regulations, policies and procedures of the University, its divisions and its governing body, all of which apply to all students, are contained in this document. These rules apply during the publication period of the document and are subject to change during that year upon recommendation of the various divisions and approval of the president or governing body of the University.
2. The Catalog contains the specific requirements for all degrees and certificates awarded by the University. These are normally in effect for a period of ten consecutive years for undergraduate degrees and certificates and seven consecutive years for graduate degrees and certificates. Students are cautioned that programs leading to licensure may be altered by the outside licensing agency and are not subject to this provision.

CATALOG OF RECORD AND DEGREE REQUIREMENTS

The online version is the official Graduate Catalog of Marshall University. It is updated semi-annually. The online catalog that is current for the semester or term during which you are admitted to your graduate degree program is the catalog that applies to you as your “catalog of record.” To ensure that you are meeting the requirements that apply to you, please consult the online Graduate Catalog in effect for the semester or term you are admitted to your degree program.

When Graduate College or degree program requirements are changed after you begin a course of study, with the approval of your advisor, you shall have the option of fulfilling either the old or the new requirements. If you elect to fulfill the old requirement but find that necessary resources (e.g., courses, instruction in particular skills) are no longer available, you may make reasonable substitutes with the approval of your advisor and the appropriate graduate dean. In the event you have not completed the requirements for a graduate degree seven years after the effective date of a change in degree requirements, the new requirements shall apply unless determined otherwise by the advisor and the appropriate academic dean.

STUDENT RESPONSIBILITY

Graduate students accept responsibility to remain current and informed on all regulations, policies, and procedures of their academic program and of the University.

The provisions of this catalog do not constitute a contract, expressed or implied, between any applicant or student and Marshall University. The University reserves the right to change any of the provisions, schedules, programs, courses, rules, regulations, or fees whenever University authorities deem it expedient to do so.



About Marshall University

Jerome A. Gilbert, President

www.marshall.edu

Marshall University encourages individual growth by offering programs and instruction in attainment of scholarship, acquisition of skills, and development of personality. The university provides students with opportunities to understand and to make contributions to the culture in which they live; to develop and maintain physical health; to participate in democratic processes; to learn worthwhile moral, social, and economic values; to develop intellectual curiosity and the desire to continue personal growth; and to share in a varied cultural program. Professional, technical, and industrial career studies are available through the various departments of the university.

Marshall also recognizes an obligation to the state and community by offering evening, off-campus, and Internet classes, lectures, musical programs, conferences, forums, and other campus and field activities.

MISSION OF THE UNIVERSITY

Marshall University is a multi-campus public university providing innovative undergraduate and graduate education that contributes to the development of society and the individual. The University actively facilitates learning through the preservation, discovery, synthesis, and dissemination of knowledge.

Marshall University will

- provide affordable, high quality undergraduate and graduate education appropriate for the state and the region;
- provide services and resources to promote student learning, retention, and academic success;
- foster faculty, staff, and student outreach through service activities; provide a safe and secure employee work environment; make instruction available throughout Marshall's service area using all appropriate modes of delivery;
- enhance the quality of health care in the region;
- promote economic development through research, collaboration, and technological innovations;
- educate a citizenry capable of living and working effectively in a global environment;
- support and strengthen the faculty, staff, student, and administrative governance structures in order to promote shared governance of the institution;
- further the intellectual, artistic, and cultural life of the community and region; and
- adhere to the Marshall University Creed and to the Statement of Ethics.

Marshall University faculty will

- remain current in their fields of expertise and incorporate that expertise in the educational process as appropriate;
- improve instruction through the use of innovative teaching methods that require students to become actively involved in the learning process and develop the critical thinking skills necessary for lifelong learning;
- contribute to the body of knowledge through completion of scholarly and creative activities;
- actively engage and mentor students in scholarly, artistic, and creative endeavors;
- help students develop the ability to navigate through a rapidly changing society; and
- regularly review the curriculum, degree, and programs offered, and recommend necessary additions and deletions to meet changing needs of the state and region.

Marshall University staff will

- support the mission of the University in their transactions with students, staff, faculty, administrators, and the public;
- develop a positive, just, and equitable workplace; and
- be a quality workforce equipped with appropriate skills and knowledge.

(continued)

Marshall University students will have the opportunity to

- use their knowledge, creativity, and critical thinking skills to make their communities better places in which to live;
- examine critically the many issues facing society and, through the process of civil discourse, prepare themselves to become socially responsible individuals who contribute to the betterment of society;
- appreciate and to cultivate diversity, and to value differences;
- participate in activities such as artistic and cultural programs, social and residential life activities, and intercollegiate/intramural athletic teams; and
- undertake intensive graduate-level education in their chosen fields upon admission to graduate school, giving them solid foundations for becoming competent professionals.

Marshall University administration will

- actively seek resources to support the mission and goals of the institution as stated in this document;
- secure funding to support scholarship, artistic, and creative endeavors, faculty and staff development, and state-of-the-art classrooms;
- provide leadership to facilitate the institution's achievement of its mission and vision;
- administer the policies of the university in a fair, ethical, and equitable manner;
- communicate the vision, mission, goals, achievements, and difficulties of the institution in a clear, effective, and forthright manner to both internal and external constituencies; and
- actively support shared governance of the institution.

VISION STATEMENT

Marshall University, an exemplar of excellence in teaching and learning, will continue to place its highest priority on providing outstanding undergraduate and graduate education, resulting in national recognition in academics and in scholarly, artistic, and creative achievement. Marshall's students will graduate well prepared for the responsibilities of life within a culturally diverse and globally interdependent society. Marshall will address the changing needs of the state and region and will return to the community and state an outstanding value for the resources invested in the university.

ACCREDITATIONS

- **Higher Learning Commission of the North Central Association of Colleges and Schools** (30 North LaSalle Street, Suite 2400, Chicago, IL 60602; toll-free 1-800-621-7440, www.ncahigherlearningcommission.org) accredits Marshall University as an institution of higher learning.
- **Accreditation Board for Engineering Technology** accredits the Engineering Technology program.
- **Accreditation Council for Continuing Medical Education** accredits the School of Medicine's Continuing Medical Education program.
- **Accreditation Council for Graduate Medical Education** accredits the School of Medicine's Residency Programs in Internal Medicine, Pathology, Transitional Year, Surgery, Pediatrics, Family Practice and Obstetrics/Gynecology.
- **AACSB International - The Association to Advance Collegiate Schools of Business** accredits the College of Business.
- **AACSB International - The Association to Advance Collegiate Schools of Business** accredits accounting degree programs of the College of Business
- **American Chemical Society** certifies the Department of Chemistry.
- **American Psychological Association** accredits Doctor of Psychology degree program.
- **Accrediting Council on Education in Journalism and Mass Communication** (University of Kansas School of Journalism, Stauffer-Flint Hall, Lawrence, KS 66045; telephone 913-864-3986) accredits the W. Page Pitt School of Journalism & Mass Communications.
- **Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)** (www.cahiim.org; 233 N. Michigan Ave, 21st Floor, Chicago, IL 60601-5800; telephone 312-233-1100) accredits the Master of Science in Health Informatics degree program for 2013 through 2023.
- **Commission on Accreditation of Athletic Training Education** (6850 Austin Center Blvd., Suite 100, Austin, TX 78731; telephone 512-733-9700) accredits the Athletic Training program.
- **Commission on Accreditation in Physical Therapy Education (CAPTE)** (1111 North Fairfax Street, Alexandria, VA 22314; phone: 703-706-3245; e-mail: accreditation@apta.org; website: www.capteonline.org) accredits the Doctor of Physical Therapy program.
- **Council on Academic Accreditation of the American Speech-Language-Hearing Association** (10801 Rockville Pike, Rockville, MD; telephone 301-897-5700) accredits the Communication Disorders graduate program.
- **Council on Accreditation of Nurse Anesthesia Educational Programs** (222 South Prospect Avenue, Park Ridge, IL 60068-4001) accredits the Doctor of Management Practice in Nurse Anesthesia.
- **Forensic Science Education Program Accreditation Commission (FEPAC)/ American Academy of Forensic Sciences (AAFS)** (www.aafs.org/fepac; 410 North 21st Street, Colorado Springs, CO 80904) accredits the Master of Science in Forensic Science

- **Forensic Science Education Program Accreditation Commission (FEPAC)/ American Academy of Forensic Sciences (AAFS)** (www.aafs.org/fepac; 410 North 21st Street, Colorado Springs, CO 80904) accredits the Master of Science in Forensic Science Emphasis in Digital Forensics
- **Liaison Committee on Medical Education of the American Medical Association and the Association of American Medical Colleges** (515 North State Street, Chicago, IL 60610; telephone 312-464-4657) accredits the School of Medicine.
- **National Association of Schools of Music** (11250 Roger Bacon Drive, Reston, VA 22090; 703-437-0700) accredits the School of Music and Theatre.
- **National Council for Accreditation of Teacher Education and the West Virginia State Department of Education** accredit the teacher education program.
- **Accreditation Commission for Education in Nursing, Inc.** (3343 Peachtree Road NE, Suite 850 Atlanta, GA 30326; phone 404-975-5000; fax 404-975-5020) accredits programs for the Associate in Science in Nursing, the Bachelor of Science in Nursing and the Master of Science in Nursing.
- **National Recreation and Park Association and the American Alliance of Leisure and Recreation** accredit the Recreation and Park Resources program.
- **World Safety Organization** accredits undergraduate and graduate programs in Safety Technology.

APPROVALS

- **American Association of University Women** approves Marshall University.
- **Federal Immigration and Nationality Act** approves Marshall University for attendance of nonimmigrant international students.

MEMBERSHIP IN MAJOR ORGANIZATIONS

- AACSB/The International Association for Management Education
- American Association for Affirmative Action
- American Association of Colleges for Teacher Education
- American Association of Colleges of Nursing
- American Association of Family & Consumer Sciences
- American Association of State Colleges and Universities
- American Council on Education
- American Dietetic Association
- American Library Association
- American Speech Language Hearing Association
- Association of American Medical Colleges
- Association of Departments of English, MLA
- Association of Schools of Journalism and Mass Communications
- Council of Colleges of Arts and Sciences
- International Council of Fine Arts Deans
- NACUBO-SACUBO
- National Collegiate Athletic Association
- National League for Nursing
- Southern Council on Collegiate Education for Nursing
- Southern Regional Education Board
- Teacher Education Council of State Colleges & Universities

HISTORY

Marshall University traces its origin to 1837, when residents of the community of Guyandotte and the farming country nearby decided their youngsters needed a school that would be in session more than three months a year. Tradition has it that they met at the home of lawyer John Laidley, planned their school, and named it Marshall Academy in honor of Laidley's friend, the late Chief Justice John Marshall. At the spot called Maple Grove they chose one and one-quarter acres of land on which stood a small log building known as Mount Hebron Church. It had been the site of a three-month subscription school and remained that for another term. Eventually \$40 was paid for the site.

On March 30, 1838, the Virginia General Assembly formally incorporated Marshall Academy. Its first full term was conducted in 1838-39. For decades the fledgling school faced serious problems, most of them financial. The Civil War forced it to close for several years, but in 1867 the West Virginia Legislature renewed its vitality by creating the State Normal School at Marshall College to train teachers. This eased Marshall's problems somewhat, but it was not until the tenure of President Lawrence J. Corbly during 1896-1915 that the college began its real growth.

In 1907, enrollment exceeded 1,000. Since then Marshall's expansion has been consistent and sometimes spectacular. Marshall was granted university status in 1961. The College of Education and Professional Development, first called Teachers College, was organized in 1920 and the first college degree was awarded in 1921. The College of Arts and Sciences was

formed in 1924, The College of Applied Science came into being in 1960; the School of Business was formed in 1969. These were merged into the College of Business and Applied Science in 1972. The School of Medicine and Associated Health Professions was established in 1974, which became the Joan C. Edwards School of Medicine in 2000. The Community College was organized in 1975 and became the Community and Technical College in 1991. In 2003, the Marshall Community and Technical College became an administratively linked, separately accredited institution. Effective July 1, 2008, the Community and Technical College became a separate institution.

The College of Science was authorized by the Board of Regents in 1976. In 1977, the Board approved a change of name for the College of Arts and Sciences to the College of Liberal Arts, and for the College of Business and Applied Science to the College of Business. In 1978, the School of Nursing was established as a separate entity and in 1998 was renamed the College of Nursing and Health Professions and again in 2004 became the College of Health Professions. The W. Page Pitt School of Journalism and Mass Communications was recognized as an independent school in 1998 and in 2013 became part of the College of Arts and Media. The College of Fine Arts (now the College of Arts and Media) was established in 1984. In 1999, the College of Information Technology and Engineering was established. The School of Pharmacy matriculated its first class in 2012. The School of Physical Therapy, a part of the College of Health Professions, matriculated its first class in 2012.

Marshall has taken the lead in delivering courses to off-campus sites throughout the state, nation, and world via distance learning with online courses. Since the formation of the West Virginia Board of Regents in 1969, then under the University of West Virginia Board of Trustees in 1988, and now the Higher Education Policy Commission, Marshall has progressed as an urban-oriented university with regional centers and a statewide mission. As a result of state system support, and because of its own active leadership and its location in the thriving Tri-State area, Marshall is a university with excellent prospects for future development.

Graduate Education

In October, 1938, the West Virginia Board of Education authorized Marshall University to conduct graduate instruction leading to the Master of Arts and the Master of Science degrees. Graduate work was first offered during the summer session of 1939, and the first master's degrees were conferred at the commencement of 1940. The Graduate School on the Huntington campus was organized in 1948. The first Ph.D. degree was conferred in 1992 in Biomedical Sciences.

Graduate education on the South Charleston Campus was born in 1958 when West Virginia University was authorized by the Legislature to establish the Kanawha Valley Graduate Center, which began offering courses in chemistry and chemical, mechanical and civil engineering in 1958-59. In July 1972, the Legislature established the college as a separate entity, the West Virginia College of Graduate Studies (COGS). Two years later, the Board of Regents further defined its mission by specifying geographical areas of responsibility, designating COGS to serve 16 counties of central and southern West Virginia with graduate programs—an area containing about 39 percent of the state's population. On July 1, 1989, a restructured University System of West Virginia was implemented and COGS became the University of West Virginia College of Graduate Studies. With the advent of a new statewide mission approved by the Board of Trustees in 1991, the name was modified in March 1992 to West Virginia Graduate College.

On July 1, 1997, the West Virginia State Legislature authorized a merger of Marshall University and the West Virginia Graduate College, providing a new campus for Marshall University in South Charleston. Today the South Charleston campus is the location for the graduate Humanities and Psychology M.A. programs of the College of Liberal Arts as well as graduate programs of the College of Business, the College of Education and Professional Development, and the College of Information Technology and Engineering.



The Graduate College

David J. Pittenger,
Interim Associate Vice President and Dean of Graduate Studies

www.marshall.edu/graduate

Over the past seven decades the Marshall University Graduate College has provided graduate education to tens of thousands of students and has contributed to the economic and cultural life of the state, region, and nation. At Marshall University, the more than 650 faculty who hold graduate faculty status offer a broad range of courses in many different disciplines. Students may choose from 48 master's programs, 7 doctoral programs, two Education Specialist degrees, and 33 certificate programs, plus an array of professional and professional development courses.

Graduate education is offered on the Huntington campus, the South Charleston campus, throughout the state and region and online world-wide. Some programs offer courses on either the Huntington or South Charleston campus. Some programs offer courses on both campuses and students may complete those programs, start to finish, at the campus location of their choice. Graduate courses may also be offered through Marshall University's regional center locations in Teays Valley, Point Pleasant, or Beckley.

MISSION OF THE GRADUATE COLLEGE

The graduate mission of Marshall University is to provide quality educational opportunities at times and places convenient to students, employing alternative delivery systems and rich learning resources. The institution promotes excellence in instruction, research and public service in the interest of enhancing the intellectual, professional and personal growth of students, faculty and staff. Throughout the state Marshall University offers master's degrees, post-master's programs, doctoral degrees and professional development options according to needs and with a minimum of duplication.

In support of its graduate mission, Marshall University values

- excellence in teaching and advising;
- support services for students;
- the expansion of knowledge through research and inquiry;
- an interactive and collaborative relationship with the community;
- open access to quality educational opportunities;
- lifelong learning;
- cultural diversity;
- the continuous review of our programs and administrative processes;
- innovation and efficiency in the use of resources; and
- personal and institutional accountability.

To fulfill its graduate mission, Marshall University supports the commitment of institutional resources to ensure

- quality in existing graduate programs;
- adequate library resources for meeting accreditation requirements, electronic library needs and program initiatives;
- access to graduate programs within the state, region and nation;
- promotion of technological delivery of courses and programs;
- development of new graduate programs at the master's, post-master's, and doctoral levels according to need;
- recruitment and retention of a strong and diverse graduate faculty;
- recruitment and retention of a strong and diverse graduate student population; and
- development of student life initiatives appropriate for graduate students.

THE GRADUATE COUNCIL

The primary responsibility of the Graduate Council is to make policy recommendations with respect to the graduate education mission of the university to the university president. Specific functions include the facilitation of long range planning for graduate education at Marshall University, the recommendation of new programs and courses, the evaluation of existing programs and courses, the facilitation of graduate accreditation, the recommendation of promotion and tenure policies related to graduate education, and the recommendation of approval of graduate faculty to the university president.

THE GRADUATE FACULTY

There are currently more than 650 faculty who hold graduate faculty status and offer a broad range of courses in many different disciplines.

RESEARCH CENTERS

The Graduate College has a particular interest in research by students and faculty. It is the responsibility of the Graduate Dean to promote research by all available means. A Research Committee composed of faculty members advises the Dean on such matters. Students and faculty interested in research opportunities or who need assistance in their research activities may contact the Graduate Dean's office in Huntington.

Cell Differentiation and Development Center

The Cell Differentiation and Development Center (CDDC) is an inter-disciplinary group aimed at increasing institutional research capacity at Marshall University. The products and outcomes of this venture will be applied to further technology-based economic development in Huntington, Cabell County, and the surrounding tri-state area. The multidisciplinary research groups within the CDDC mainly focus on the mechanisms that govern cellular differentiation and development.

Center for Business and Economic Research

Standing as a research arm of Marshall University, the CBER's mission is to conduct business and economic research pertinent to the West Virginia and tri-state regional economies; provide related research and service support to College faculty; support University economic development and service efforts; integrate with the business community through direct faculty involvement in research related to the West Virginia and tri-state economies; provide business and economic development support to private and public sector constituencies; disseminate information, research findings, and data; and encourage and support faculty in their intellectual pursuits and contributions.

Center for Environmental, Geotechnical and Applied Sciences

CEGAS was established in May 1993 through the cooperative efforts of the presidents of Marshall University and West Virginia Graduate College. On July 1, 1998, CEGAS became an affiliated organization of the College of Information Technology and Engineering (CITE). The goal of the center is to forge close working relationships among the business community, higher education institutions, and government agencies in technology related endeavors. CEGAS has been involved since its inception with educational offerings, research, service, and long-term planning for regional development.

The center has secured more than \$10 million in external contracts and grants for research, development, and service projects in multiple fields of study, including Environmental Management, Engineering, Information Technology, Geographic Information Systems, Safety and Health Technology Innovation, Specialized Training, and business assistance through its Environmental Management Incubator. WV Senate Bill 603 was passed in spring 2005, authorizing the development of regional brownfield assistance centers at Marshall University and West Virginia University. Under CEGAS, the Southern West Virginia Brownfields Assistance Center assists eligible entities in 22 West Virginia counties to convert derelict land into useful and productive property through economic development, workforce development, and site revitalization.

For more information, please visit www.marshall.edu/cegas or contact CEGAS at (304) 696-5453 or cegas@marshall.edu.

Center for the Study of Ethnicity and Gender in Appalachia

CSEGA was made possible by a grant from the Rockefeller Foundation in 1996. The program was established to research and promote research on the various aspects of the people, cultures, and lives within the Appalachian region. The program's accomplishments have included sponsoring 10 scholars in residence, 7 scholar affiliates, and hosting 2 conferences. CSEGA has a unique research mission - it is the only Appalachian Center in the country dedicated to studying and understanding the incredible diversity of the region.

Environmental Management Incubator

The incubator works to enhance the sustainability of regional businesses by providing access to environmental information and management strategies, and encouraging business development based on environmentally-related opportunities.

John Deaver Drinko Academy

The Drinko Academy is devoted to enhancing public understanding of American institutions and the responsibilities of citizens to their society, particularly a sense of shared values and common purpose.

Marshall Institute for Interdisciplinary Research

The goal of this institute, created through the state's "Bucks for Brains" research trust fund, is to develop a focused program of pioneering research dedicated to producing patentable scientific breakthroughs and creating new high-tech businesses based on those discoveries. Focusing on entrepreneurial research through increased educational and career opportunities, it is anticipated that MIIR will have a tremendous effect on the state economy over the next 10-20 years. In its first ten years, MIIR is expected to create more than 1,000 jobs, as well as to generate \$25 million in tax revenue. During its second decade of existence, MIIR is slated to enhance the overall state economy by more than \$280 million.

Marshall University Forensic Science Center

This center provides training to U.S. local, state and foreign country law enforcement agencies; backlog reduction services to U.S. local and state law enforcement agencies; and research on various forensic science topics such as digital forensics, forensic soil analysis, forensic pollen, drug analysis, fire and explosives analysis; DNA method validation studies, and crime scene investigation; educational services to high schools and other members of the local community; economic development services to the public-at-large including civil parentage testing and DNA sample preservation services to families of the deceased. The Forensic Science Center at Marshall University has been designated as a Criminal Justice Agency. The center also houses the accredited M.S. in Forensic Science program, the accredited MU Combined DNA Indexing System (CODIS), Criminal Relationship and Casework Labs, and the West Virginia Cybercrimes Investigation Unit.

Marshall University Nutrition and Cancer Center

Investigators at this NCRR/NIH-funded Center of Biomedical Research Excellence are studying a wide variety of dietary components, including omega-3 fatty acids, capsaicin (responsible for the "hotness" of chili peppers) and alcohol. Cancers of interest include small cell lung cancer, breast cancer, skin cancer and leukemia/lymphoma.

Nick J. Rahall II Appalachian Transportation Institute

The institute helps influence a more diverse and equitable economy for rural Appalachia and other mountain areas by providing insights into how to create and maintain the most cost-effective enhancement to the national transportation system in rural Appalachia and rural America.

Robert C. Byrd Center for Rural Health Resources

This center serves as the base for Marshall's rural medicine outreach programs, which directly affect more than half of West Virginia's population.

Robert C. Byrd Institute for Advanced Flexible Manufacturing

RCBI is the only statewide manufacturing technology production and teaching resource in the state. The institute provides manufacturers with access to advanced equipment; affordable, customized workforce development and technical training programs; quality certification and implementation assistance, and an array of technical support programs.

West Virginia Autism Training Center

This center provides training, information and support to West Virginians with autism, their families, educators and others.

West Virginia IDEa Network of Biomedical Research Excellence

The primary goal of this institute is to develop competitive NIH research at primarily undergraduate institutions in the state. The program also provides students at these institutions with enhanced research experiences. The principal areas of research are cardiovascular disease and cancer.

ANIMAL AND HUMAN SUBJECT RESEARCH

Graduate students conducting research involving experiments that utilize animals must work under the supervision of faculty advisors who have written permission from the Institutional Animal Care and Use Committee (IACUC) before the students can start the research. Information about procedures and protocol forms may be obtained from the Office of Research Integrity through its website at www.marshall.edu/ori.

Graduate students who conduct research involving the use of human subjects must have the approval of the applicable Institutional Review Board (IRB), either Medical or Behavioral and Social Sciences, before starting the research and must work under the supervision of faculty advisors. Information about procedures and approval forms may be obtained at the Office of Research Integrity website at www.marshall.edu/ori.

HAZARDOUS SUBSTANCES

Graduate students who will be using, or who will be generating, hazardous substances in their research must work under the supervision of faculty advisors who obtain permission for such research through the appropriate college safety committee. The college will arrange for proper disposal of these materials. Proposals must be submitted to the appropriate safety committee for approval.

POLICY STATEMENT ON INTEGRITY IN SCIENTIFIC RESEARCH

Research and scholarship are essential parts of Marshall University. The virtues of scholarship are forged from a combination of patience with eagerness, inspiration with meticulous care, and a reverence for integrity with a willingness to challenge cherished assumptions. It is within the research process that these virtues must be held in the highest esteem and measured against a strict set of standards. In this light, it is incumbent upon the institution to insure accurate, objective, valid and reliable research in the finest tradition of scholarship.

It shall be the policy of Marshall University that no faculty member shall knowingly plagiarize, fabricate, or present incorrect data in research or creative activities conducted under the auspices of the institution. Further, in the case of alleged scientific misconduct, all pertinent rules and regulations of the Public Health Service (PHS), such as 42 CFR Part 50 and allied documents, will prevail in providing definitions, procedures, and deadlines.

The complete policy statement may be found on the Web at www.marshall.edu/murc/files/2010/06/Misconduct-in-Research-Policy-Statement-on-Integrity-in-Scientific-Research-April-1994.pdf.



Admission Information

ADMISSION TO THE GRADUATE COLLEGE

Prospective graduate students should apply for admission as early as possible. The first step for a student interested in a degree program is to obtain admission information from the department offering the program desired or from the Graduate Admissions office. Instructions for applying are available at the Graduate College website at www.marshall.edu/graduate.

Admission deadlines are as follows:

Fall Semester: August 1

Spring Semester: December 1

Summer Terms: May 1

Please note that some academic majors have a program-specific deadline. Program-specific deadlines are indicated on the Graduate Application for Admission and in the departmental listing under Degree Program Requirements in this catalog.

Admission to the Graduate College is based on receipt of a baccalaureate degree from an accepted, regionally accredited college or university, the Grade Point Average, the scores on required Admissions examinations and the information provided on the "Application for Graduate Admissions" form.* The receipt of a bachelor's degree from an accepted, regionally accredited college or university is the basic requirement for admission as a graduate student to Marshall University. An applicant who holds a bachelor's degree from an institution that is not regionally accredited may file an appeal to request a waiver of this requirement. Appeals will be reviewed by the Dean of the Graduate College and the dean of the applicant's proposed college on a case-by-case basis and will be granted on an extremely limited basis when the situation warrants. To initiate the appeal process, send a letter of request to the Graduate Admissions Office. The exceptions to the baccalaureate degree requirement pertain to the 3 + 2 joint bachelor's/graduate degree programs offered by the College of Business, students enrolled in the Doctor of Pharmacy program, and those students participating in an approved articulated program of study offered by Marshall University and a collaborating accredited institution of higher education. Students who have previously taken graduate coursework at another institution must submit all transcripts and also meet undergraduate and examination requirements. Poor academic performance in prior graduate work may serve as the basis for the denial of admission to Marshall University Graduate College, at the discretion of the faculty.

The application for admission form accompanied by payment of a non-refundable application fee must be filed in the Graduate Admissions Office at least two weeks prior to the opening of the term of enrollment. One official copy of the applicant's undergraduate transcript showing the degree earned and the date on which it was conferred must be mailed directly from the registrar's office of the student's undergraduate college or university to the Graduate Admissions Office when the application is filed. An official transcript from each college or university previously attended, mailed directly from the registrar's office to the Graduate Admissions Office, may also be required before the applicant can be considered for admission to a degree program. **All materials submitted in support of an application for admission become the property of Marshall University. Materials will not be returned or released to the student or to third parties. Any student admitted on the basis of false and/or incomplete information is subject to immediate dismissal or other disciplinary action.**

In some academic programs, applicants may enroll for one semester with conditional status based upon submission of the application form, an official undergraduate transcript that certifies the receipt of a bachelor's degree, official copies of all other transcripts (if applicable), and the application fee. However, students with conditional status will not be eligible for subsequent registration (even if they do not attend classes) unless they have completed all requirements for admission and have been admitted to their requested program. A student cannot be conditionally admitted to multiple programs within one calendar year and cannot be conditionally admitted to the same program, at any time, more than once. Credit for coursework taken will not be applied toward a degree unless the admission process is completed. Certain programs, including, but not limited to, those in the Graduate School of Management, Nursing, Biomedical Sciences, Communication Disorders, and others require that all admission requirements be completed and that the applicant be admitted to the program before being permitted to enroll for courses in those fields.

*For international students, a baccalaureate degree from the equivalent of an appropriately accredited institution is required. See International Students in this section of the catalog. In addition, all applicants who have an earned degree from a non-English institution must provide proof of English proficiency.

ADMISSIONS EXAMINATIONS

The Graduate Record Examination (GRE) is required of applicants to some programs. M.B.A. students are required to take the Graduate Management Admission Test (GMAT) prior to admission to that program. Other programs may accept the Miller Analogies Test (MAT) in lieu of the GRE. Specific test requirements are indicated in the program or departmental description in later sections of this catalog. Test scores must be sent by the appropriate testing agency directly to the Graduate Admissions Office, Marshall University Graduate College, 100 Angus E. Peyton Drive, South Charleston, WV 25303-1600.

For complete information regarding admission examinations and the services provided by the Marshall University Testing Center, please see www.marshall.edu/graduate/admissions/graduate-admissions-test-information.

Waiver of Admissions Examination

If an applicant holds a master's or higher degree from an accepted, regionally accredited institution of higher education, the admissions examination requirement may be waived for any future master's program at Marshall University. Ultimate responsibility for this decision rests with the faculty of the program in which the student proposes to enroll.

GRADUATE ADMISSION CHECKLIST

- Complete, sign, date and submit by the deadline the Graduate Application for Admission and the required, non-refundable fee to:
Marshall University
Graduate Records and Admissions Office
100 Angus E. Peyton Drive
South Charleston, WV 25303-1600
- Request the registrars of colleges and universities previously attended (except Marshall University) to send official transcripts of your academic record directly to the Graduate Admissions Office as required. Transcripts bearing the stamp "Issued to Student," hand-delivered transcripts, transcripts mailed or handled by the student, faxed transcripts, or transcripts issued to third parties cannot be accepted.
- Have the appropriate testing agency submit your official test scores (GRE, GMAT, or MAT) directly to the Graduate Admissions Office.
- Send or have sent all other items required by your academic major to the Graduate Admissions Office.

Applications are reviewed only after the application fee and all required credentials are received. Prior university holds or obligations on a student's record may cause a delay in application processing or may cause the application not to be processed.

Deadlines

The Application for Graduate Admission must be filed in the Graduate Admissions office by the semester deadline for the desired term of enrollment or by the specific departmental deadline. Semester deadlines are as follows:

Fall Semester: August 1
Spring Semester: December 1
Summer Terms: May 1

Program-specific deadlines are included in the departmental listing under Degree Program Requirements in this catalog or on the Graduate Application for Admission form. Once the application is received by Graduate Admissions, in order for an application to be reviewed for admission, the non-refundable application fee and all required credentials must be filed in the Graduate Admissions office no later than two weeks prior to the opening of the desired term of enrollment or by the specific departmental deadline. Applicants should submit the non-refundable application fee at the time the application is submitted.

ADMISSION CLASSIFICATION OF GRADUATE STUDENTS

DEGREE SEEKING - A student who desires admission as a degree-seeking graduate student must have an overall Grade Point Average of 2.5 on a 4.0 scale from the bachelor's-degree-granting institution. The applicant must provide an official transcript from the degree-granting institution. Individual schools and programs may require higher grade point averages and/or additional credentials or documentation.

Applicants who have not earned the required minimum undergraduate GPA from the degree-granting institution may be considered for full admission if they have successfully completed a graduate/advanced degree from an accepted, regionally accredited college or university.

DUAL-DEGREE SEEKING - Students who wish to seek admission to more than one degree program at a time (Dual Degree Status) must complete a separate application, pay an additional non-refundable application fee, submit all required credentials, and meet all admission requirements for each academic program to which admission is sought. A maximum of 12 semester hours from a prior degree may be applied toward a subsequent master's degree, with the approval of the department from which the subsequent degree is sought. Not all departments may accept a student who is already admitted to another graduate level program. Prior to submitting a Graduate Application for Admission, please check with the academic department(s) of the program(s) in which you are interested. Students who desire a second area of emphasis within their majors should notify the advisor after admission.

CERTIFICATE OR PROFESSIONAL DEVELOPMENT - Students who do not want to be enrolled in degree programs but who wish to enroll in certificate/licensure programs or other programs that require the completion of specified sequences of courses should apply as certificate or professional development students.

In most cases, requirements for admission to certificate or professional development programs are the same as for admission to degree programs, including at least a 2.5 overall undergraduate GPA. However, requirements for admission to these programs can vary and are explained in the Degree Program Requirements section of this catalog.

PROVISIONAL ENROLLMENT - A student may be admitted as provisional in a degree program after submission of all required application materials when he or she possesses a baccalaureate degree and shows academic promise but does not meet the criteria for regular admission. An academically provisional student must be reclassified as a regular student no later than the completion of the 12th graduate credit hour. This is accomplished by meeting the conditions established by the academic program and by maintaining at least a 3.0 GPA in courses identified by the program faculty and approved by the appropriate dean.

CONDITIONAL ENROLLMENT - In some programs, applicants who are not fully admitted may register for courses with conditional enrollment status in the semester for which they have applied for entry based upon submission of (1) a properly completed Graduate Application for Admission form, (2) official undergraduate and graduate transcripts from institutions previously attended, including one which certifies the receipt of a bachelor's degree from an accepted, regionally accredited institution, (3) an overall undergraduate GPA of 2.5 on a 4.0 scale, and (4) the appropriate application fee. Applicants who are permitted to enroll for one semester (enrolled is defined as registered when a term begins or any time thereafter) as conditional students (even if they do not attend the classes) are not eligible to register for subsequent terms until they complete all admission requirements and are fully admitted to the requested program. Many programs do not accept conditional enrollments and require applicants to be fully admitted before enrolling for courses. A student cannot be conditionally admitted to multiple programs within one calendar year and cannot be conditionally admitted to the same program, at any time, more than once.

Students enrolled in the last semester of an undergraduate program *may* be admitted to some programs conditionally for one term subject to completion of the bachelor's degree program and subject to departmental approval. All required credentials, including official transcripts, are necessary for consideration, including an official letter of good standing/proof of pending graduation.

NON-DEGREE ADMISSION - Persons who desire university instruction without becoming graduate degree candidates may attend as non-degree students, provided they have received a bachelor's degree from an accepted, regionally accredited undergraduate college or university. Before enrolling in a class, non-degree graduate students must obtain permission from the instructor. Students wishing to take courses offered by the College of Business must secure approval of the academic advisor. The fees for attendance as a non-degree student are the same as those set for other graduate students. Non-degree enrollment for graduate courses is not available to persons under suspension by the university.

A non-degree student who does not hold a master's or higher degree may take a maximum of 15 semester hours. Permission for non-degree students to register for additional hours beyond 15 can be granted by the Dean of the Graduate College or the appropriate school dean. Applicants for non-degree status will complete a Graduate Application for Admission, pay the application fee, and have the registrar send an official transcript showing proof of a bachelor's degree from an accepted, regionally accredited undergraduate college or university not later than the scheduled time of registration. A person holding a master's or higher degree may take an unrestricted number of additional courses for which he/she has the prerequisites and departmental permission, provided both a transcript verifying the undergraduate degree and a transcript verifying a master's degree or higher (both from an accepted, regionally accredited college or university) are submitted. All transcripts must be official and sent to Graduate Admissions directly from the registrar. Please note that non-degree students may not be eligible for financial aid or graduate tuition waivers.

Non-degree graduate students may apply later for admission to degree programs by filing the necessary documents, provided they meet the admission requirements described in the current Marshall University Graduate Catalog. However, work taken as a non-degree student cannot in itself qualify a person for admission as a degree candidate. Only credit approved by the assigned program advisor and the appropriate dean will be counted toward a degree awarded by the university.

TRANSIENT - A graduate student who is duly enrolled at another accepted, regionally accredited graduate institution may, upon submission of an admission application and a letter of good standing from the registrar at the home university, enroll

for Marshall University graduate coursework. This admission is valid for one semester only. The student must submit a new application and provide a letter of good standing for each semester he/she wishes to attend.

Normally, up to twelve credit hours of coursework may be transferred back to the home institution. Permission to transfer credits is arranged, by the student, with the home university. Transient students who wish to register for coursework beyond twelve credit hours at Marshall are required to obtain the approval of Marshall University's Graduate Dean.

STAFF DEVELOPMENT - School personnel approved by their county school systems may use a departmental form to be admitted in the Staff Development category. Students admitted in this category are restricted to registering for Staff Development classes (560 series) in the College of Education and Professional Development, for which they will receive credit/non-credit or satisfactory/unsatisfactory grades. Such classes cannot be used in degree, professional development or licensure programs. Students who wish to enroll in both regular and Staff Development classes must seek regular admission to the Graduate College.

SENIORS - Seniors at accepted, regionally accredited baccalaureate institutions with a cumulative GPA of at least 2.75 may register for graduate classes (500 and 600 series) after they have received approval from their undergraduate dean, the chair of the department offering the course, and the appropriate graduate college/school dean. Complete applications must be on file in the appropriate graduate dean's office and permission secured prior to the opening of the term of enrollment. Credit for graduate courses completed as a senior can be applied to either an undergraduate or a graduate degree at Marshall University but not to both. No more than 12 graduate hours may be taken as an undergraduate.

The university reserves the right, even after the arrival and enrollment of students, to make individual curricular adjustments whenever particular deficiencies or needs are identified. These deficiencies will be determined by the student's advisor or the program director/department chair. Students may be required to take such courses without credit toward the master's degree and at their own expense. This could also apply to additional coursework in Speech and/or English whenever necessary.

Further requirements or exceptions applicable to special fields are noted in the program statements in this catalog.

Any appeals of admissions decisions should be directed to the program director, dean, or chair of the academic program to which the individual applied.

RESIDENCY CLASSIFICATION FOR ADMISSION AND FEE PURPOSES

Requests for changes in residency status for new students will be evaluated by the Admissions Office provided a completed residency application with all required supporting documentation is submitted **by the end of the first week of classes of each new term**. Thereafter, all requests for changes in residency status for currently enrolled students will be evaluated by the Registrar, for subsequent terms.

Title 133

Procedural Rule

West Virginia Higher Education Policy Commission, Series 25

SECTION 1. General

- 1.1. Scope - Rule regarding residency classification of students for admission and fee purposes.
- 1.2. Authority - W. Va. Code 18B-1-6, 18B-1-7, and 18B-10.
- 1.3. Filing Date - July 2, 2002
- 1.4. Effective Date - August 1, 2002
- 1.5. Repeal of Former Rule - Repeals and replaces Title 128, Series 34 and Title 131, Series 34

SECTION 2. Classification for Admission and Fee Purposes

2.1. Students enrolling in a West Virginia public institution of higher education shall be assigned a residency status for admission, tuition, and fee purposes by the institutional officer designated by the President. In determining residency classification, the issue is essentially one of domicile. In general, the domicile of a person is that person's true, fixed, permanent home and place of habitation. The decision shall be based upon information furnished by the student and all other relevant information. The designated officer is authorized to require such written documents, affidavits, verifications, or other evidence as is deemed necessary to establish the domicile of a student. The burden of establishing domicile for admission, tuition, and fee purposes is upon the student.

2.2. If there is a question as to domicile, the matter must be brought to the attention of the designated officer at least two (2) weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading

statement concerning domicile shall be subject to institutional disciplinary action and will be charged the nonresident fees for each academic term theretofore attended.

2.3. The previous determination of a student's domiciliary status by one institution is not conclusive or binding when subsequently considered by another institution; however, assuming no change of facts, the prior judgment should be given strong consideration in the interest of consistency. Out-of-state students being assessed resident tuition and fees as a result of a reciprocity agreement may not transfer said reciprocity status to another public institution in West Virginia.

SECTION 3. Residence Determined by Domicile

3.1. Domicile within the state means adoption of the state as the fixed permanent home and involves personal presence within the state with no intent on the part of the applicant or, in the case of a dependent student, the applicant's parent(s) to return to another state or country. Residing with relatives (other than parent(s)/legal guardian) does not, in and of itself, cause the student to attain domicile in this State for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least twelve (12) months of continued presence within the state prior to the date of registration: Provided, That such twelve (12) months' presence is not primarily for the purpose of attendance at any institution of higher education in West Virginia. Establishment of West Virginia domicile with less than twelve (12) months' presence prior to the date of registration must be supported by evidence of positive and unequivocal action. In determining domicile, institutional officials should give consideration to such factors as the ownership or lease of a permanently occupied home in West Virginia, full-time employment within the state, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, possessing a valid West Virginia driver's license, and marriage to a person already domiciled in West Virginia. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established. Factors militating against the establishment of West Virginia domicile might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns or on the parents' health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the state when school is not in session.

SECTION 4. Dependency Status

4.1. A dependent student is one (1) who is listed as a dependent on the federal or state income tax return of his/her parent(s) or legal guardian or who receives major financial support from that person. Such a student maintains the same domicile as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the domicile of the parent with whom he/she lives or to whom he/she has been assigned by court order. However, a dependent student who enrolls and is properly classified as an in-state student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state.

4.2. A nonresident student who becomes independent while a student at an institution of higher education in West Virginia does not, by reason of such independence alone, attain domicile in this state for admission or fee payment purposes.

SECTION 5. Change of Residence

5.1. A person who has been classified as an out-of-state student and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he/she has established domicile in West Virginia with the intention of making the permanent home in this State. The intent to remain indefinitely in West Virginia is evidenced not only by a person's statements, but also by that person's actions. In making a determination regarding a request for change in residency status, the designated institutional officer shall consider those actions referenced in Section 3 of these rules. The change in classification, if deemed to be warranted, shall be effective for the academic term or semester next following the date of the application for reclassification.

SECTION 6. Military

6.1. An individual who is on full-time active military service in another state or a foreign country or an employee of the federal government shall be classified as an in-state student for the purpose of payment of tuition and fees: Provided, That the person established a domicile in West Virginia prior to entrance into federal service, entered the federal service from West Virginia, and has at no time while in federal service claimed or established a domicile in another state. Sworn statements attesting to these conditions may be required. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.

6.2. Persons assigned to full-time active military service in West Virginia and residing in the state shall be classified as in-state students for tuition and fee purposes. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.

SECTION 7. Aliens

7.1. An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in Section 3 of these rules, may be eligible for in-state residency classification: Provided, That person is in the state for purposes other than to attempt to qualify for residency status as a student. Political refugees admitted into the United States for an indefinite period of time and

without restriction on the maintenance of a foreign domicile may be eligible for an in-state classification as defined in Section 3 of these rules. Any person holding a student or other temporary visa cannot be classified as an in-state student.

SECTION 8. Former Domicile

8.1. A person who was formerly domiciled in the State of West Virginia and who would have been eligible for an in-state residency classification at the time of his/her departure from the state may be immediately eligible for classification as a West Virginia resident provided such person returns to West Virginia within a one (1) year period of time and satisfies the conditions of Section 3 of these rules, regarding proof of domicile and intent to remain permanently in West Virginia.

SECTION 9. Appeal Process

9.1. Each institution shall establish procedures which provide opportunities for students to appeal residency classification decisions with which they disagree. The decisions of the designated institutional official charged with the determination of residency classification may be appealed in accordance with appropriate procedures established by the president of the institution. At a minimum, such procedures shall provide that:

9.1.1. An institutional committee on residency appeals will be established to receive and act on appeals of residency decisions made by the designated institutional official charged with making residency determinations.

9.1.1.1. The institutional committee on residency shall be comprised of members of the institutional community, including faculty and at least three, in any event, an odd number. The student representative(s) shall be appointed by the president of the institutional student government association while the faculty representative(s) shall be selected by the campus-wide representative faculty organization.

9.1.1.2. The student contesting a residency decision shall be given the opportunity to appear before the institutional committee on residency appeals. If the appellant cannot appear when the committee convenes a meeting, the appellant has the option of allowing committee members to make a decision on the basis of the written materials pertaining to the appeal or waiting until the next committee meeting.

9.1.2. The residency appeal procedures will include provisions for appeal of the decision of the institutional committee on residency appeals to the president of the institution.

9.1.3. Residency appeals shall end at the institutional level.

ADMISSION OF INTERNATIONAL STUDENTS

Marshall University is authorized by the U.S. Department of Homeland Security, Bureau of Citizenship and Immigration Services to enroll non-immigrant visa students with F-1 or J-1 status. International students must have a baccalaureate degree from an appropriately accredited institution or its equivalent.

How to Apply

1. Meet Admission Requirements

Review the admission requirements of the degree program you have selected to determine if you have met the requirements for admission. Degree requirements for every program are listed at www.marshall.edu/catalog/graduate.

2. Understand the Admission Process

The Office of Graduate Admissions will review your application to ensure that the application is complete and that you have met the minimum institutional requirements for admission. Your completed application and supporting materials are then sent to the degree program you selected on your application for a secondary evaluation and an admission decision.

3. Submit Your Application

International students must submit ALL required documents to be considered for admission.

Complete and submit the online application for admission at: www.marshall.edu/graduate/admissions/international-admission.

The application requires a \$150 non-refundable application fee payable by check, money order, or credit card to Marshall University. Please note that this is a non-refundable fee and cannot be refunded in the event that you are not accepted or you are unable to obtain a student visa. All checks must have a 9-digit routing number. DO NOT SEND CASH.

Mail to:

Marshall University
Graduate Admissions Office
100 Angus E. Peyton Drive
South Charleston, West Virginia 25303-1600

You can pay the \$150 application fee with a credit card by contacting Graduate Admissions at 1-800-642-9842. A 2.5% processing fee, per transaction, will be required to make payment by credit card. VISA, MasterCard, Discover and American Express credit cards are accepted.

After we receive all of your application materials, your credentials will be evaluated and, if admissible, you will be sent a letter of admission and an I-20 form. The I-20 form is used to apply for a student visa (F-1) at an American embassy or consulate. We will also send a housing application and a form you can complete to notify us of your arrival.

4. Provide Supporting Documents

- **Official Transcripts**

Transcripts must be in the original language, accompanied by a certified English translation, and contain ALL college or university academic credits and grades. The transcripts must be sent directly to the Marshall University Graduate Admissions office by the Registrar or equivalent at institution that you attended. You may, in some cases, be required to have an evaluation completed by an approved evaluation agency.

- **Evidence of English Language Proficiency**

Proof of your proficiency in English may be certified by submitting one of the following:

- (TOEFL) Test of English as a Foreign Language (Internet based) minimum score of 80 for graduate study. ETS code for Marshall University is #5396.
- (MELAB) Michigan English language Assessment Battery minimum score of 82 for graduate study.
- (IELTS) the International English language Testing System minimum score of 6.5 for graduate study.
- Completion of Level 6 of Marshall's Academic English program, with minimum *Bs* in all courses.
- Completion of Marshall Pathway course ENG 160 or ENG 101A with minimum *C* grade.
- Diploma or degree from an English speaking school - a degree or diploma from an accredited secondary school, college or university in which the primary language of instruction is English.
- You have graduated from a regionally accredited college or university in the United States.

NOTE: English test results that were taken more than two (2) years prior to the date of the application submission cannot be accepted. Some programs may require higher scores for admission.

- **Affidavit of Financial Support**

Marshall University currently requires that the international student demonstrate proof of financial support to cover the tuition and living expenses for one (1) academic year (9 months). We estimate this amount to be \$31,508 USD, subject to change. (In some cases, a 50% deposit will be required in order to issue the I-20 form.) Proof of financial support may be demonstrated in several ways:

- a. An affidavit of financial support from a personal sponsor (parent, relative, friend, etc.) that has been certified by a U.S. bank or financial institution.
- b. A scholarship agency (government, corporation, etc.) stating the availability of funds and the intention to support your educational and living expenses for the entire duration of study at Marshall University.
- c. Personal funds, provided you submit documented evidence of a bank statement from a U.S. bank or financial institution or its affiliate in U.S. dollars (USD). A statement from your employer certifying that you have been granted study leave and salary support arrangements may also be acceptable.

5. Graduate Admission Examinations

Some programs will not consider applications without GRE, GMAT or other graduate admission test scores. Students should refer to the graduate catalog on our website, www.marshall.edu/graduate for additional requirements and application deadlines for specific programs. Admission to Marshall University does not guarantee admission to all programs.

ETS code for Marshall University is #5396

SEND ALL APPLICATION MATERIALS TO:

Marshall University
Graduate Admissions Office
ATTN: International Admission
100 Angus E. Peyton Drive
South Charleston, West Virginia 25303-1000
international@marshall.edu

APPLICATION DEADLINES

June 15 - for students applying to the fall semester beginning in August

October 15 - for students applying to the spring semester beginning in January

March 15 - for students applying to the summer term

Note: Some programs may have application deadlines that are earlier than the ones provided above. In such cases you will need to meet the program's deadline.

Finalize Your Plans

If admitted, you will receive a letter of acceptance and an I-20 form. The I-20 form is used to apply for a student visa (F-1), at an American Embassy or Consulate. We will also send a housing application and a form you can complete to notify us of your arrival.

Additional pre-departure and orientation information is available at: www.marshall.edu/graduate/international-students.

NOTE: For international applicants, Marshall University reserves the right to accept official credentials directly from a limited number of third party agencies that have been approved by the university. Additional or alternate admission credentials may be accepted at the discretion of the Graduate Admissions Office depending on the applicant's country of origin. Please contact Graduate Admissions for details regarding specific admission requirements for applicants from your country.

If you are not able to attend the semester for which you applied, contact the Graduate Admissions Office and we will update your application term to the semester that you will be able to attend. Application materials will be acceptable for the next two terms, including summer terms. After that time period, a new application and documentation will be required.

INTO MARSHALL UNIVERSITY

1-304-696-4686

E-mail: into@marshall.edu

Website: <http://intohigher.com/marshall>

Administration

Eric Fry, Center Director

Kae Bradley, Interim Academic Program Director

Stephanie Hurley, Director of Student Experience

Marshall University offers academic Pathway and English language training programs through the INTO MU Center.

Graduate Pathway Programs

Graduate Pathway programs combine intensive language study, academic skills development, and academic coursework. The programs prepare international students for various graduate degrees at the university. Although all courses taken in the Graduate Pathway are credit-bearing, the English language course credits do not count toward the degree.

The Graduate Pathway programs are designed for international students who:

- Require additional preparation to be admitted directly to the Graduate School;
- Need further development of English language skills;
- Need to improve study skills for success in their chosen field of study; or
- Any or all of the above.

Graduate Pathway Programs are available in:

- Accountancy
- Master of Business Administration (M.B.A.)
- Computer Science
- Engineering Management
- Environmental Engineering
- English with TESOL (Teaching English to Speakers of Other Languages)
- Environmental Science
- Exercise Science
- Health Care Administration
- Health Informatics
- Human Resource Management
- Information Systems
- Mathematics
- Mechanical Engineering
- Public Administration
- Safety
- Sport Administration

- Transportation and Infrastructure Engineering
- Technology Management

For more information please visit <http://intohigher.com/marshall/programs> online.

English Language Programs

The Academic English, General English, and College Year Abroad programs provide students with high-quality English language training.

Academic English

The Academic English program provides international students with an excellent opportunity to improve their English, develop academic skills, and adjust to the local culture and community. Six levels of instruction are offered across three 15-week terms. Students receive a minimum of 20 hours of classroom instruction per week. Successful completion of Level 5 (no grades below *B* at that level) fulfills the English language proficiency requirement for admission to the Graduate Standard Pathway programs; successful completion of Level 6 (no grades below *B* at that level) fulfills the English language proficiency requirement for direct admission to the university or admission to the Graduate Accelerated Pathway programs.

General English

The General English program consists of five-week sessions designed for students at all levels of English who wish to improve their communication skills and learn about American culture. Students receive a minimum of 20 hours of classroom instruction per week.

College Year Abroad

The College Year Abroad program is an extended version of General English. Students register for 25-week or 30-week programs and receive a minimum of 20 hours of classroom instruction per week.

For more information please visit <http://intohigher.com/marshall/programs> online.



Financial Information: Tuition, Fees, and Financial Assistance

FEES

Tuition and fee costs are based on the college in which the major is housed and the specific program. For a complete schedule of tuition and related fees for the current year, please visit www.marshall.edu/tuition.

The university and its governing board reserve the right to change fees and rates without prior notice. Fee assessments are calculated on student level, not course level.

Please note: All fee listings in the fee section of this catalog show the rates authorized and in effect for the fall semester of the 2016-2017 academic year.

TUITION AND ENROLLMENT FEES FOR GRADUATE STUDENTS

	Resident Rates	Metro Fee ¹ Rates	Non-Resident Rates
Total Regular Student Tuition	\$3,710.00	\$6,701.00	\$8,955.00
College of Business Fee	300.00	500.00	500.00
CITE Fee	550.00	850.00	850.00
Ed.S./Ed.D. Programs Fee	108.00	108.00	108.00
Executive M.B.A. Fee	4,500.00	4,500.00	4,500.00
Fine Arts Program ²	175.00	395.00	395.00
Journalism Fee	100.00	175.00	175.00
Education and Professional Development Fee	45.00	45.00	45.00
Health Professions Fee ²	275.00	650.00	650.00
Nursing Fee ²	525.00	900.00	900.00
Psychology Doctorate Fee ²	1,068.00	1,068.00	1,446.00
Dietetics Program Fee	375.00	750.00	750.00
Kinesiology Program Fee	375.00	750.00	750.00
College of Liberal Arts Fee	85.00	85.00	85.00
College of Science Fee	160.00	200.00	200.00

Regular Semester-Biomedical Sciences Program

	Resident Rates	Metro Fee ¹ Rates	Non-Resident Rates
Total Regular Fees	\$4,866.00	\$ 7,082.00	\$ 10,101.00

¹ Fee is applicable to students with residency classifications in the counties of Gallia, Jackson, Lawrence, Meigs, Pike, and Scioto, State of Ohio, and the counties of Boyd, Carter, Elliott, Floyd, Greenup, Johnson, Lawrence, Martin, and Pike, Commonwealth of Kentucky.

Regular Semester-Forensic Science Program

	Resident Rates	Metro Fee ¹ Rates	Non-Resident Rates
Total Regular Fees	\$4,450.00	\$ 6,662.00	\$ 9,731.00

Regular Semester-Master of Public Health Program

	Resident Rates	Metro Fee ¹ Rates	Non-Resident Rates
Total Regular Fees	\$5,439.00	N/A	\$ 11,641.00

Regular Semester-Doctorate in Physical Therapy

	Resident Rates	Metro Fee ¹ Rates	Non-Resident Rates
Total Regular Fees	\$5,533.00	N/A	\$ 8,759.00

Regular Semester-Doctorate in Pharmacy

	Resident Rates	Metro Fee ¹ Rates	Non-Resident Rates
Total Regular Fees	\$9,529.00	N/A	\$16,673.00

SPECIAL STUDENT FEES

Application Fees*

Graduate	40.00
Undergraduate/Graduate Transfer	50.00
College of Health Professions	30.00
Dietetic Internship Program	25.00
School of Nursing	30.00
Master of Public Health	30.00
School of Pharmacy	100.00
International Application/Express Mail Fee	150.00
CLEP/DANTES Testing	15.00
COHP-MPH Non-major Course Fee	
(per 1 hour course)	519.00
(per 2 hour course)	1,038.00
(per 3 hour course)	1,557.00
(per 4 hour course)	2,076.00
COHP-SOK - Activity Course Fee	40.00
COHP-SOK - Scuba Fee	200.00
Distance Tuition (per credit hour)	328.00

(continued)

¹ Fee is applicable to students with residency classifications in the counties of Gallia, Jackson, Lawrence, Meigs, Pike, and Scioto, State of Ohio, and the counties of Boyd, Carter, Elliott, Floyd, Greenup, Johnson, Lawrence, Martin, and Pike, Commonwealth of Kentucky.

E-Delivery Course Fee (per credit hour)	40.00
Enrollment Deposits	
School of Pharmacy*	500.00
School of Physical Therapy*	500.00
Graduation Fees*:	
Master's Degree	50.00
First Professional Degree	100.00
Doctoral Degree	100.00
Certificate Fee	15.00
Diploma Replacement	50.00
Housing Miscellaneous Fees:	
Improper Check-out Fee*	50.00
Mail Box Re-Key (per lock)	30.00
Reservation Deposit	200.00
Room Re-Key (per lock)	40.00
International Student Fee	100.00
Late Payment Fee*	25.00
Meal Card/ID Card Replacement	20.00
Pharmacy - Matriculation Fee	270.00
Pharmacy - Progression Fee	280.00
Pharmacy - Simulation Fee	350.00
Pharmacy - Practice Readiness Fee	270.00
Reinstatement Fee - Course Schedule*	25.00
Returned Check Fee	25.00
Revalidation of Credit Fee (per hour)	25.00
Senior Citizens Course Fee-Series 67	50.00
Student Success Fee	60.00
Study Abroad Fee	100.00
Study Abroad Application/Advising/Shipping Fee	150.00
Study Abroad Registration Fee (per program)	100.00
Transcript	8.00

*Non-refundable.

ROOM AND MEALS

Residence Halls and Food Service Plans

The Department of Housing and Residence Life provides on-campus living space for approximately 2,500 students. Individual residence halls will accommodate between 120 and 500 students in single and double occupancy rooms, and suite-style rooms. All halls are located within walking distance of academic buildings and downtown Huntington. There is 24-hour security in every residence hall. Every student living on campus has a meal plan, a room with WIFI and cable television. Each hall is managed by a Residence Director with a Resident Advisor on each floor who provides the students with the best possible living and learning environment and resources.

Marshall University requires all full-time freshman and sophomore students to live on campus. Exceptions are granted to those living within a 50-mile radius that live at home with a parent or legal guardian; individuals 21 years of age; those who are married; or those who have been high school graduates for more than two years. In order to be considered for release from the residency requirement, a release request and supporting documentation must be submitted to the Department of Housing and Residence Life by July 1 (Fall semester) or November 15 (Spring semester).

*Non-refundable.

SEMESTER FEES (16 weeks)¹:**Residence Halls***Double Occupancy*

First-Year Residence Halls	\$3,133.00
Twin Towers	\$2,697.00
Buskirk	\$2,751.00

Deluxe Single Occupancy

Buskirk (if available)	\$3,833.00
Holderby Hall	\$3,345.00
Twin Towers	\$3,757.00

Single Room Suite

Gibson, Haymaker, Wellman, Willis	\$4,218.00
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Double Room Suite

Gibson, Haymaker, Wellman, Willis	\$3,160.00
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Board Rates¹*Unlimited Meal Plan*

w/ \$50 Flex Dollars	\$1,930.00
w/ \$150 Flex Dollars	\$2,030.00
w/ \$250 Flex Dollars	\$2,130.00

This option offers students unlimited continuous dining throughout the week during the scheduled hours at Harless Dining Hall or Towers Marketplace - Recommended for students who like to dine as often as they wish

175 Meal Passes per Semester Plan with Flex Dollars

w/525 Flex Dollars	\$1,930.00
w/625 Flex Dollars	\$2,030.00

This option offers students 175 meals to dine with throughout the semester during the scheduled hours of operation at Harless Dining Hall or Towers Marketplace.

160 Meal Passes per Semester Plan with Flex Dollars

w/625 Flex Dollars	\$1,906.00
--------------------	------------

This option offers students 160 meals to dine with throughout the semester during the scheduled hours of operation at Harless Dining Hall or Towers Marketplace.

140 Meal Passes per Semester Plan with Flex Dollars

w/725 Flex Dollars	\$1,854.00
w/65 Flex Dollars	\$1,494.00 (this option available to juniors and seniors only)

Flex dollars can be used like cash and are for personal or guest use in the following locations: Memorial Student Center Food Court, all campus coffee shops, Smith Hall Simply to Go, and MU Campus Express.

Each meal plan comes with five meal passes per semester for guests or parents.

Each meal plan comes with four late-night passes per week (one per night).

SUMMER TERM FEES (5 weeks): Residence Halls (unlimited meal plan)¹

Twin Towers Double Occupancy	\$1,446.00
Twin Towers Single Occupancy	\$1,776.00

(continued)

¹Rates are subject to change.

EARLY ARRIVAL/BREAK HOUSING¹

Double Occupancy per day	\$30.00
Single Occupancy per day	\$40.00

COMMUTER MEAL PLANS¹

Fifty Meals w/\$50 Flex Dollars	\$435.00
Thirty Meals w/\$50 Flex Dollars	\$286.00
Twenty Meals w/\$50 Flex Dollars	\$222.00

PAYMENT OF FEES

Tuition fees for a regular semester, a Summer Term, an Intersession, and any special class are due and payable to the Office of the Bursar in accordance with dates established and listed on the Marshall University website at www.marshall.edu/bursar. If you do not pay your enrollment fees on or before the due date, your registration will be cancelled and you will be subject to withdrawal from the university (see **Withdrawal/Reinstatement Policy** below). Do not depend on receiving a bill from the university in the mail. It is always your responsibility to know when enrollment fees are due and to pay them by that time. If you have not paid your enrollment fees by the official due date you must obtain permission from the appropriate academic dean and the Office of the Registrar to register.

Student deferred payment plans for tuition will be offered for the fall and spring semester. All available financial aid from the term must be credited to the student's account prior to determining the amount available for deferral. Contact the Office of the Bursar for current deferred payment plan information. A student's residence services fees (room and board) are due at a semester rate payable in accordance with dates established by the Department of Housing and Residence Life.

You can pay fees by VISA, American Express, MasterCard or Discover by using CashTrack on myMU (www.marshall.edu/myMU). Credit card payments are also accepted at the Office of the Bursar, 101 Old Main.

If you are a recipient of financial aid through the university's loan or scholarship program, the university's Department of Intercollegiate Athletics, or any governmental agency, or by private loan or scholarship, you must complete arrangements for payment through the Director of Student Financial Assistance in 116 Old Main and the University Bursar in 101 Old Main. (See **Student Financial Assistance** below.)

Your registration is not complete until all fees are paid.

Your registration will be cancelled if the bank does not honor your check for payment of registration fees. A charge of \$25.00 will be made for each check returned unpaid by the bank.

A student who has a financial obligation to the university cannot engage in any registration activity until the obligation is satisfied. Should the obligation remain unpaid the obligation may be assigned to a state-authorized collection agency.

A student who withdraws from the institution by following proper withdrawal procedures will receive refunds of fees paid in accordance with the refunding policy.

A student who is required to withdraw from the institution for disciplinary reasons may not receive refunds of fees paid.

WITHDRAWAL/REINSTATEMENT POLICY FOR NONPAYMENT OF ENROLLMENT AND RESIDENCE HALL FEES

1. Through late registration each semester, a schedule of withdrawal for nonpayment will be included on the bursar's office website at www.marshall.edu/bursar. Following late registration, the Bursar will send written notification to the student advising of administrative withdrawal for nonpayment of Enrollment or Residence Hall Fees.
2. Upon notice from the Bursar, the Registrar will initiate a complete withdrawal for a student not paying fees. The withdrawal will be for "Administrative-Nonpayment of Enrollment or Residence Hall Fees."
3. The Registrar will notify the instructor that the student should not be permitted to continue attendance in the class.
4. If the student fulfills the financial obligation, the Bursar's Office will notify the student and his/her academic dean. The academic dean will have discretion to approve registration. If the dean approves, the student, the instructors, and the Registrar will be notified in writing immediately.
5. Upon receipt of notice from the academic dean, the Registrar will initiate the procedure to register the student in the courses for which the student was enrolled at the time of withdrawal.
6. A student who does not meet the financial obligation for enrollment and residence hall fees will have all entries of that registration erased on the Registrar's permanent record.

¹Rates are subject to change.

7. A student who owes a financial obligation to the university will not be permitted to enroll in subsequent semesters or terms until the obligation is paid.
8. If a student disputes an administrative withdrawal, he/she may file an appeal with the Student Grievance Board through the Office of Student Affairs. (The Student Grievance Board is a subcommittee of the Student Conduct and Welfare Committee.) This appeal must be filed before the effective date of withdrawal established by the Bursar. The administrative withdrawal will be suspended until the President of the University acts upon the recommendation of the Student Grievance Board.

WITHDRAWAL/REINSTATEMENT FOR OTHER FINANCIAL OBLIGATIONS

1. Failure to fulfill other types of financial obligations with proper procedure may result in administrative withdrawal from the university.
2. Upon notice from the Bursar, the Registrar will initiate a complete withdrawal for a student not paying financial obligations. The withdrawal will be "Administrative-Nonpayment of Financial Obligations" and will be dated with the effective date of processing of the withdrawal.

Under these conditions, procedures will be followed as outlined above, items 3, 4, & 5, under **"Withdrawal/Reinstatement Policy for Nonpayment of Enrollment and Residence Hall Fees."**

3. Students who do not meet these "Other Financial Obligations" and who are administratively withdrawn from the university will receive the grade determined by the withdrawal policy in effect at the time the administrative withdrawal was initiated.
4. A student who owes other types of financial obligations to the university will not be permitted to enroll in subsequent semesters until the obligation is paid.
5. If a student disputes an administrative withdrawal, he/she may file an appeal with the Student Grievance Board through the Dean for Student Affairs. (The Student Grievance Board is a subcommittee of the Student Conduct and Welfare Committee). This appeal must be filed before the effective date of withdrawal established by the Bursar. The administrative withdrawal will be suspended until the President of the University acts upon the recommendation of the Student Grievance Board.

REFUND PROCEDURES

Enrollment fees (tuition fees) will be refunded during the period designated by the Office of the Registrar for Registration, Late Registration, and Schedule Adjustments for a regular semester or a summer term and published on the bursar's office website at www.marshall.edu/bursar. Enrollment fees (tuition fees) will be refunded to students for:

1. *Schedule Adjustments* - Students who drop one or more classes through the end of the Late Registration period shall be eligible for a full reduction of tuition and fees of the dropped course(s), provided that the remaining tuition and fee assessment falls below twelve credit hours for undergraduate students or nine credit hours for graduate students.
2. *Complete Withdrawals* - Students initiating a complete withdrawal from the University shall receive a reduction in tuition and fees calculated using the following schedule, in accordance with Title 133 Legislative Rule, Series 32, Section 6.1:
During the first 10% of the term, 90% reduction,
From 11% to 25% of the term, 75% ,
From 26% to 50% of the term, 50%,
After 50% of the term is completed, no reduction in tuition and fees will occur.
Should the percentage calculation identify a partial day, the entire day should be included in the higher refund period.
3. *Course Withdrawals after Late Registration* - Students who do not officially withdraw from all classes at the University shall not be eligible for a reduction in tuition and fees.
4. Students receiving financial assistance covered by Title IV, who officially withdraw shall receive a refund in accordance with the Higher Education Act. See the following section.

Return of Title IV Funds Policy

See section under "Student Financial Assistance."

Cancellation of Class

When it becomes necessary to cancel a class by administrative and/or faculty action, a student is granted a full refund of the fee for the class cancelled unless he/she registers in another course of like value in terms of semester hours. This action does not apply to withdrawals due to disciplinary action or withdrawals due to nonpayment of financial obligations.

Residence Services

Cancellation and Refund Policy for Residence Services

Cancellations of the Housing Contract by those not planning to enroll in the University or reside on campus must be received in writing by the Department of Housing and Residence Life on or before May 15th. Such cancellations will result in a refund of \$100.00 of the reservation deposit. Cancellation postmarked after the 15th from individuals who do not enroll in the University or reside on campus will result in a forfeiture of the entire \$200.00 reservation deposit. Individuals who complete a contract and who enroll in the University (academic classes) will be expected to fulfill their obligations for the period specified. For contracts commencing for the Spring or Summer terms, cancellations postmarked 30 days before the opening of housing will result in a \$100.00 refund. Cancellations postmarked after that date will result in a forfeiture of the entire \$200.00 reservation deposit.

Voluntary withdrawal from the University and, in turn, housing and food service prior to the opening of the residence halls will result in a full refund less the \$200.00 reservation deposit. Complete withdrawal from the University and housing and food service between opening day and the first Friday will result in a refund of fifteen weeks room and board. Withdrawals after the first Friday will result in a forfeiture of all monies paid for a room. A prorated refund will be processed for any unused portion of the board plan.

Students whose residency is terminated automatically (due to violations of Code of Conduct or Residence Hall policies) forfeit all monies paid for that semester and remain liable for any unpaid room and meal plan balances at the time of termination. Students will be responsible for any interest, collection and reasonable attorney's fees associated with the collection of delinquent accounts.

Students who are denied admission, declared academically ineligible to return, or are unable to return for medical reasons, will be refunded on a prorated basis.

Refunds of the enrollment fee only to students called to armed services will be processed in accordance with policy established by the Office of the Registrar.

Late fees are nonrefundable.

Student Financial Assistance

Financial Aid Application Process

To apply for financial aid, students must file the Free Application for Federal Student Aid (FAFSA) by visiting www.fafsa.gov. Students must enter Marshall University's Federal School Code: 003815 in Section 6 – of the FAFSA for consideration of all financial aid programs to attend Marshall University.

The priority filing date for the FAFSA is March 1 prior to the academic year the student is attending for full consideration of all federal, state and institutional financial aid programs. Students may file the FAFSA after this date; however, certain financial aid opportunities may be missed.

In addition to the FAFSA, there is a supplemental application for students who wish to apply for financial aid for the summer. Marshall University Summer Financial Aid Applications are available by April 1. Summer is a non-standard term. This requires the Office of Student Financial Assistance to collect additional information, which is not provided on the FAFSA. Summer is also considered a trailer for financial aid awarding purposes, meaning that the summer follows the completed academic year. For example, to apply for financial aid for the 2017 summer terms, the student must have a 2016-2017 FAFSA on file and complete a 2017 Summer Financial Aid Application. To obtain a Summer Financial Aid Application, go to www.marshall.edu/go/summeraid.

Eligibility Determination

1. Student Aid Report

As a result of filing the FAFSA, the student receives a Student Aid Report (SAR) by email if an email address was provided on the FAFSA. Otherwise, the student will be sent a SAR through regular mail. Students have the ability to access their SAR by going to www.fafsa.gov. Students will need their FSA ID to access their SAR.

When students receive their SAR, Marshall University receives the results of the students' FAFSA. The needs analysis results provide an Expected Family Contribution (EFC), which is used to determine a student's financial aid eligibility.

2. Cost of Attendance

The COA that a financial aid package is based upon reflects average costs. Tuition and Fees are fixed costs for any given academic year. For actual tuition and fee costs visit the Bursar's website at www.marshall.edu/bursar.

3. Eligibility Confirmation and Verification

Eligibility Confirmation

Information on the student's FAFSA is checked with federal agencies to confirm that they meet basic eligibility requirements. The following student eligibility criteria are checked:

- Social Security number and citizenship status with the Social Security Administration
- Selective Service registration with the Selective Service System, if required
- Eligible non-citizenship status with the U.S. Department of Homeland Security
- Veteran Status with the U.S. Department of Veteran Affairs
- Default, disability discharge, bankruptcy, aggregate loan history statuses for federal student loans and overpayment status for federal student grants

The Office of Student Financial Assistance must also review other eligibility requirements, which include, but are not limited to:

- Admission Status
- Satisfactory Academic Progress
- Enrollment Status
- Academic Level
- Dependency Status
- Marital Status
- Academic Major/Program
- Identity
- Unusual Enrollment Patterns

If any of these items come up as discrepant, the Office of Student Financial Assistance is required to resolve the issue. This may require the Office of Student Financial Assistance to follow up with the student to request documentation to resolve any of the eligibility issues referenced above.

Verification

Verification is the process in which Student Financial Assistance (SFA) – as dictated by federal and state regulations – compares the information reported on the FAFSA financial and other data including but not limited to the following items:

- Adjusted gross income
- U.S. Income Tax Paid
- Education credits
- Untaxed IRS distribution
- Untaxed pensions
- IRA deductions and payments
- Tax-exempt interest
- Income earned from work
- Household size
- Number in college
- Supplemental Nutrition Assistance Program (SNAP)
- Child support paid
- High school completion status
- Identity/statement of educational purpose

Students who are selected for verification are sent notification instructing them to access their financial aid records by logging into myMU.

SFA must receive all requested documentation before financial aid can be disbursed (or credited) to the student's Bursar account. If there are differences between the data the student supplied on the FAFSA and the verification documentation submitted, corrections to the SAR may be needed, and as a result the student's application will be reprocessed.

Student responsibilities are to:

- Submit all documents requested promptly
- Ensure that all documents are signed and complete and include the student's name and Marshall University ID
- Maintain copies of all information used to file the FAFSA and of documents submitted to the Office of Student Financial Assistance

It is extremely important you respond to requests for information promptly because finalized **financial aid awards are processed in the order of file completion date**. To ensure that your financial funds disburse as scheduled at the start of the fall semester, you must be registered for classes and submit all required documentation by **June 10**; however, you should be prepared to make payment arrangements with the Bursar's Office in the event your financial aid is not finalized by the billing date.

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The deadline for submittal of all verification documents is 30 days prior to the end of the academic year/period you are enrolled. This designated deadline allows SFA to process and authorize disbursements within the timeframe permitted under regulations set forth for administering the federal and state financial aid programs. Failure to provide requested documentation within this timeframe will result in cancellation of your financial aid offers.

If the student has already received an award notice from Marshall University and corrections are made to the SAR after verification, the student will receive a revised award notice if his or her eligibility has changed.

4. Enrollment Status

Each type of financial aid (program) has specific requirements regarding enrollment status.

As a rule financial aid packages are based on full-time enrollment and the Office of SFA uses the student's enrollment status on the first day after drop/add period (usually the 8th day of the semester) to determine financial aid eligibility.

Graduate students enrolled in 9 or more credits are considered full-time students; graduate students enrolled between 5 and 8 credits are considered half-time students for financial aid eligibility purposes.

Professional staff development courses (560 – 564 S/U or CR/NC series) do not count toward the student's degree requirements; therefore, they cannot be calculated as enrolled hours for financial aid eligibility purposes. Only courses that apply to the student's degree may be included to consider enrollment status for federal student aid eligibility.

5. Academic Level Classification

Some financial aid programs have specific criteria based on the student's academic (grade) level. Graduate students taking both graduate and undergraduate courses must be enrolled in at least 5 graduate credits to receive financial aid under a graduate student classification.

Dual Enrollment & Study Abroad

Marshall University students who plan to enroll at another college or university simultaneously may have their other enrollment elsewhere considered for financial aid eligibility at Marshall University.

Students may not receive federal financial aid at more than one institution of higher education for the same courses or at the same time. Students must declare which institution is to be considered the "home school" or the institution where they will receive their degree for financial aid eligibility purposes. To be considered for financial aid as a dually enrolled student or a student taking courses elsewhere during a given semester, a consortium agreement form must be completed and approved by both Marshall University and the other school. Students may download and print a Consortium Agreement Form by visiting www.marshall.edu/sfa and clicking on the "Downloadable Applications & Forms" link. It is located within the General Forms tab.

Financial Aid Satisfactory Academic Progress Policies

1. Graduate Students (Excludes Doctor of Medicine, Doctor of Pharmacy, and Doctor of Physical Therapy)

Satisfactory Academic Progress (SAP) is the term used to define successful completion of degree requirements to maintain eligibility for federal and state financial aid. As required by regulations, Marshall University must determine whether a student is meeting SAP requirements. SAP evaluation for graduate students occurs at the conclusion of the spring semester each year.

The student's entire academic history must be considered when determining SAP status irrespective of whether or not the student received financial aid. This includes transfer credits that apply to a Marshall University degree.

Requirements of the SAP Policy:

The following components are measured to determine whether the student is meeting SAP standards: Qualitative, Quantitative, and Maximum Timeframe.

Qualitative (Grade Point Average)

The qualitative component measures the quality of the student's SAP by conducting a review of the student's cumulative grade point average (GPA). To meet the qualitative requirement, the student must have a minimum cumulative Marshall University and overall GPA of at least a 3.0. Credits accepted from other schools that are applied to a Marshall University degree are counted in the calculation of the student's GPA; and are, therefore, included in the qualitative measure.

(Specific federal, state, and institutional scholarships and grants may require a different minimum GPA for continued eligibility. This consideration is a separate and distinct factor in renewing or continuing eligibility for these specific financial aid funds. Information about the terms and conditions of specific student aid programs that have GPA credit completion requirements are provided to the student at the time the award is offered. This information may be reviewed by logging into myMU and accessing financial aid records.)

Quantitative Measure (Calculating Pace or Completion Ratio)

The quantitative component corresponds to the pace at which the student must progress through his or her program of study to ensure completion within the maximum timeframe permitted and provides for the measurement of the student's progress at the end of each evaluation. Pace or completion ratio is calculated by determining the cumulative number of credit hours the student has successfully completed divided by the number of cumulative credit hours the student

has attempted. Credits accepted from other schools that are applied to a Marshall University degree are counted in the calculation as both attempted and completed hours. To meet the quantitative requirement, the student's completion ratio must be 67% or higher.

Maximum Time Frame Measure

The evaluation of maximum time frame commences the first semester or term of enrollment the student begins his or her graduate program and is counted going forward whether or not the student enrolls in all subsequent semesters or terms. To meet the maximum timeframe requirement, the following rules apply:

Graduate Student Pursuing a Certificate, Master Degree or Ed. S. Degree

Not to exceed 7 years from the start date of the program

Graduate Student Pursuing a Doctorate Degree

Not to exceed 10 years from the start date of the program

Financial aid eligibility is limited to the student receiving a maximum of two Graduate Certificates, two Master's Degrees, one Ed. S. Degree, and two Doctoral Degrees (excluding Doctor of Medicine, Doctor of Pharmacy, and Doctor of Physical Therapy). If the student is pursuing a second Graduate Certificate or second Master's Degree, the seven year count begins again when the student is admitted into the program. If the student is pursuing a second Doctoral Degree, the ten year count begins again when the student is admitted into the program.

In addition to the three measures referenced above to determine a student's SAP, a student who is placed on Academic Probation or Academic Suspension by his or her school or college based on University academic policy is considered ineligible for financial aid.

Effects of Repeated Courses

If the student repeats a course, those credits are counted when measuring the qualitative, quantitative, and maximum time frame components.

Effects of Withdrawal, Incomplete, and In-Progress Grades

If the student withdraws from a course after the first week of classes during any given semester (i.e., student receives a grade of *W* for the course), the course credits are included in the count of attempted credit hours. Thus, withdrawn courses are calculated in the quantitative and maximum time frame measures.

Credits for an incomplete course (i.e., student receives a grade of *I* for the course) are always counted as credits attempted for quantitative and maximum timeframe measures but are not included in the GPA or the credits earned count until the incomplete grade changes to a passing or a failing grade.

Credits for courses in progress (i.e., student receives a grade of *PR* for the course) are not counted as attempted credits for the quantitative measure but are counted in the maximum timeframe measure.

Effect of Change in Academic Program

If a student changes his or her academic program (excluding Doctor of Medicine, Doctor of Pharmacy, and Doctor of Physical Therapy), all course credits attempted will be included in the calculation of the maximum time frame measure. Whether or not a student changes his or her major or is seeking a second Graduate Certificate or Degree, qualitative and quantitative measures are always evaluated.

SAP Definitions:

Financial Aid Probation

Financial Aid Probation status is assigned to a student who fails to make SAP and who has successfully appealed. A student who is placed on Financial Aid Probation may receive financial aid for one subsequent payment period. A student on Financial Aid Probation may be required to meet certain terms and conditions while on Financial Aid Probation, such as taking a reduced course load or taking specific courses. A student assigned a Financial Aid Probation status will be placed on a Financial Aid Academic Plan. At the conclusion of the SAP Academic Probation payment period, the student must either meet the SAP standards or fulfill the requirements specified in the Financial Aid Academic Plan.

SAP Appeal Procedures:

If a student fails one or more of the three measures (qualitative, quantitative and maximum time frame) or is placed on Academic Probation or Academic Suspension, the student is not eligible for federal and state aid including grants, scholarships, work-study and loans. However, students failing SAP standards who have had mitigating circumstances (i.e., death in the family, illness, involuntary military leave) may request reinstatement of their financial aid eligibility by completing the SAP Appeal for Financial Aid Reinstatement Form and submitting it to the Financial Aid SAP Appeals Committee, c/o Office of Student Financial Assistance, by the published SAP Appeal deadlines. The SAP Appeal for Financial Aid Reinstatement Form is available at www.marshall.edu/go/fasap.

The appeal, which must be typed, includes the following student requirements:

1. Detailed explanation for failure to meet SAP standards for each payment period the student failed to perform satisfactorily;
2. Documentation to support the reason for failure;

(continued)

3. A copy of the Plan of Study indicating which courses are remaining to complete the academic program;
4. If cumulative GPA is less than a 3.0, a copy of Academic Ineligible Form;
5. Detailed explanation of what has changed that will now allow the student to comply with SAP standards, a statement of academic objectives, and corrective action plan; and
6. Meet and discuss appeal with academic advisor and obtain his or her signature.

SAP Appeal Deadlines:

<i>Semester/Term</i>	<i>Date</i>
Fall Semester	One week prior to the first day of classes (for 2016-17, August 15, 2016)
Spring Semester	One week prior to the first day of classes (for 2016-17, January 3, 2017)
Summer Terms	End of Award Year (for 2016-17, June 30, 2017)

SAP Appeals Committee and Decision:

The SAP Appeals Committee is composed of representatives from the Office of Student Financial Assistance, Student Affairs, and Academic Affairs. Students will be sent official notification of the SAP Appeals Committee decision. The decision of the SAP Appeals Committee is final.

If the appeal is approved, the student is placed on Financial Aid Probation and the student's financial aid eligibility is reinstated for one subsequent payment period. During the Financial Aid Probation period, the student may be required to fulfill certain conditions for financial aid reinstatement (e.g., enroll part-time). In addition, all students placed on Financial Aid Probation will be provided a Financial Aid Academic Plan.

At the conclusion of the payment period, if the student meets the standards of SAP, the Financial Aid Probation status will be removed. If not, the student's academic performance for the term will be evaluated against the student's Financial Aid Academic Plan. The academic plan requires students to complete 80% of the attempted coursework (100% if the student failed maximum timeframe) and earn a minimum 3.1 GPA for the payment period the student is on Financial Aid Academic Probation. If the student meets the requirements of the Financial Aid Academic Plan, the student will be assigned Financial Aid Probation for a subsequent payment period.

(The FA Academic Plan is separate and distinct from an Academic Ineligible Form (for graduate students), which is required of graduate students who fail to maintain a minimum 3.0 Marshall or overall GPA.)

If the student fails to meet SAP standards or the requirements set forth in the Financial Aid Academic Plan, the student will be deemed ineligible for financial aid. The student may appeal again within the published deadlines.

2. Doctor of Pharmacy Students

Satisfactory Academic Progress (SAP) is the term used to define successful completion of degree requirements to maintain eligibility for federal and state financial aid. As required by regulations, Marshall University must determine whether a student is meeting SAP requirements. SAP evaluation for Doctor of Pharmacy (Pharm.D.) students occurs at the conclusion of the spring semester each year.

The student's entire academic history must be considered when determining SAP status irrespective of whether or not the student received financial aid. This includes transfer credits that reflect on the student's academic transcript as a course that applies to the Marshall University Pharm.D. degree.

Requirements of the SAP Policy:

The following components are measured to determine whether the student is meeting SAP standards: Qualitative, Quantitative, and Maximum Timeframe.

Qualitative (Grade Point Average)

The qualitative component measures the quality of the student's SAP by conducting a review of the student's cumulative grade point average (GPA). To meet the qualitative requirement, the student must have a minimum cumulative Marshall University and overall GPA of at least a 3.0. Credits accepted from other schools that are applied to a Marshall University Pharm. D. degree are counted in the calculation of the student's GPA and are, therefore, included in the qualitative measure.

(Specific external and institutional scholarships, assistantships, and grants may require a different minimum GPA for continued eligibility. This consideration is a separate and distinct factor in renewing or continuing eligibility for these specific financial aid funds. Information about the terms and conditions of specific student aid programs that have GPA requirement and credit completion requirements is provided to the student at the time the award is offered. This information may be reviewed by logging into myMU and accessing financial aid records.)

Quantitative Measure (Calculating Pace or Completion Ratio)

The quantitative component corresponds to the pace at which the student must progress through his or her program of study. This evaluation is to ensure completion within the maximum timeframe (see below) permitted and provides for the measurement of the student's progress at the end of each evaluation. Pace or completion ratio is calculated by determining the cumulative number of credit hours the student has successfully completed divided by the number of cumulative credit hours the student has attempted. Credits accepted from other schools that may be applied to a Marshall University degree

are counted in the calculation as both attempted and completed hours. To meet the quantitative requirement, the student's completion ratio must be 67% or higher.

Maximum Time Frame Measure

The evaluation of maximum time frame commences the first semester or term of enrollment the student begins the DPT program and is counted going forward whether or not the student enrolls in all subsequent semesters or terms. To meet the maximum timeframe requirement, Pharmacy students must complete their program within 13 semesters.

In addition to the three measures referenced above to determine a student's SAP, a student who is placed on Academic Probation or Academic Suspension by the School of Pharmacy based on academic policy is considered ineligible for financial aid.

Effects of Repeated Courses

If the student repeats a course, those credits are counted when measuring the qualitative, quantitative, and maximum time frame components.

Effects of Withdrawal, Incomplete, and In-Progress Grades

If the student withdraws from a course after the first week of classes during any given semester (i.e., student receives a grade of *W* for the course), the course credits are included in the count of attempted credit hours. Thus, withdrawn courses are calculated in the quantitative and maximum time frame measures.

Credits for an incomplete course (i.e., student receives a grade of *I* for the course) are always counted as credits attempted for quantitative and maximum timeframe measures but are not included in the GPA or the credits earned count until the incomplete grade changes to a passing or a failing grade.

Credits for courses in progress (i.e., student receives a grade of *PR* for the course) are not counted as attempted credits for the quantitative measure but are counted in the maximum timeframe measure.

SAP Definitions:

Financial Aid Probation

Financial Aid Probation status is assigned to a student who fails to make SAP and who has successfully appealed. A student who is placed on Financial Aid Probation may receive financial aid for one subsequent payment period. A student on Financial Aid Probation may be required to meet certain terms and conditions while on Financial Aid Probation. A student assigned a Financial Aid Probation status will be placed on a Financial Aid Academic Plan. At the conclusion of the Financial Aid Academic Probation payment period, the student must either meet the SAP standards or fulfill the requirements specified in the Financial Aid Academic Plan.

SAP Appeal Procedures:

If a student fails one or more of the three measures (qualitative, quantitative and maximum time frame) or is placed on Academic Probation or Academic Suspension, the student is not eligible for federal and state financial aid, which includes grants, scholarships, work-study and loans. However, students failing SAP standards who have had mitigating circumstances (e.g., death in the family, illness, involuntary military leave) may request reinstatement of their financial aid eligibility by completing the SAP Appeal for Financial Aid Reinstatement Form and submitting it to the Financial Aid SAP Appeals Committee, c/o Office of Student Financial Assistance. The SAP Appeal for Financial Aid Reinstatement Form is available at www.marshall.edu/go/fasap.

The appeal, which must be typed, includes the following student requirements:

1. Detailed explanation for failure to meet SAP standards for each payment period the student failed to perform satisfactorily;
2. Documentation to support the reason for failure;
3. The student's Plan of Study;
4. The student's Academic Ineligible Form;
5. Detailed explanation of what has changed that will now allow the student to comply with SAP standards, a statement of academic objectives, and corrective action plan; and,
6. Meet and discuss the appeal with the student's academic dean or designee and obtain his or her signature.

SAP Appeal Deadlines:

<i>Semester/Term</i>	<i>Date</i>
Fall Semester	One week prior to the first day of classes (for 2016-17, August 15, 2016)
Spring Semester	One week prior to the first day of classes (for 2016-17, January 3, 2017)
Summer Terms	End of Award Year (for 2016-17, June 30, 2017)

SAP Appeals Committee and Decision:

The SAP Appeals Committee is composed of representatives from the Office of Student Financial Assistance, and the School of Pharmacy Student Affairs and Academic Affairs offices. Students will be sent official notification of the appeals committee decision. The decision of the SAP Appeals Committee is final.

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If the appeal is approved, the student is placed on Financial Aid Probation and the student's financial aid eligibility is reinstated for one subsequent payment period. During the Financial Aid Probation period, the student may be required to fulfill certain conditions for financial aid reinstatement. In addition, all students placed on Financial Aid Probation will be provided a Financial Aid Academic Plan.

At the conclusion of the payment period, if the student meets the standards of SAP, the Financial Aid Probation status will be removed. If not, the student's academic performance for the term will be evaluated against the student's Financial Aid Academic Plan. If the student meets the requirements of the Financial Aid Academic Plan, the student will be assigned Financial Aid Probation for a subsequent payment period.

If the student fails to meet SAP standards or the requirements set forth in the Financial Aid Academic Plan, the student will be deemed ineligible for financial aid. The student may appeal again for a future payment period within the published deadlines.

3. Doctor of Physical Therapy Students

Satisfactory Academic Progress (SAP) is the term used to define successful completion of degree requirements to maintain eligibility for federal and state financial aid. As required by regulations, Marshall University must determine whether a student is meeting SAP requirements. SAP evaluation for Doctor of Physical Therapy (DPT) students occurs at the conclusion of the spring semester each year.

The student's entire academic history must be considered when determining SAP status irrespective of whether or not the student received financial aid. This includes transfer credits that reflect on the student's academic transcript as a course that applies to the Marshall University DPT Degree.

Requirements of the SAP Policy:

The following components are measured to determine whether the student is meeting SAP standards: Qualitative, Quantitative, and Maximum Timeframe.

Qualitative (Grade Point Average)

The qualitative component measures the quality of the student's SAP by conducting a review of the student's cumulative grade point average (GPA). To meet the qualitative requirement, the student must have a minimum cumulative Marshall University and overall GPA of at least a 3.0. Credits accepted from other schools that are applied to a Marshall University DPT Degree are counted in the calculation of the student's GPA and are, therefore, included in the qualitative measure.

(Specific external and institutional scholarships, assistantships, and grants may require a different minimum GPA for continued eligibility. This consideration is a separate and distinct factor in renewing or continuing eligibility for these specific financial aid funds. Information about the terms and conditions of specific student aid programs that have GPA requirement and credit completion requirements is provided to the student at the time the award is offered. This information may be reviewed by logging into myMU and accessing financial aid records.)

Quantitative Measure (Calculating Pace or Completion Ratio)

The quantitative component corresponds to the pace at which the student must progress through his or her program of study. This evaluation is to ensure completion within the maximum timeframe (see below) permitted and provides for the measurement of the student's progress at the end of each evaluation. Pace or completion ratio is calculated by determining the cumulative number of credit hours the student has successfully completed divided by the number of cumulative credit hours the student has attempted. Credits accepted from other schools that may be applied to a Marshall University degree are counted in the calculation as both attempted and completed hours. To meet the quantitative requirement, the student's completion ratio must be 67% or higher.

Maximum Time Frame Measure

The evaluation of maximum time frame commences the first semester or term of enrollment the student begins the DPT program and is counted going forward whether or not the student enrolls in all subsequent semesters or terms. To meet the maximum timeframe requirement, DPT students must complete their program within 13 semesters.

In addition to the three measures referenced above to determine a student's SAP, a student who is placed on Academic Probation or Academic Suspension by the College of Health Professions DPT Program based on academic policy is considered ineligible for financial aid.

Effects of Repeated Courses

If the student repeats a course, those credits are counted when measuring the qualitative, quantitative, and maximum time frame components.

Effects of Withdrawal, Incomplete, and In-Progress Grades

If the student withdraws from a course after the first week of classes during any given semester (i.e., student receives a grade of *W* for the course), the course credits are included in the count of attempted credit hours. Thus, withdrawn courses are calculated in the quantitative and maximum time frame measures.

Credits for an incomplete course (i.e., student receives a grade of *I* for the course) are always counted as credits attempted for quantitative and maximum timeframe measures but are not included in the GPA or the credits earned count until the incomplete grade changes to a passing or a failing grade.

Credits for courses in progress (i.e., student receives a grade of PR for the course) are not counted as attempted credits for the quantitative measure but are counted in the maximum timeframe measure.

SAP Definitions:

Financial Aid Probation

Financial Aid Probation status is assigned to a student who fails to make SAP and who has successfully appealed. A student who is placed on Financial Aid Probation may receive financial aid for one subsequent payment period. A student on Financial Aid Probation may be required to meet certain terms and conditions while on Financial Aid Probation. A student assigned a Financial Aid Probation status will be placed on a Financial Aid Academic Plan. At the conclusion of the Financial Aid Academic Probation payment period, the student must either meet the SAP standards or fulfill the requirements specified in the Financial Aid Academic Plan.

SAP Appeal Procedures:

If a student fails one or more of the three measures (qualitative, quantitative and maximum time frame) or is placed on Academic Probation or Academic Suspension, the student is not eligible for federal and state financial aid, which includes grants, scholarships, work-study and loans. However, students failing SAP standards who have had mitigating circumstances (e.g., death in the family, illness, involuntary military leave) may request reinstatement of their financial aid eligibility by completing the SAP Appeal for Financial Aid Reinstatement Form and submitting it to the Financial Aid SAP Appeals Committee, c/o Office of Student Financial Assistance. The SAP Appeal for Financial Aid Reinstatement Form is available at www.marshall.edu/go/fasap.

The appeal, which must be typed, includes the following student requirements:

1. Detailed explanation for failure to meet SAP standards for each payment period the student failed to perform satisfactorily;
2. Documentation to support the reason for failure;
3. The student's Plan of Study;
4. The student's Academic Ineligible Form;
5. Detailed explanation of what has changed that will now allow the student to comply with SAP standards, a statement of academic objectives, and corrective action plan; and,
6. Meet and discuss the appeal with the student's academic dean or designee and obtain his or her signature.

SAP Appeal Deadlines:

<i>Semester/Term</i>	<i>Date</i>
Fall Semester	One week prior to the first day of classes (for 2016-17, August 15, 2016)
Spring Semester	One week prior to the first day of classes (for 2016-17, January 3, 2017)
Summer Terms	End of Award Year (for 2016-17, June 30, 2017)

SAP Appeals Committee and Decision:

The SAP Appeals Committee is composed of representatives from the Office of Student Financial Assistance and the School of Physical Therapy Student Affairs and Academic Affairs offices. Students will be sent official notification of the appeals committee decision. The decision of the SAP Appeals Committee is final.

If the appeal is approved, the student is placed on Financial Aid Probation and the student's financial aid eligibility is reinstated for one subsequent payment period. During the Financial Aid Probation period, the student may be required to fulfill certain conditions for financial aid reinstatement. In addition, all students placed on Financial Aid Probation will be provided a Financial Aid Academic Plan.

At the conclusion of the payment period, if the student meets the standards of SAP, the Financial Aid Probation status will be removed. If not, the student's academic performance for the term will be evaluated against the student's Financial Aid Academic Plan. If the student meets the requirements of the Financial Aid Academic Plan, the student will be assigned Financial Aid Probation for a subsequent payment period.

If the student fails to meet SAP standards or the requirements set forth in the Financial Aid Academic Plan, the student will be deemed ineligible for financial aid. The student may appeal again for a future payment period within the published deadlines.

Types of Aid Available

Financial aid is funding for college education that comes from sources outside of the student's family. Gift aid and self-help aid are the two categories of financial aid. Gift aid comes in the form of grants and scholarships and usually do not have to be repaid. Self-help aid comes in the form of loans and work-study. Financial aid at Marshall University is awarded based on financial need, merit, or both. Students may receive a combination of grants, scholarships, loans, and work-study in their Financial Aid Package. Sources of funding come from Marshall University, the federal government, the state and other entities.

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For current and more detailed information on types of financial aid available, please visit www.marshall.edu/sfa and click on the Types of Aid tab.

Notification and Disbursement of Awards

1. Checking Financial Aid Records

Students may access their financial aid records by logging on to their myMU account. myMU is the student's campus web portal used to provide students with easy online access to their Marshall University records.

In order to log into myMU, students must have both their unique Marshall University username and password. Any student who has problems accessing his or her myMU records should email helpdesk@marshall.edu or call 1-877-689-8638.

2. Understanding Financial Aid Awards & Requirements

Online financial aid notification via the student's myMU account is the official method by which students receive information regarding their financial aid application and awards.

Email is the primary means of communication between students and the Marshall University Office of Student Financial Assistance. Emails are sent to the student's Marshall University email account. It is the student's responsibility to monitor email notifications from the Office of Student Financial Assistance as well as from other university offices. Failure to read and respond to email communications from the Office of Student Financial Assistance may result in delay or cancellation of financial aid awards.

Once you access your financial aid records within the Financial Aid Main Menu tab, you will be able to view the following topics:

- Financial Aid Status
- Eligibility
- Awards

3. Disbursement of Financial Aid (or Financial Aid Crediting to your Billing Account)

The earliest financial aid may credit to students' billing accounts is 10 days before the semester begins. However, financial aid will not credit to the student's account unless all eligibility requirements have been met and verification has been completed. In addition, if the student is taking out a student loan, the student must have completed entrance loan counseling and completed a master promissory note for the respective loan program.

Pending financial aid is a temporary status and is used for financial planning purposes only. Pending financial aid allows the Bursar Office to defer payment of student's tuition, fees, residential and board payments until the financial aid is finalized and credited to the student's Bursar account. Students are responsible for making payment for the difference between bursar charges and financial aid awards by the designated due dates established by the University.

Financial aid awards are not final until they have credited to the student's account. In the Overall Status tab of a student's MILO account, students may view their Account Summary, which includes all of the Bursar Office fees and financial aid if it has credited to your account.

4. Payment Plan Option

Under the Marshall University OASIS Payment Plan, students may select to make three equal payments of their outstanding charges for the fall or spring semester after any applicable financial aid has been applied. For more information, visit www.marshall.edu/bursar.

5. Refunds Due to a Financial Aid Credit Balance

When financial aid for the semester/term exceeds a student's direct charges (tuition, fees, etc.) on the student bill, the student is entitled to a refund for the difference for use toward other educational expenses. The Bursar Office issues refunds to students beginning the first day of classes. Only those students whose financial aid was credited 10 days prior to the semester/term with a credit balance will receive a refund on the first day of the semester/term. Following the first day of the semester/term, it takes approximately one week after financial aid is disbursed for the Bursar Office to issue a financial aid refund to a student.

For more information about financial aid refunds visit the Bursar's website at www.marshall.edu/bursar.

6. Impact on Financial Aid Due to Withdrawal or Failure to Enroll

Students could jeopardize receipt of some types of aid if they are not properly enrolled at the time that financial aid funds disburse. Students may have originally been packaged as a full-time student, but at the time the funds are ready to disburse, students' enrollment status may differ. Students change in enrollment may impact the eligibility for certain funds.

If a student does not attend for a period of enrollment that he/she has been awarded financial aid, the Office of Student Financial Assistance must cancel all financial aid awards offered. Upon re-enrollment, the student may request assistance again, but, because awards are based on the availability of funds, funding may be limited.

Students who plan to withdraw from any courses during an academic term should consult with a Financial Aid Counselor. Withdrawing from courses may prevent students from making Financial Aid Satisfactory Academic Progress and affect eligibility for future financial aid assistance. Students who cease attending all courses must follow the official withdrawal procedure as defined by the Registrar's Office to obtain an official withdrawal date.

When students withdraw from all courses on or before the 60% point in time of an academic term, the Office of Student Financial Assistance is required to review their financial aid awards to determine whether financial aid funds must be adjusted in accordance with federal and state regulations. The policies on treatment of financial aid for total withdrawal are specific to each designated financial aid program and are applicable only if the student has received those particular kinds of funds. If a student received various types of financial aid, more than one policy may apply when determining revised financial aid eligibility.

Treatment of Marshall University, State & External Aid for Total Withdrawal

Adjustments to institutional and external financial aid follow the Marshall University Refund Policy. The following chart describes how institutional and external financial aid is treated whenever a student withdraws. Adjustments to state financial aid follow the chart below when the student is not a recipient of Title IV (federal) student aid. Otherwise, state aid is adjusted according to the Treatment of Title IV (Federal) Aid for Total Withdrawal, below, and is adjusted

Period of Withdrawal During a Semester	Percentage of Aid Returned to Program
During the first 10%	90%
From 11% to 25%	75%
From 26% to 50%	50%

For example, if a student withdraws at the exact midpoint of the semester, the student would have 50% of his/her tuition charge reversed. Simultaneously, if a student received an institutional scholarship for the semester in the amount of \$2,000, 50% or \$1,000 of this scholarship would be returned to the respective financial aid program.

Treatment of Title IV (Federal) Aid for Total Withdrawal

The federal policy for return of Title IV funds maintains that a student retains only that portion of federal aid that the student has earned based on time in attendance before withdrawal. The percentage of time that the student attended an academic term determines the amount of federal aid that must be returned to the federal government. This federally mandated policy is independent of Marshall University's institutional refund policy due to withdrawal. Marshall University is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of the semester or the financial aid payment period. Should the student cease to be enrolled prior to completing 60% of the semester or financial aid payment period, the Office of Student Financial Assistance applies the Federal Return of Title IV funds formula to determine whether any federal financial aid must be returned.

The Federal Return of Title IV formula is calculated as follows:

Total # of Days Student Completes Until Withdrawal/Total # of Days in the Semester or Payment Period

This formula determines the percentage of the semester completed, which is the same percentage of earned financial aid.

Funds are returned to the appropriate federal program based on the percentage of unearned aid using the following formula:

**(100% of the Aid That Could be Disbursed minus the % of Earned Aid) X
Total Amount of Aid That Could Have Been Disbursed**

Federal student aid refunds for graduate students are returned to the following Title IV sources in the following order:

1. Unsubsidized Federal Direct Stafford Loan
2. Subsidized Federal Direct Stafford Loan
3. Federal Perkins Loan
4. Graduate Federal Direct PLUS Loan
5. Federal TEACH Grant

If a student earned less financial aid than was disbursed, Marshall University is required to return the unearned portion of the financial aid to the respective federal student aid programs. In some cases, if the student was issued a federal financial aid refund, he/she may be required to return all or a portion of the federal funds.

If the student is required to return a portion or all of the loan proceeds, the calculated amount would not have to be returned through this calculation, but be repaid according to the loan's terms.

If a student qualifies for federal aid that has not yet disbursed and less aid is disbursed than earned, the student may receive a late disbursement for the difference.

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When a student that has begun attendance fails to earn a passing grade (has a zero GPA) at the end of the semester, Marshall University, for federal student aid purposes, must assume that the student has unofficially withdrawn or dropped out.

If the student has unofficially withdrawn (shows zero earned hours at the end of the semester), 50% of the student's federal student aid for the term is considered unearned and may result in a reduction of federal aid. However, when Marshall University can document attendance or participation beyond the 60% point in the semester, the student may be able to retain 100% of his/her federal student aid under these circumstances.

Marshall University has an official grading policy that provides instructors with the ability to differentiate between those students who complete the course but failed to achieve the course objectives and those students who did not complete the course. The instructor is required to notify the Director of Student Financial Assistance in the case of the latter.

VOTER REGISTRATION FORMS

Marshall University, as a participant in Federal Title IV Student Aid programs, is required to advise you that voter registration forms are available online at www.sos.wv.gov/elections/voterinformation/pages/default.aspx.

For additional financial aid information, please contact the Office of Student Financial Assistance, 1 John Marshall Drive, Old Main Room 116, Huntington, WV 25701. Telephone 304-696-3162; Fax: (304)696-3242; E-Mail Address: sfa@marshall.edu.



University Policies and Procedures

AFFIRMATIVE ACTION POLICY STATEMENT

It is the policy of Marshall University to provide equal opportunities to all prospective and current members of the student body, faculty, and staff on the basis of individual qualifications and merit without regard to race, color, sex, religion, age, disability, national origin, or sexual orientation. This nondiscrimination policy also applies to all programs and activities covered under Title IX, which prohibits sex discrimination in higher education. Marshall University strives to provide educational opportunities for minorities and women in the graduate student body which reflect the interest, individual merit and availability of such individuals. The University ensures equality of opportunity and treatment in all areas related to student admissions, instructions, employment, placement accommodations, financial assistance programs and other services.

COPYRIGHT COMPLIANCE

Marshall University complies with U.S. copyright law, which prohibits unauthorized duplication and use of copyrighted materials, including written, audio-visual, and computer software materials. Further information is available on Marshall's website at www.marshall.edu/it/copyright-education.

EDUCATION RECORDS

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within forty five days of the day the University receives a request for access. Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading. Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Marshall University to comply with the requirements of FERPA. The name and address of the office that administers FERPA are:

Family Policy Compliance Office
U.S. Department of Education
600 Independence Avenue, SW
Washington, DC 20202-4605

LIABILITY

Marshall University, as a state agency, cannot assume responsibility for loss of or damage to the personal property of students. Furthermore, the university cannot assume responsibility for personal injury to students.

SEXUAL HARASSMENT POLICY STATEMENT

Sexual Harassment, a form of sex discrimination, is illegal and against the policies of the university. Sexual Harassment involves:

- (a) making unwelcome sexual advances or requests for sexual favors or other verbal or physical conduct of a sexual nature a condition of employment or education, or
- (b) making submission to or rejection of such conduct the basis for employment or educational decisions, or
- (c) creating an intimidating, offensive or hostile environment by such conduct.

Anyone who believes he or she has been the subject of Sexual Harassment should report the alleged conduct immediately to an appropriate university representative or directly to the Office of Equity Programs, located in 206 Old Main.

WEATHER-RELATED AND/OR EMERGENCY CLOSINGS AND DELAYS (from Board of Governors Policy GA-9, updated June 11, 2013)

Huntington Campus

Generally it is Marshall University's policy to maintain its normal schedule, even when conditions are inclement. However, that is not always possible.

In those instances when it is necessary to alter the schedule in response to weather conditions, every effort will be made to notify all those affected—students, faculty, staff and the general public—as expeditiously and as comprehensively as possible in the following ways:

- The university subscribes to a third-party service to provide notifications by e-mail, text message, and telephone, referred to as “MU Alert” at Marshall. All students, faculty and staff will be enrolled in the MU Alert database with their university e-mail addresses, and, in the case of faculty and staff, their office telephone numbers. Students, faculty and staff may provide additional contact methods, including those for text messaging and cell phone numbers, through the use of the myMU portal.

In cases of weather-related or other emergency closings and delays, University Communications staff will use all contact points in MU Alert to send notification.

- Television stations in Huntington and Charleston will be notified.
- Radio stations in Huntington and Charleston will be asked to announce the delay or closing.
- Time permitting, newspapers in Huntington and Charleston will be notified. Often, however, decisions must be made after deadlines of newspapers.

NOTE: This section applies only to the Huntington campus and all releases should make it clear that it relates only to the Huntington campus. The weather-related closings policy for the South Charleston campus and other education centers will be managed by the chief administrative officer (as designated by the University president) for the respective location, and all releases should make clear that the release applies only to the affected location. The South Charleston phone number is 746-2500. See the following section for information on South Charleston campus procedures.

Definitions

University Closed: All classes suspended and offices closed.

Classes Cancelled: All classes suspended; offices open.

Delay Code A: Means a delay in the opening of classes BUT no delay in the opening of offices. Delays will usually be in the range of one to two hours. Employees are expected to report to work at their normal starting times unless they feel that travel is

unsafe. If an employee feels that he/she cannot travel safely to work, they may charge accrued annual leave for the portion of the workday from 8:00 a.m. (or their normal start time) until their arrival at work.

Delay Code B: Means a delay in the opening of classes AND a delay in the opening of offices. Delays will usually be in the range of one to two hours. Employees do not have to report to their offices until the stated delay time. If they believe they cannot travel to work safely by the stated delay time, they may charge accrued annual leave for the work hours from the stated delay time until they can next report to work.

Class operation under delays: Under both categories of delay, students should go to the class that would begin at the stated delay time or the class that would have convened within 30 minutes of the stated delay time. A two-hour delay means that classes that begin at 10:00 a.m. begin on time. Classes that begin at 9:30 a.m. meet at 10:00 a.m. and continue for the remaining period of that class.

Exceptions with regard to employees: Certain critical and emergency employees may be required to report to work on time or earlier than normally scheduled despite the particular delay code published.

Clarification

Information about closing, cancellations, or delays will ordinarily be disseminated to area radio and television stations. The authoritative correct statement of the University's condition (Huntington) is stipulated to be the message on the main page of the website at www.marshall.edu.

Faculty

Once operations are resumed, deans, and departmental chairs must take steps to ensure that faculty meet their scheduled classes or substitutes secured so that class schedules are met.

Decision Making

Decisions on closings and/or delays will be made jointly by the Chief of Staff, Senior Vice President for Academic Affairs and the Senior Vice President for Administration following the consultation with other appropriate officials, including the President. Should only one or two of those three persons be available, the ones available will make the decision.

Every effort will be made to reach decisions to allow time for adequate notification to the news media, and in turn, those affected.

South Charleston campus and Other Education Centers:

General Policy

Because weather conditions can vary substantially, it is possible that classes will be delayed or cancelled at some locations and not at others. The Vice President for Regional Operations, in consultation with staff at other learning centers, will decide on class cancellations.

South Charleston Campus

Since South Charleston classes do not generally meet until late afternoon, an effort will be made to decide about classes by noon. Notification of delays or cancellations at the South Charleston campus will be announced by (a) local media, (b) MU Alert, and (c) University website. Students may check the status of their classes by checking the website.

Point Pleasant, Beckley, Teays Valley and Other Educational Centers

Procedures for delayed openings and class cancellations are similar to those for the South Charleston campus. At Point Pleasant, Beckley, and Teays Valley, local media will provide information regarding cancellations. In addition, each site has a weather hot line: (a) Point Pleasant, 304-674-7239; (b) Beckley, 304-252-0719; (c) Teays Valley, 304-757-7223.

Remote Locations and Other Education Centers

Because there may be classes meeting on an irregular schedule in a geographically dispersed area throughout the semester, decisions about whether to meet during inclement weather will be made by the instructor. Those decisions will be transmitted to students by e-mail or other methods as agreed by students and the instructor.

Definitions

South Charleston Closed: All classes cancelled and offices closed.

South Charleston Classes Cancelled: All classes cancelled. Details provided by site.

South Charleston Delay: A delay in the beginning of non-class activities, e.g. a two-hour delay would mean the normal work day would begin at 10:00 a.m. rather than 8:00 a.m.

MU ALERT

Information on Marshall University's Emergency Messaging System (MU Alert) can be found on the website at www.marshall.edu/emergency/mualert.



Graduate Student Resources

BOOKSTORE

www.marshall.bkstr.com

Textbooks for Marshall University graduate courses are available from the Marshall University Bookstore in Huntington. In the case of South Charleston campus or off-campus locations, students may order books by mail, phone, or online at www.marshall.bkstr.com.

The Marshall University Bookstore in Huntington (telephone 304-696-3622 or toll free at 1-800-547-1262) is located at One John Marshall Drive, Huntington WV 25701, in the Memorial Student Center on the Huntington campus. The store is open from 8:00 a.m. to 5:30 p.m. Monday-Thursday, 8:00 a.m. to 5:00 p.m. on Friday, and 10:00 a.m.-2:00 p.m. on Saturday. Summer hours are 8:00 a.m.-5:00 p.m. Monday-Friday. Online orders are encouraged at www.marshall.bkstr.com.

The bookstore accepts checks, MasterCard, VISA, Discover, and American Express. The Point Card is also accepted at the Huntington store. Third-party direct billing is accepted with a purchase order or written authorization from the funding agency. Textbooks may be returned for refund or credit. Contact the store for details. The store also buys books from students at any time.

The Graduate College has established a textbook policy with the objective of minimizing textbook costs to students. This will be accomplished by repurchasing and reselling used textbooks, and using certain basic textbooks for a reasonable number of years, ordinarily not less than two years.

CAREER EDUCATION

Denise Hogsett, Director

career-services@marshall.edu

www.marshall.edu/career-services

The Office of Career Education assists students in self-assessment of skills, interests, and career goals; exploring and declaring a major; developing pertinent experience through employment, internships, community based learning and campus involvement; and becoming career ready through interviewing/resume workshops, networking, Career Expos and the job search. The Office provides services at three locations: the Career Services Center on the corner of 5th Ave. and 17th St. (Huntington Campus), the Student Resource Center in the Memorial Student Center (Huntington Campus), and the Student Resource Center (South Charleston Campus).

Career Services Center

Fifth Avenue and 17th Street/304-696-2370

career-services@marshall.edu

www.marshall.edu/career-services

The Career Services Center, a division of the Office of Career Education, assists students in all phases of professional development leading to a career. Career Counselors guide students in effective resume building and interviewing skills. In addition, students are offered practical, hands-on techniques for networking and searching for part-time, internship, and entry-level employment. The services include:

- **Marshall JobTrax (Online Career Management)** – This employer/student database allows students to become aware of and RSVP to career events, research employers and job titles, build an online credential file of resumes and other documents, as well as search for jobs and internships. Employers may post positions, giving students direct contact with local and national companies. They may apply for these positions directly with the companies, often by submitting their resumes right from their Marshall JobTrax account.
- **Job Search Assistance** – Career consultants will counsel students on the job search process. From part-time employment while attending the university to entry-level employment upon graduation, students may obtain the skills necessary to conduct an effective job search.

- **Internships** - The center works with undergraduate and graduate academic programs to assist students in securing internships. All students are encouraged to gain work experience with at least one internship or experience in field, or gain additional skills through on campus service learning, volunteering, or participation in student organizations prior to graduation.
- **Resume Development** - Experienced staff will guide students in preparing effective and professional resumes.
- **Career Expos** - Students can network with employers each semester via career events. Two primary events are held each semester: the Career Expo, which features full-time positions, and Job-A-Palooza, which contains opportunities for part-time jobs and internships.
- **Professional Skill Development** - Career Services provides opportunities each semester for students to develop their career skills through mock interviews, Interview Stream (webcam) mock interviews, etiquette dinners, and career development mock interview equipment.
- **On-Campus Recruiting** - Career Services hosts visiting local, regional and national employers interested in recruiting Marshall University students and graduates. We welcome any referrals of companies that might be interested in recruit our Marshall talent.
- **Marshall Mentor Network** - Allows students to connect with MU alumni and other professionals for career-related and professional advice before they graduate. Students may search the mentor database on Marshall JobTrax and request to connect with a mentor related to their major or chosen career.
- **Website** - www.marshall.edu/career-services provides information concerning all career-related services and activities available to students/alumni, faculty, parents and employers.

Student Resource Center (SRC)

Memorial Student Center, 2nd Floor/304-696-5810

src@marshall.edu

www.marshall.edu/src

The Student Resource Center, a division of Career Education, assists freshmen, sophomores, and transfer students in aligning academic goals with career goals, leading to the appropriate choice of major and long-term student persistence and success. SRC staff members are also available to answer academic resource questions and to evaluate the resource needs of any student who walks into the SRC. Student Resource Center services are available on both the Huntington and South Charleston campuses.

CHILD DEVELOPMENT ACADEMY

www.marshall.edu/cda

The Child Development Academy at Marshall University provides child care services to children of Marshall University students, faculty, staff and the greater community. It serves as a location for Marshall University undergraduate and graduate students participating in various clinical experiences as part of their academic program. It is located at 520 22nd Street in Huntington and is open Monday through Friday from 7:30 a.m. to 5:30 p.m.

COUNSELING CENTER

www.marshall.edu/counseling

The Counseling Center is located on the first floor of Prichard Hall and provides free confidential mental health counseling and crisis intervention for students. Students may call 304-696-3111 to schedule an appointment with one of the full time counselors.

DISABILITY SERVICES

Sandra Clements, Coordinator

www.marshall.edu/disabled

A student with a disability may be eligible to receive academic accommodations. It is incumbent upon the student to follow the policy detailed on the university website and to request any academic accommodations through the Office of Disability Services at the beginning of each semester. Students must follow this procedure to ensure they will receive appropriate and reasonable academic accommodations.

GRADUATE STUDENT COUNCIL

www.marshall.edu/gsc

The Graduate Student Council is an organization open to all graduate students. Meetings are designed to discuss problems common to graduate students and propose their administrative solutions. Probably the most attractive aspect of the GSC is its ability to initiate administrative changes favorable to graduate students. GSC appoints representatives to a number of Faculty Senate standing committees and to the Graduate Council. A second and related goal of the GSC is to provide an environment in which contact with graduate students in other disciplines is expanded. Above all, the GSC is concerned with enriching the academic and personal lives of its members. The council can be reached through the Graduate College office on the Huntington Campus.

HIGHER EDUCATION FOR LEARNING PROBLEMS (H.E.L.P.)

www.marshall.edu/help

H.E.L.P. is an individualized tutorial program for undergraduate students who have learning disabilities and/or Attention Deficit Disorder. Assistance with coursework, study skills, note-taking skills, and appropriate accommodations in testing are available. Graduate assistants and master's-level tutors conduct tutorial sessions. Remediation in reading, spelling, written language, and math is available, via learning disabilities specialists. In addition, assistance is also available for professional students, without a diagnosis, in specialties such as medicine, law, and physical therapy. Our diagnostics program can provide evaluations for MU students as well as those in the community. Application to H.E.L.P. must be made separately from application to the university. For information, including fees, call the H.E.L.P. Center at (304) 696-6252.

HOUSING AND RESIDENCE LIFE

Director to be named

housing@marshall.edu

The Department of Housing and Residence Life is committed to providing a residential experience that supports and enhances students' learning, personal growth, and academic achievement. We strive to be a residential program that aspires to excellence as a leader in campus living. Our commitment is to student learning, safe residential facilities, engaging and educating our students outside of the classroom, and creating communities of learners and responsible citizens, as well as the academic and personal development and success of our students. For more information about living on the Huntington campus, please contact the Department of Housing and Residence Life by phone at 304-696-6765 or 1-800-438-5391, by e-mail at *housing@marshall.edu*, or on the Web at *www.marshall.edu/housing*.

INTERCULTURAL AFFAIRS

Maurice Cooley, Associate Vice President

www.marshall.edu/mcip

Marshall University Intercultural Affairs comprises the Office of the Associate Vice President for Multicultural Affairs, the Center for African American Students, the Lesbian Gay Bisexual Transgender Office and the Women's Center. Each department is further broken down into individual units responsible for a host of programs and initiatives that contribute to Marshall University Intercultural Affairs' primary objectives. Intercultural Affairs affirms Marshall's commitment to an environment of teaching and learning which recognizes and welcomes diversity of race, disability, color, sex, sexual orientation, age, religion, national origin, marital status, political and ethnic backgrounds. Consistent with its awareness of different people, backgrounds and cultures, Intercultural Affairs is committed to developing the potential of all students by creating and maintaining an environment that promotes and fosters a multicultural, international, global community. Intercultural Affairs is organized to provide underrepresented populations with programs that enhance knowledge, skills and awareness to function in a complex global society.

MILITARY AND VETERANS AFFAIRS

www.marshall.edu/student-affairs/supportservices/military-veteran-affairs

The Office of Military and Veterans Affairs works with veterans in all branches of the military and with Marshall students who are considering joining the military after receiving their degrees. The office provides services to citizen-soldiers who have completed their service as well as individuals currently serving who wish to take advantage of veterans' benefits. The office is located in Laidley Hall 138. Telephone is 304-696-5278.

MUONLINE

Monica G. Brooks, Associate Vice President for Libraries and Online Learning
University Libraries
306 Drinko Library/304-696-6474
www.marshall.edu/muonline
muonline@marshall.edu

MUOnLine: Blackboard Learn is the electronic course delivery software used to power the online system and its peripheral programs. Housing approximately 600 fully online courses, with up to 250 active sections per term, and serving close to 15,000 students annually, this program strives to meet student needs by facilitating faculty development and supporting quality, affordable, and convenient distance education courses and programs.

Online Learning: The Marshall University distance education program is supported by four Instructional Design specialists and a team of well-trained students developers who aid faculty in developing and delivering online and hybrid courses. In addition to development support, the MUOnLine Instructional Designers center staff also provide regular training and workshop opportunities to faculty who participate in any aspect of online course delivery and support.

The *Online Learning Instructional Design Center*, located in the Drinko Library room 235, provides teaching and learning with technology training and online course development support for Marshall University's faculty and staff. This unit provides the hardware, software, networking and technological assistance and support to assist faculty with online courses and traditional course supplements. Faculty interested in developing an online course or in using an online course section as a supplement to a hybrid or face-to-face class, simply submit an online form to launch their project and obtain the checklist and paperwork to initiate the development and review process. Complete information about teaching online and using technology in general for instruction is provided along with a user group seminar series to allow faculty to present and share their online courses materials, lesson plans, and projects.

Online course development is facilitated and approved by faculty peers. The Distance Education Course Committee (DECC) is coordinated by a member of the faculty who provides guidance, support, and training. The DECC conducts regular online course reviews to ensure that new and existing online faculty meet best practices and technical requirements for delivery. The DECC was formed in 2002 under its original name, Faculty Development Committee for Online and Multimedia Instruction, with the ongoing responsibility to evaluate newly developed online courses according to a set of standard requirements formulated by the committee. DECC members also coordinate and conduct monthly user group meetings on both campuses to keep faculty apprised of software developments and additions, teaching-learning with technology strategies, and online teaching tools, techniques, and tips. With over 300 faculty involved in the program in some way, the committee is an excellent venue for dissemination of distance education delivery development at the local and national level.

Online Course Quality Initiative: Collaboration with providing faculty training and development with the Center for Teaching and Learning during 2011 helped solidify our decision to launch the Quality Matters (QM) program at Marshall that year. In conjunction with the Higher Education Policy Commission's Statewide Director of Higher Education e-Learning,

Marshall became an institutional subscriber to the nationally recognized Quality Matters program and began providing the "Applying the Quality Matters Rubric" training on the Huntington and South Charleston campuses and online. QM is a faculty-centered, peer review process that is designed to certify the quality of online and blended courses in reference to course design and course outcomes alignment. Adopted by the MU DECC committee as the baseline for internal online course reviews, QM is a leader in quality assurance for online education and has received national recognition for its scalable, peer-based approach and continuous improvement in online education and student learning.

Copyright Education Program: Currently, Library and Online Learning faculty and staff provide support for a multi-campus copyright education program designed to keep faculty apprised of appropriate use of copyrighted materials provided in a variety of formats in both face-to-face and online courses. Members of the team stay abreast of national shifts in copyright interpretation, field questions from the university community, make referrals to University Counsel when appropriate, and provide support for university policies that ensure compliance with Title 17 of the US Code and the TEACH Act.

Course Designations and Definitions: "Online course" refers to any distance education course in which 100% of the course content is delivered asynchronously. There are no synchronous, face-to-face, or on-site attendance requirements. Online courses are designated as such in the schedule of courses. Designation: Online Course (OC). "Hybrid course" refers to any distance education course in which a portion of the course is delivered synchronously with scheduled and required online, face to face, or on-site attendance requirements; the remainder of the course is delivered asynchronously. Designation: Virtual Course (VC).

OUTREACH AND CONTINUING STUDIES

David J. Pittenger, Interim Associate Vice President for Outreach and Dean of Graduate Studies
www.marshall.edu/ocs

The mission of the Office of Outreach and Continuing Studies (OCS) is to provide a coordinated approach to sustaining and expanding undergraduate, graduate, and professional development educational opportunities for both traditional and non-traditional students in Marshall University's service region. OCS works closely with all academic departments to ensure

that courses meet each department's academic standards. In addition to serving traditional college students in its off-campus locations, the office also serves adult students who have previously completed a portion of a degree, but did not graduate, via Marshall's Regents Bachelor of Arts program. West Virginia National Guard personnel and their families may take classes on military bases in pursuit of a Regents BA through OCS.

The Office of Outreach coordinates a program where high school students take college courses while still in high school. Working professionals and traditional students seeking both undergraduate and advanced degrees are supported by class offerings at the following locations: Teays Valley Regional Center, Mid-Ohio Valley Center in Point Pleasant, Beckley Higher Education Center, Southern Mountain Center in Williamson and at Marshall University's South Charleston campus. Classes are offered via interactive video links, online (Internet-based), hybrid classes using a combination of live meetings and the Internet, weekend/accelerated formats and traditional 15-week live class sessions. To learn more about Marshall University's outreach programs visit the website at www.marshall.edu/ocs or contact one of the OCS offices that follow:

Regents B.A. Program
Marshall University
One John Marshall Drive
Laidley Hall
Huntington, WV 25755-2050
Tel: 304-696-6400

Mid-Ohio Valley Center
Marshall University
1 John Marshall Way
Pt. Pleasant, WV 25550
Tel: 304-674-7200
Email: movc@marshall.edu

Teays Valley Regional Center
Marshall University
Carriage Point, Suite 101
Hurricane, WV 25526
Tel: 304-757-7223
Email: tvrc@marshall.edu

South Charleston Campus
Marshall University
100 Angus E. Peyton Drive
South Charleston, WV 25303-1600
Tel: 304-746-2030
Email: jsharrah@marshall.edu

PSYCHOLOGY CLINIC

Penny Koontz, Director
www.marshall.edu/psych

The Marshall University Psychology Clinic has been established by the Department of Psychology to serve as a training facility for advanced graduate students enrolled in the clinical psychology program at the university and to provide high quality, low cost, confidential psychological services to individuals on the campus and from the local community.

The student clinicians are advanced graduate students in the Marshall University Clinical Psy.D. program. Student clinicians provide services under the supervision of qualified clinical faculty selected by the Department of Psychology to fulfill supervisory and teaching functions. A variety of services are offered by the clinic. These include individual psychotherapy, psychological assessment, and group psychotherapy, as well as educational workshops and other events. Some faculty also provide services. Although the clinic is not a for-profit venture, nominal fees are charged for some services; psychological counseling services are provided at no charge to students.

*Policies and fees are subject to change.

RECREATION

www.marshallcampusrec.com

The Marshall Recreation Center, a 123,000-square-foot facility, contains 4 wood gym courts for basketball, volleyball, badminton, and dodge ball; a 37' climbing wall with bouldering area; outdoor pursuits center with rental equipment area; aquatics center with 3 lap swim lanes, leisure pool, vortex pool and 20 person spa; men's and women's locker rooms; family changing areas with lockers; 17,000 square feet of fitness space on the second and third floor with free weights, selectorized machines with LCD televisions; 4 group exercise rooms; a 3 lane 1/7th mile walking/jogging/running track; massage area; fitness assessment room; pro shop; lounge areas and staff offices. Immediately east of the pool is an outdoor, fenced area for sunning and relaxing. The entire facility is accessible for persons with disabilities. The Rec Center is also the largest student employer on campus.

SPEECH AND HEARING CENTER

Pamela J. Holland, Director

www.marshall.edu/commdis/mushc

304-696-2985

The Department of Communication Disorders in the College of Health Professions operates the Marshall University Speech and Hearing Center (MUSHC), which provides quality speech, language, and hearing evaluations and treatment services for people of all ages. The center provides services for a variety of communication disorders including, but not limited to, articulation, fluency, voice and resonance, cognitive communication, augmentative and alternative communication, aural rehabilitation, swallowing, and receptive and expressive language. In addition, services for communication differences, such as dialectical differences, are provided. Individual and group therapy sessions are also provided for dialect, pragmatics, and aphasia. Additional programs within the department include the Luke Lee Listening, Language, and Learning Lab (the first oral preschool for deaf and hard of hearing children in West Virginia) and the Scottish Rite Childhood Speech and Language Disorders Program. Services are available for Marshall students, faculty, and staff, as well as the general public. Costs for services may be handled through insurance, private pay, or an educational scholarship program. MUSHC is located in Smith Hall 143. For scheduling call 304-696-3641.

STUDENT CONDUCT

Lisa Martin, Director

www.marshall.edu/student-conduct

For Marshall University to function effectively as an educational institution, students must assume full responsibility for their actions and behavior. Students are expected to respect the rights of others, to respect public and private property, and to obey constituted authority. A student's admission to the university constitutes acceptance of these responsibilities and standards. Failure to adhere to the policies and conduct regulations of the university places the student in violation of the Marshall University Code of Student Rights and Responsibilities and may, therefore, subject the student to disciplinary action. All admitted students are subject to the code at all times while on or about university-owned property, or at university-sponsored events. Anyone may refer a student or student organization suspected of violating the Code of Student Rights and Responsibilities to the Office of Student Conduct.

STUDENT HEALTH SERVICES

Student Health Services are provided by University Physicians and Surgeons Incorporated, an affiliate of the university's School of Medicine. The clinic is located at 1600 Medical Center Drive, Suite 1500, next to Cabell Huntington Hospital, and is open from 8:00 to 10:45 a.m. and 1:00 to 4:00 p.m. Monday through Friday. Summer hours vary. The clinic is closed on Saturday, Sunday, and days that class is not in session.

Student Health Services will be provided on weekdays that class is in session to Marshall University students who present current validated identification cards. Part-time students may be required to pay fees for service. Students enrolled for 5 hours or fewer (regular term) are assessed a charge of \$20.00 per office visit* and must pay for Lab or X-Ray.

Services provided include: diagnosis and treatment by a physician, licensed practitioner or physician's assistant; limited routine laboratory and x-ray procedures; and injections for allergies (if vaccines and dosage directions are provided by the

*Policies and fees are subject to change.

physician of the patient and approved by the staff physicians). Prescription medication is provided from a specified formulary at Medical Arts Pharmacy with a maximum \$5 co-payment.

Marshall University recommends that all students carry medical insurance and that they take their insurance information with them on Student Health visits. For information on health insurance call Student Health Education Programs at 304-696-4800.

STUDENT RESOURCE CENTER

Memorial Student Center, 2nd Floor/304-696-5810

src@marshall.edu

www.marshall.edu/src

The Student Resource Center supports and enhances the academic, professional and personal goals of Marshall University students by providing opportunities for students to meet with staff to evaluate and help resolve academic and other service-related challenges. When students need help and they don't know where to go to find the help they need, the Success Specialists can sometimes resolve their concerns or work with other campus staff to find a resolution. Success Specialists are trained to handle questions that range from basic academic advising, registration, career services and coordinating the student's academic success plan with professional career goals. Student Success Specialists also serve as the advisors on record for undecided students. The SRC is located in the Memorial Student Center.

STUDENTS WITH DISABILITIES

See also *Disability Services*.

A student with a disability may be eligible to receive academic accommodations. It is incumbent upon the student to follow the policy detailed on the university website at *www.marshall.edu/disabled* and to request any academic accommodations through the Office of Disability Services at the beginning of each semester. Students must follow this procedure to ensure they will receive appropriate and reasonable academic accommodations.

TESTING CENTER

Vickie Seguin, Director

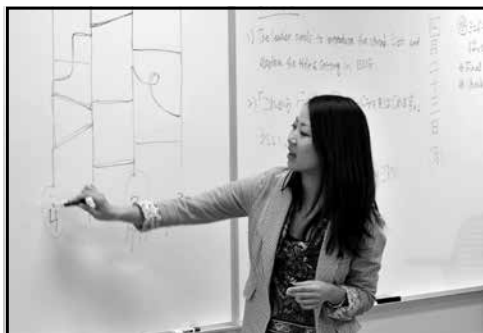
The Marshall University Testing Center administers the GRE, Praxis I, TOEFL, and various other tests in contract with the Educational Testing Service. For information, call 304-696-2604.

WRITING CENTER

Laura Sonderman, Director

www.marshall.edu/writingcenter

The Writing Center, staffed by graduate and undergraduate students of various majors, provides free writing consultation to all Marshall University students. Tutors help students through the entire writing process, from discussing initial ideas to revising and editing their work. The center is located on the second floor of Drinko Library. Students are encouraged, but not required, to make appointments ahead of time, and may find more information about making appointments on the Writing Center's website or by calling the Writing Center at 304-696-6254.



Academic Information and Resources

Academic Affairs
Old Main 200

Gayle L. Ormiston, Provost and Senior Vice President for Academic Affairs

The Office of Academic Affairs has primary responsibility for supporting and pursuing the academic mission of the university.

SCHOOLS AND COLLEGES

The university functions through these academic units: the College of Arts and Media, the College of Business, the College of Education and Professional Development, the College of Liberal Arts, the College of Science, the Joan C. Edwards School of Medicine, the College of Health Professions, the College of Information Technology and Engineering, the Honors College, the School of Pharmacy, and the Graduate College.

BECKLEY CENTER

Marshall University also operates a center in the Beckley area that is part of the Erma Byrd Higher Education Center in Beaver. It serves primarily graduate students in Beckley, Bluefield, and other nearby areas.

Marshall University Beckley Regional Center
c/o Erma Byrd Higher Education Center
300 University Dr.
Beaver, WV 25813
(304) 256-0266

LIBRARIES

Monica Brooks, Associate Vice President for Libraries and Online Learning
University Libraries
306 Drinko Library/304-696-6474
library@marshall.edu
www.marshall.edu/library

The Marshall University Library System consists of the John Deaver Drinko Library, the James E. Morrow Library, Health Science Library at Cabell Huntington Hospital, and the Library and Research Commons on the South Charleston campus. Together, the University Libraries' holdings support teaching and research needs, with close to 3 million total items (including government publications and audiovisual materials) and access to more than 50,000 periodical titles.

Students may use print and electronic books, periodicals, documents, CD-ROMS, videocassettes, sound recordings, electronic journals, online reference materials and microforms. Access to electronic resources and online research services is done via the University Libraries' web pages. Each library operates as part of the university system and provides unique service to the clientele and programs with which it is associated. The libraries play an essential role in the educational and research activities of the individual university programs. Using the library as a gateway, students have access to the tools to search multiple resources and obtain materials from a variety of sources. A dynamic interlibrary loan and document delivery program provides materials from other libraries in electronic format, often in a matter of hours. Courier services also enhance turnaround time and overcome geographical limitations.

The John Deaver Drinko Library is open 24/5 and houses more than 150,000 volumes, current print subscriptions, a computer lab, multimedia presentation facilities, an assistive technology center for the visually impaired, faculty and student

instructional technology rooms, and a fully wired auditorium. Circulation, Reference, and Media are located in the Drinko Library, with extensive collections and a team of qualified personnel. The Drinko Library is a state-of-the-art facility which also houses University Computing Services and University Telecommunications.

The James E. Morrow Library, situated between Smith Hall and the Science Building, houses Special Collections, Government Documents, and shelving for over 300,000 volumes. Special Collections features the university archives, West Virginia Collection of state and regional materials, and the distinctive Hoffman and Blake collections. Government Documents, a federal depository collection, contains more than a million items and provides materials in electronic, microform, and paper formats.

The Health Science Library, specializing in medical resources for the schools of medicine and nursing, maintains a current collection of medical monographs, periodicals and electronic resources. Staff provide a variety of document delivery services and searches on medical-related databases. The library is located in the Robert C. Byrd Center for Rural Health, next to the Cabell-Huntington Hospital on Hal Greer Boulevard.

The Library and Research Commons on the South Charleston campus is located in the Robert C. Byrd Academic and Technology Center. This facility supports the undergraduate and graduate programs offered on this campus. Access to all Marshall Libraries electronic resources is available, along with a professional staff to assist students and faculty with their information and research needs. Items held in the libraries on the Huntington campus can be retrieved through a daily courier service and by the electronic transmission of journal articles between the sites. The Library and Research Commons is also the site on the South Charleston campus for taking Marshall photo IDs. For details on services and hours, go to the South Charleston library's home page at www.marshall.edu/musclibrary.

CENTER FOR TEACHING AND LEARNING

Karen McComas, Executive Director
www.marshall.edu/catl

The Center for Teaching and Learning helps faculty enhance the nature and quality of the educational experience of all Marshall students through instructional and career development opportunities. University faculty must be experts in the processes of teaching and learning as well as experts in their disciplines. The activities of the center are designed to encourage innovative and effective teaching methods that will stimulate student learning. The center is composed of the Faculty Development program, the Writing Across the Curriculum program, and the Service Learning program.

CENTER FOR INTERNATIONAL PROGRAMS

Tammy Johnson, Executive Director
www.marshall.edu/cip

The Center for International Programs was established in 1993. Its mission is to assist in globalizing Marshall University and the surrounding community through a coordinated effort. The following programs are coordinated by the Center for International Programs: International Students and Scholars Program, Study Abroad Programs, China Projects, and global academic partnerships and agreements.

INFORMATION TECHNOLOGY

Jan I. Fox, Senior Vice President for Information Technology and Chief Information Officer
www.marshall.edu/it

On the Huntington campus the Marshall University Information Technology (IT) administrative offices are located on the third floor of the Drinko Library and the Information Technology Services Desk is located on the first floor. On the South Charleston campus, all computing services are located on the second floor of the Administration Building. The mission of Information Technology is to "provide and create an evolving, innovative and integrated stable information technology environment that enables students, faculty, and staff to achieve the Marshall University goals."

Information Technology Facilities

Information Technology manages a number of computing facilities that provide access to MUnet-connected workstations for the campus community. Information Technology managed public computers, including those in the Drinko 24-Hour Study Center, will always have the latest versions of software available. Information Technology facilities are currently available in Corbly Hall, Harris Hall, Smith Hall, the basement of the Memorial Student Center, the Drinko Library and Information Technology Center in Huntington and in the administration and academic buildings in South Charleston. All Information Technology facilities provide printing and scanning facilities. Other specialized facilities are available at selected sites.

Information Technology Policies

Policies regarding computer use are available online at www.marshall.edu/itc/policies-procedures.

Computer Purchases

Recommendations on student computer purchases are available online at www.marshall.edu/inforesources.

E-Mail (see also myMU)

New students are automatically assigned a Marshall University e-mail account. NOTE: All official university e-mail will be sent to your Marshall University e-mail address.

Marshall University student e-mail, Office 365, offers the latest web-based communication and collaboration tools available from Microsoft including the ability to create and edit Microsoft Word, PowerPoint, Excel and OneNote documents using your favorite web browser. Students are provided 25 GB storage per mailbox, improved calendar sharing, web conferencing for online meetings with audio and video, desktop sharing, and virtual whiteboard. Full access details are available at www.marshall.edu/inforesources.

Information Security

Recommendations on student computer and information security are available online at www.marshall.edu/infosec.

Information Technology Service Desk

The IT Service Desk is located on the first floor of the Drinko Library on the Huntington Campus and the second floor of the Administration Building on the South Charleston campus.

Additional sites on the Huntington campus include Drinko Library, Corbly Hall, Harris Hall, Smith Hall, Gullickson Hall, and residence halls. Additional sites on the South Charleston campus include the Byrd Academic Center.

You can always get updated information on the main university IT page located at www.marshall.edu/it or by contacting the IT Service Desk at itservicedesk@marshall.edu or by calling 304.696.3200 in Huntington or 304-746-1969 in Charleston. A toll-free number (877-689-8638) is also available.

MUNet and Wi-Fi

MUNet is a fiber optic 10 GigE and 1 GigE backbone connecting all campus buildings throughout the campus. The network provides 10/100/1000M connectivity for voice, video and data across a copper infrastructure. MUNet is linked to the Internet via redundant high-speed digital MPLS service. MUNet can also be accessed from off campus through free virtual private networking (VPN) software available on the IT web site at www.marshall.edu/inforesources/vpn. The same VPN software allows users to connect to the MU Wi-Fi network when on campus in the vicinity of a wireless network access point. Wireless 802.11a/b/g/n connectivity is available throughout campus and current coverage levels are available on the IT website at www.marshall.edu/it/info-for-students.

myMU Portal

The web portal, myMU, lets Marshall students look at their university records and financial information, stay connected with others and make new connections. Using the many tools available on the portal, students can view and update their personal information, register for classes, check grades, get transcripts, pay bills and even apply for financial aid. Course tools allow students to communicate with their instructors and classmates. Students can send and receive e-mail, create their own personal address books and access and manage their personal and course calendars. They can even create special calendars and task reminders using the portal. In addition, it allows students to track their degree progress, their Blackboard course assignments and will warn them of any type of hold on their records. Another function of myMU is group communities, similar to Facebook. Students are able to create, manage and join electronic communities for clubs and groups. The Announcement Channel on the myMU homepage lets students stay up to date with campus announcements, news and messages from their colleges. To use myMU, students must know their Marshall University network (MUNet) login credentials.



Academic Requirements and Regulations

ACADEMIC APPEALS

See *Academic Rights and Responsibilities of Students*.

ACADEMIC COMMON MARKET

Out-of-State Programs at Reduced Tuition

West Virginia residents can pursue academic programs not available within the state through the Academic Common Market (ACM) and through contract programs. Both programs enable West Virginians to enter out of state institutions at reduced tuition rates. Contract programs have been established for study in veterinary medicine, optometry, architecture, and podiatry. ACM provides access to both baccalaureate and graduate programs not otherwise available in West Virginia. The programs are restricted to West Virginia residents who have been accepted for admission to one of the specific programs at designated out of state institutions. For information please contact the Office of Academic Affairs, Old Main 200, (304-696-6690) or the Higher Education Policy Commission. Out-of-state students who have been granted Academic Common Market access to Marshall University should follow the Academic Common Market Procedures available at www.marshall.edu/academic-affairs.

ACADEMIC DISHONESTY

Introduction

As described in the Marshall University Creed, Marshall University is an “Ethical Community reflecting honesty, integrity and fairness in both academic and extracurricular activities.”

Academic Dishonesty is something that will not be tolerated as these actions are fundamentally opposed to “assuring the integrity of the curriculum through the maintenance of rigorous standards and high expectations for student learning and performance” as described in Marshall University’s Statement of Philosophy.

A student, by voluntarily accepting admission to the institution or enrolling in a class or course of study offered by Marshall University accepts the academic requirements and criteria of the institution. It is the student’s responsibility to be aware of policies regulating academic conduct, including the definitions of academic dishonesty, the possible sanctions and the appeal process.

For the purposes of this policy, an academic exercise is defined as any assignment, whether graded or ungraded, that is given in an academic course or must be completed toward the completion of degree or certification requirements. This includes, but is not limited to: Exams, quizzes, papers, oral presentations, data gathering and analysis, practica and creative work of any kind.

Definitions of Academic Dishonesty

Below are definitions of some common types of academic dishonesty. Each instructor may modify the general definition of academic dishonesty to fit the immediate academic needs within that particular course of study, provided the instructor defines, in writing and preferably in the course syllabus, the details of any departure from the general definition.

- **Cheating:** Any action which if known to the instructor in the course of study would be prohibited. This includes:
 - The unauthorized use of any materials, notes, sources of information, study aids or tools during an academic exercise.
 - The unauthorized assistance of a person other than the course instructor during an academic exercise.
 - The unauthorized viewing of another person’s work during an academic exercise.
 - The unauthorized securing of all or any part of assignments or examinations, in advance of submission by the instructor.
- **Fabrication/Falsification:** The unauthorized invention or alteration of any information, citation, data or means of verification in an academic exercise, official correspondence or a university record.

- *Plagiarism*: Submitting as one's own work or creation any material or an idea wholly or in part created by another. This includes:
 - Oral, written and graphical material.
 - Both published and unpublished work.
 - It is the student's responsibility to clearly distinguish his/her own work from that created by others. This includes the proper use of quotation marks, paraphrasing and the citation of the original source. Students are responsible for both intentional and unintentional acts of plagiarism.
- *Bribes/Favors/Threats*: Attempting to unfairly influence a course grade or the satisfaction of degree requirements through any of these actions is prohibited.
- *Complicity*: Helping or attempting to help someone commit an act of academic dishonesty

Sanctions

Sanctions for academic dishonesty may be imposed by the instructor of the course, the department chairperson, or the Academic Dean. Sanctions for academic dishonesty may be imposed even if a student withdraws from an individual course or from the university entirely. The instructor may impose the following sanctions:

- A lower or failing project/paper/test grade;
- A lower final grade;
- Failure of the course;
- Exclusion from further participation in the class (including laboratories or clinical experiences).

The following sanctions may be recommended by the instructor but will need to be imposed by the department chair, academic dean or the Office of Academic Affairs:

- Exclusion from an academic program;
- Academic probation for up to 1 year;
- Academic suspension for up to 1 year;
- Dismissal from the university.

In those cases in which the offense is particularly flagrant or where there are other aggravating circumstances, additional, non-academic, sanctions may be pursued through the Office of Judicial Affairs. A student will be informed in writing, by the instructor or responsible office, of any charges and subsequent sanctions imposed for academic dishonesty (See "Reporting" below). Written notification of academic dishonesty charges (and the inclusion of confirmed charges/sanctions in a student's records) is designed to inform a student of the potential repercussions of repeat offenses and his/her rights of appeal.

If a student believes that charges of academic dishonesty have been erroneously levied, he/she should appeal such charges in accordance with the process outlined in the following section, "Administrative Steps for Appealing a Final Grade or an Action Based on Academic Performance or Dishonesty."

Sanctions for repeated academic dishonesty offenses will be imposed by the Office of Academic Affairs after consultation with the appropriate department chairs and deans. A student's record of academic dishonesty offenses will be maintained throughout his/her enrollment at Marshall University, and the period of time between offenses may have no impact on sanctions for repeated offenses.

A student with a second academic dishonesty offense during his/her enrollment at Marshall University will be academically suspended for a period of time not to exceed one academic year (to include summer terms).

A student with a third academic dishonesty offense during his/her enrollment at Marshall University will be dismissed from the university.

Reporting:

Any time an accusation of academic dishonesty is reported to the Office of Academic Affairs, and a sanction imposed (or a sanction will be imposed with the submission of final grades), a notice should be sent to the Office of Academic Affairs within ten (10) days of the accusation.

Notice of an act of academic dishonesty will be reported to the Office of Academic Affairs through the completion of an "Academic Dishonesty Report Form." The "Academic Dishonesty Report Form" will include:

- Instructor's Name
- Course Information (Term, Number, Section)
- Student's Name
- Student's University Identification Number
- Brief Description of the Charge
- Date of Accusation
- Brief Description of the Sanction

(continued)

Instructors are encouraged to give a copy of the “Academic Dishonesty Report Form” to a student accused of an offense. However, within ten (10) days of receipt of the “Academic Dishonesty Report Form” the Office of Academic Affairs will inform the student and the student’s dean of the accusations made, the sanctions prescribed, the repercussions of repeat offenses, and his/her rights of appeal. A copy of the report will go into the student’s college file.

Any subsequent actions taken (additional sanctions imposed, the lessening of sanctions, the withdrawal of accusations, the results of appeals, etc.) should be reported to the Office of Academic Affairs within ten (10) days of the action.

Recording:

The Office of Academic Affairs will maintain a file of academic dishonesty incidents. These will be reported in summary form (no student or faculty names will be included) to the Academic Deans and the Faculty Senate at the end of each academic year.

Administrative Steps for Appealing a Final Grade or an Action Based on Academic Performance or Dishonesty

The following is an administrative guide designed to help students and faculty follow the appeals process as specified in this section of the Graduate Catalog. Students and faculty should also review the policy to ensure understanding of the scope of the appeals, materials required, and rules governing the appeals process.

Final Grade Appeals:

- Step 1) Attempt to resolve the matter informally: Within ten (10) days of receiving a final grade the student should contact the instructor to review the grade. The instructor will respond in writing within ten (10) days of meeting with the student. The student may contact the director/coordinator of the graduate program should the instructor not be available or there are extraordinary circumstances requiring urgent action.
- Step 2) Submit FORM A (located online at www.marshall.edu/graduate/graduate-student-appeals) to the department/unit head of the department: Within 14 days of receiving notification from Step 1, submit FORM A to the department/unit head in which the grade was issued and the instructor’s response. Note that FORM A lists all materials to be submitted by the student. If the department /unit head was the instructor, submit the materials to the director of graduate studies. The department/unit head will respond in writing within ten (10) of receiving FORM A and required materials.
- Step 3) Submit FORM A to the Graduate College Dean: Submit FORM A, required materials, and the responses of the instructor and department/unit head to the Dean of the Graduate College. The Dean of the Graduate College will issue a final non-appealable decision within ten (10) days of receiving FORM A and required materials.

Action based on Academic Performance or Dishonesty Appeals:

- Step 1) Attempt to resolve the matter informally: Contact the director/coordinator of graduate studies or department/unit head to review the action taken.
- Step 2) Submit FORM B (located online at www.marshall.edu/graduate/graduate-student-appeals) to the Graduate College Dean: Within thirty (30) days of receiving notification of the action, submit FORM B and relevant documents to the Dean of the Graduate College. The Dean of the Graduate College will respond within ten (10) days in writing to the student and official issuing the action.
- Step 3) Request a hearing of the Graduate Council Subcommittee on Graduate Student Rights and Responsibilities (the Subcommittee): Submit the response from Step 2, which will include the Graduate College Dean’s Response, to the Graduate College Dean and request a hearing before the Subcommittee. The Graduate Dean will forward all materials to the Subcommittee. The Subcommittee will schedule a hearing and give all parties ten (10) days written notice of the hearing time and location.
- Step 4) Hearing of the facts: The members of the Subcommittee will review all materials and allow the graduate student and the identified official the opportunity to review and respond to all evidence as described in official policy. Within ten (10) days of the hearing, the Subcommittee will issue a written response within FORM B and send copies to the student, identified official, and the Provost.
- Step 5) Request review of decision from Provost: Within ten (10) days of receiving the response from Step 4, send a written request to the Provost requesting review of the decision. The Provost’s decision shall be final.

ACADEMIC DISMISSAL

Academic Dismissal is termination of student status, including any right or privilege to receive some benefit, recognition, or certification. A student may be academically dismissed from a program and remain eligible to enroll in courses in other programs at Marshall University; or a student may be academically dismissed from the institution and become ineligible to enroll in other courses or programs at Marshall University. The terms of academic dismissal from a program for academic deficiency shall be determined, defined, and published by each academic program. Academic dismissal from a program or from the university may also be imposed for violation of the university policy on academic dishonesty. For additional details, see “Academic Rights and Responsibilities” and the departmental program requirements. A student may also be dismissed if he or

she has not completed the degree within seven years and has not been enrolled during the most recent year. For additional details, see “Time Limitation for Master’s and Ed.S. Degrees.”

ACADEMIC PROBATION

Any student who has less than a 3.0 GPA either overall or in his or her current major will be placed on academic probation by the Graduate Dean. Following notification of probation and prior to subsequent registration, students will be counseled by their advisor or the department chair. During this session, the student will be advised of his or her deficiencies and the requirements for removing the deficiencies within the next nine semester hours of enrollment. Students may repeat courses for which they earned a low grade. Please review *Repeating Courses* for more information. The student will not be permitted to register without the written approval of the Dean of the Graduate College or the Dean of the College Education and Professional Development. A second counseling session will follow the first semester or term of subsequent enrollment and will be a review of the student’s progress. If probationary status is not removed within a satisfactory time period, the Dean of the Graduate College in consultation with the graduate department will determine if the student is to be retained or recommended for dismissal and what counseling or remediation steps will be required of the student as a condition of retention.

Medical Students

Medical School students should consult the appropriate Medical School publications for the description of this sanction.

ACADEMIC PROGRESS

Graduate students may enroll in a minimum of 9 and maximum of 12 hours to be considered as enrolled full time. A minimum Grade Point Average of 3.0 is required to be in Good Academic Standing. Therefore, a full-time graduate student is required to complete a minimum of 9 hours with a 3.0 or higher GPA for normal academic progress.

ACADEMIC RIGHTS AND RESPONSIBILITIES OF STUDENTS (from Board of Governors Policy SA-2)

The institution and its constituent colleges and schools shall define and promulgate, consistent with the policies, rules and regulations of the Higher Education Policy Commission and the Marshall University Board of Governors, the academic requirements for admission to the institution, for admission to limited enrollment programs and for admission to professional and graduate degree programs (where offered); the criteria for maintenance of satisfactory academic progress, for the successful completion of the program, for the award of a degree or certification, for graduation; the requirements or criteria for any other academic endeavor; and the requirements for student honesty and originality of expression.

A student, by voluntarily accepting admission to the institution or enrolling in a class or course of study offered by the institution, accepts the academic requirements and criteria of the institution. It is the student’s responsibility to fulfill coursework and degree or certificate requirements and to know and meet criteria for satisfactory academic progress and completion of the program.

Academic Rights

Concomitant with the academic standards and responsibilities established pursuant to these rules, each student shall have the following academic rights:

- The student shall be graded or have his/her performance evaluated solely upon performance in the course work as measured against academic standards. The student shall not be evaluated prejudicially, capriciously, or arbitrarily. The student shall not be graded nor shall his/her performance be evaluated on the basis of his/her race, color, creed, sex or national origin.
- Each student shall have the right to have any academic penalty, as set out in Section 4.2 of these rules below and more specifically defined by his/her institution, reviewed.
- Each student shall have access to a copy of the college or university catalog or program brochure in which current academic program requirements are described (e.g., required courses, total credit requirements, time in residence requirements, special program requirements, minimum grade point average, probation standards, professional standards, etc). Students have the right to receive from the instructor written descriptions of content and requirements for any course in which they are enrolled (e.g., attendance expectations, special requirements, laboratory requirements including time, field trips and costs, grading standards and procedures, professional standards, etc.).
- The instructor of each course is responsible for assigning grades to students enrolled in the course, consistent with the academic rights set out in the preceding sections.

Application of Policy to Students

Student – any person who has been admitted to an institution to pursue a course of study, research, or service, who is currently engaged in an institutionally sponsored activity, and who has some right or privilege to be on the campus or in the facilities of the institution, or to use the same, in connection with study, research, or service, or who yet has some right or privilege to receive some benefit or recognition or certification from the institution, under the rules, regulations, or policies of the Higher Education Policy Commission, the Marshall University Board of Governors or the institution.

A student, as defined in this policy, shall be subject to any applicable penalties for failure to comply with the academic requirements and standards promulgated by the institution and/or its constituent colleges and schools according to these rules. Students are expected to adhere to these academic standards in all academic settings, classrooms, laboratories, clinics and any other activities which are part of academic requirements.

Academic Requirements and Consequences of Failure to Meet Requirements

The institution and its constituent colleges and schools shall define and promulgate the academic requirements, criteria and standards as set out in these rules. Normally, students may finish a program of study according to the requirements under which they were admitted to the program. However, requirements are subject to change at any time, with reasonable notice provided to the students.

A student who fails to meet the academic requirements or standards, including those for academic honesty as defined by the institution and its constituent colleges and schools according to Section 2.1 of these rules, may be subject to one or more of the following penalties:

- A lower grade or failure of the course or exclusion from further participation in the class (including laboratories or clinical experiences), all of which may be imposed by the instructor.
- Academic probation as determined and defined by the institution and its constituent colleges and schools.
- Academic suspension as determined and defined by the institution and its constituent colleges and schools.
- Academic dismissal.

Academic dismissal is defined as termination of student status, including any right or privilege to receive some benefit or recognition or certification. A student may be academically dismissed from a limited enrollment program and remain eligible to enroll in courses in other programs at the institution, or a student may be academically dismissed from the institution and not remain eligible to enroll in other courses or programs at the institution.

A student may appeal any penalty according to the procedures below. Each institution and its constituent colleges and schools shall determine and specify the point at which penalties, excluding those specified in these rules, may be imposed. Each instructor determines the point at which the penalties specified may be imposed. Each institution and its constituent colleges and schools shall determine the method(s), if any, by which a student may correct the condition(s) leading to imposition of these penalties and thereby have them removed.

Appeals

Each institution and its constituent colleges and schools shall establish policies and procedures by which a student may appeal or challenge any academic penalties imposed by a faculty member or by the institution or one (1) of its constituent colleges and schools, including those described in these rules.

Additional procedures may include but not be limited to:

- Appeals of a grade penalty or exclusion from class;
- Appeals of final course grades;
- Appeals of imposition of academic probation;
- Appeals of imposition of academic suspension;
- Appeals of dismissal from undergraduate programs;
- Appeals of dismissal from graduate programs;
- Appeals of dismissal from professional degree programs; and
- Appeals of dismissal from the institution.

Policies and procedures relating to appeals of academic penalties shall be governed by due process and shall include, as a minimum:

- Written notice to the student (1) of his/her failure to meet or maintain an academic standard, (2) of the methods, if any, by which the student may correct the failure, and (3) of the penalty which may be imposed.
- An opportunity for the student to meet with the faculty member(s) or other individual(s) who have judged his/her performance to be deficient, to discuss with these faculty member(s) or other individual(s) the information forming the basis of the judgment or opinion of his/her performance, to present information or evidence on his/her behalf, and to be accompanied at any such meeting by an advisor of his/her choice from the institution. Such advisors may consult with but may not speak on behalf of their advisees or otherwise participate directly in the proceedings, unless they are given specific permission to do so by the individual or committee conducting the appeal.

- An opportunity for the student to appeal the decision or judgment of faculty members through the established institutional appeals procedure within thirty (30) calendar days after written notice of the decision or judgment.
- The appeal to the appropriate academic officer or appeals committee is not adversarial in nature; the formal rules of evidence do not apply.
- An opportunity to appeal to the president of the institution or his/her designee within thirty (30) calendar days after the receipt of written notice of the decision or judgment.
- The decision of the president or his/her designee regarding an academic appeal is final.

Policies and procedures relating to appeals of academic dismissal shall be governed by due process and shall include, as minimum in addition to the requirements of the rules above:

- The student may be advised by a person of his/her choice; likewise, the faculty member, academic officer, or committee recommending academic dismissal may have an advisor.
- Witnesses may be called by any of the parties involved.
- A record of the appeal shall be prepared in the form of summary minutes and relevant attachments and will be provided to the student upon request.
- **The process for Graduate Student Appeals is further set forth in Administrative Procedure, Student-1, Graduate Student Appeals Process.**
- The decision of the president or his/her designee regarding academic dismissal is final.

Publication

All standards, criteria and procedures of the institution shall be published in one or more appropriate institutional publications such as catalogs, student handbooks, academic pamphlets, and handouts. Such requirements are subject to change with reasonable notice provided to the students.

*Revised by Marshall University Board of Governors
July 12, 2013*

ACCELERATED MASTER'S DEGREE

Marshall University offers an accelerated path through a number of its master's degree programs. We encourage qualified undergraduates to consider doing an Accelerated Master's Degree (AMD). Accelerated Master's Degrees are currently offered in Criminal Justice, Geography, Political Science, Psychology, and Sociology.

Undergraduates accepted to an AMD program can begin taking graduate coursework in their senior year up to a maximum of 12 hours in place of electives. Students reduce the number of hours required to complete the Bachelor's degree by the number of graduate hours they complete (up to a maximum of 12). They must meet all other degree requirements for their Bachelor's degree while they work on their Master's degree. None of the credit hours used for the Bachelor's degree can be counted toward the Master's degree.

Graduate coursework/credit will appear **ONLY** on the graduate transcript, and graduate course grades will be calculated at the graduate level. The undergraduate transcript will indicate that graduate courses were used to fulfill the AMD requirement.

Advantages of an Accelerated Degree

- complete the Bachelor's degree with up to 12 fewer credit hours, (must meet all other degree requirements for the Bachelor's degree);
- begin work on the master's degree during the senior year;
- complete up to 12 graduate credits at undergraduate tuition rates;
- earn a bachelor's and master's degree in less time.

Eligibility Requirements for Accelerated Master's Degree program

- must have completed at least 90 hours toward the bachelor's degree;
- must have at least a 3.30 overall undergraduate GPA;
- must have at least a 3.30 GPA in the major;
- must meet the admission requirements of the chosen master's degree program. (Note: AMD programs may have admission requirements that differ from the admission requirements for the regular master's degree. For example, some departments might waive the required admission test, such as the GRE, GMAT or Miller Analogies. Students should check with the chosen master's degree program.)

How to Apply

1. During the junior or senior year, eligible students should meet with their undergraduate advisor and the Director of Graduate Studies of their chosen master's degree program to develop an AMD Plan of Study. The Plan of Study form is available from the Graduate College office or online at the Graduate College website. The completed, signed, and approved Plan of Study must be submitted to the Graduate College. Any changes to the AMD Plan of Study must be approved by the undergraduate advisor and Director of Graduate Studies and submitted in writing to the Dean of the Graduate College.
2. The student's acceptance into the AMD program is subject to the approval of the Plan of Study by the Dean of the Graduate College.
3. Students accepted into the AMD program should apply for admission to the chosen master's degree program for the first semester after the bachelor's degree is awarded. Applications should be submitted during the last semester of the senior year.

Requirements for Continuation in the AMD Degree Program

Students must maintain a minimum GPA of 3.0 for all graduate credit toward their master's degree program.

Withdrawal from the AMD

A student may withdraw at any time from an approved AMD program by informing the undergraduate advisor, the Director of Graduate Studies, and the Dean of the Graduate College in writing. A student's status will then revert to the standard undergraduate degree program. Any graduate hours earned must be approved for use in fulfillment of bachelor's degree requirements by the student's Undergraduate Dean.

From Undergraduate to Graduate Student

Beginning with the semester after the student has earned the bachelor's degree and has been accepted into a master's degree program, the student is enrolled in the Graduate College and is assessed tuition and fees at the graduate rate. All rules regarding graduate education will apply to the student once admitted into the master's degree program.

Master's Programs that offer the AMD

Criminal Justice
Geography
Health Informatics
Political Science
Psychology
Sociology

ADVISING

Academic advising provides academic guidance, professional identification, and educational enrichment.

At the time of admission, students are assigned an academic program advisor. The student and advisor prepare a Plan of Study during the semester the student is admitted. The program outlined in the Plan of Study should be chosen on the basis of the student's interests and needs and should meet program requirements.

- Any unapproved deviations from the Plan of Study may result in delayed program completion and/or graduation. To amend the Plan of Study the student must consult with his or her academic program advisor. When a student applies for graduation or for certification there must be agreement between the Plan of Study and the record of courses taken by the student.
- If the student writes a thesis or dissertation, the advisor or other designated person directs the student in that work. The advisor usually serves as chair of the committee to conduct the student's comprehensive assessment, assembles questions for any written and oral examination, and reports the result of the examination to the Graduate College.
- A current list of faculty advisors by program can be found online at www.marshall.edu/graduate.

APPLICATION FOR GRADUATION

The application for graduation must be completed and submitted BEFORE or at the beginning of the student's final semester/term, but NOT LATER than the date printed in the University Calendar. For Huntington students, the application must be submitted to the Graduate College Office along with documentation that the diploma fee has been paid (a receipt from the Bursar or a Bursar stamp on the application form). For South Charleston students, the application must be submitted to the Graduate Records Office with a check attached for the appropriate fee or students may call the office to pay with a credit card.

For diploma fee information, see "Special Student Fees" at www.marshall.edu/bursar. Forms for applying for graduation can be obtained from the above offices and online at www.marshall.edu/graduate/current-students/forms-and-information-2.

Students planning to graduate in a particular semester or term must provide all data to be applied toward the graduation to the Graduate College office in Huntington or the Graduate Records office in South Charleston by the advertised last day for the submission of the final grades for the semester or term. This documentation is to include official transcripts from institutions external to Marshall. Said transcripts must be received in the Graduate College Office by the stated deadline. All incomplete grades must be officially removed by the accepted University procedure by this same deadline. Failure on the part of students to comply with this policy will result in their being removed from the graduation list for the term in question.

NOTE on Transfer Credit

All transfer credit (and official transcripts) must be sent directly to the Graduate College office in Huntington or the Graduate Records office in South Charleston and received no later than the date for submitting final grades established by the Registrar. Should the transcript not be received by this deadline, the student's name will be removed from the final graduation list.

NOTE on Incomplete Grades and PR Grades

All grades of *I* must be removed by the end of the term and the Grade Change Form for said grade must be received by the Graduate College office in Huntington or the Graduate Records office in South Charleston no later than the date for submitting final grades established by the Registrar. This also applies to the recording of grades for thesis. Failure to meet this deadline will cause the student's name to be removed from the final graduation list.

AREA OF EMPHASIS (see also *Changing Area of Emphasis*)

An area of emphasis is a specific subject area of study which has defined course offerings within an approved degree program and major.

Although a student might take continuing education and/or development courses after receiving a graduate degree, Areas of emphasis for any given degree cannot be added after that degree has been obtained.

ATTENDANCE

See Class Attendance Policy.

AUDITING

Students who wish to register for a course without earning credit may register as an audit. The cost incurred is the same as if the course were taken for credit. Students who complete audit requirements for a course receive a grade of AUD which carries no earned credit hours. Students who wish to audit a class should secure instructor approval before registration. Attendance and other requirements for auditors shall be determined by the instructor of the course being audited. It is the responsibility of the instructor to discuss the requirements of the course with the auditor. It is the prerogative of the instructor to notify the respective Dean and the Registrar's Office to withdraw the auditor from the class if attendance or other requirements are not met.

Staff Development courses may not be taken under the audit option.

It is not possible to change a registration from credit to audit or audit to credit after the close of the schedule adjustment period at the beginning of a semester or summer term.

CERTIFICATE PROGRAMS

Certificate programs are professional continuing education programs of typically 12 to 21 credit hours as designated by the program faculty and available to students admitted under the Certificate/Professional Development and Degree-seeking categories. The main purpose of certificate programs is to provide opportunities to students to complete a cohesive program of coursework that is less than a graduate degree, but which provides advanced training in a specific area. For detailed information about all certificate programs please see www.marshall.edu/graduate.

CHANGING AREAS OF EMPHASIS

To change the area of emphasis in a degree program, submit a Change of Area of Emphasis form for approval. There is no fee for this change. The form is available in the Graduate College office (OM 113) or online at the Graduate College website.

CHANGING DEGREE PROGRAMS

To change a degree program, apply for admission to the new program through the regular admission process and pay the appropriate admission fee. Note that admission to another degree program is not automatic. Students are reviewed as applicants to the new program and may be refused admission to the new program.

(continued)

Students wishing to change degree programs within a department (M.S. to M.A. or MA to M.S.) may make the change by completing the Change of Degree Program form available at www.marshall.edu/graduate/current-students/forms-and-information-2 and in Old Main 113. This process does not require readmission into the program.

CLASS ATTENDANCE POLICY

It is the responsibility of each individual instructor to evaluate the importance of student class attendance. Accordingly, each instructor prepares at the beginning of each semester a written statement in the syllabus setting forth his or her policy for consideration of unexcused absences, make-up examinations, and related matters, which will be in force for the semester. This statement is filed with the chair of the department and a statement of policy on attendance appropriate to each class is made available to students. Absences such as those resulting from illness, death in the family, or institutional activities (those approved by the academic deans, such as debate, artistic performances and athletics) and professional, work-related absences are to be excused when a student reports and verifies them to the instructor. For such excused absences, the student should be reasonably accommodated.

COMMENCEMENT AND GRADUATION

Marshall University observes two Commencement Exercises and four Graduation dates during an academic year. The official graduation dates are:

- last day of final examinations in July;
- last day of final examinations in August;
- last day of final examinations in December;
- day of Commencement for the spring semester.

Commencement Exercises are held twice a year to honor candidates for associate, baccalaureate and advanced degrees (master's, specialist and doctoral). The Spring ceremony honors students who complete their degree requirements between December and May and is held in May; the Fall ceremony honors students who complete their degree requirements between May and December and is held in December.

Please see the Academic Calendar for official dates.

COMPREHENSIVE ASSESSMENT

In addition to all general requirements for graduate degrees, a comprehensive assessment must be completed. The comprehensive assessment is not solely based upon the specific courses completed, but affords the student an opportunity to demonstrate broad comprehension and synthesis of the major subject. Depending upon the specific requirements of a particular program, the assessment might include such activities as the report and defense of a final project, comprehensive project, portfolio, or capstone project; thesis or dissertation and its defense; or a written comprehensive exam or oral comprehensive exam.

In this policy, the term "Comprehensive Assessment Committee" will be understood to mean any committee executing the student's final assessment for the degree. For example, a doctoral research project committee would be understood to serve as the final Comprehensive Assessment Committee, if that doctoral research project is considered to be the final comprehensive assessment. For additional information, see specific requirements in the appropriate program section. Responsibility for development, scheduling and administration of the comprehensive assessment rests with the faculty of the student's program and the appropriate dean.

A student's performance on the comprehensive assessment is reported to the Office of the Graduate Dean or school dean as follows:

- E* Pass with distinction, indicating superior performance.
- P* Pass, indicating satisfactory performance.
- PC* Pass with contingency, which may mean additional requirements for the student as determined by the faculty.
- U* Unsatisfactory, indicating that performance has not met the minimum standards of Marshall University Graduate College.

The decision on the grade is made by a majority vote of the members of the committee, and forwarded by the chair to the Graduate Dean on a form provided by the Graduate College Office. All graduate students must pass a final comprehensive assessment to be eligible for graduation.

Unless more restrictive guidelines are specified in the individual program description in this catalog, no more than two reassessments are permitted. In the event students fail to pass an assessment, they will be placed on probation and, prior to reassessment, must meet with their examining committee to discuss deficiencies and steps to correct them. Students may be assessed only one time a term or semester. When students fail the second reassessment, the department will recommend their dismissal by the Graduate College.

Comprehensive Assessment Committee: Master's Degrees and Education Specialist Degrees

A Comprehensive Assessment Committee must evaluate each student's performance on the comprehensive assessment. The student's graduate advisor or graduate program director selects the chair and other member(s) of the Comprehensive Assessment Committee. The committee chair must have at least "Graduate" level membership in the Marshall University graduate faculty. There must be a minimum of two voting members on every Comprehensive Assessment Committee, including the committee chair, except in the case where a national standardized exam is used as the only assessment, in which case only the person serving as chair is needed. Other than the chair, all other assessment committee voting members must have at least "Associate" level membership in the Marshall University graduate faculty. A majority of the student's Comprehensive Assessment Committee voting members must have appointments within the college of the student's major.

With the approval of the department or division chair or head and the student's Comprehensive Assessment Committee chair, other professionally or educationally qualified people may be invited to act as non-voting members of the committee.

In the event of a tie-vote when determining the outcome of the student's comprehensive assessment, the college or school dean is to select one additional faculty member to break the tie. This additional member must be from the college of the student's major and must have at least "Graduate" level membership in the Marshall University graduate faculty. This also might require the assessment to be executed a second time with the new committee member's personal direct involvement.

In the case of written or oral examinations, the chair of the student's Comprehensive Assessment Committee prepares the questions for the written examination in consultation with other faculty members on the committee, and conducts the oral assessment with the other committee members present. The student may check with the program or department for availability of past assessments or study guides for review.

For any specific student, any exceptions to the above policies must be approved by the dean of the Graduate College on an individual basis. The dean of the Graduate College will notify the chair of Marshall University's Graduate Council of any exceptions which were approved and give the reasons for each exception.

Comprehensive Assessment Committee: Doctoral Degrees (other than Doctor of Medicine degrees)

A final Comprehensive Assessment Committee must evaluate each student's performance on the doctoral degree final comprehensive assessment. Other preliminary or intermediate assessments vary by program and department policy. The student selects the chair and other members of the final Comprehensive Assessment Committee, subject to the approval of the student's graduate advisor or program director, and dean. The committee chair must have "Doctoral" level membership in the Marshall University graduate faculty. There must be a minimum of three voting members on every doctoral Comprehensive Assessment Committee, including the committee chair. Other than the chair, all other assessment committee voting members must have at least "Graduate" level membership in the Marshall University graduate faculty. Professional programs may alternatively choose to include a maximum of one external, professionally qualified voting member who would not need graduate faculty membership, and who would serve as one of the three or more voting members. A majority of the student's Comprehensive Assessment Committee members must have faculty appointments within the college of the student's major.

In the event that more than one member of the final Comprehensive Assessment Committee votes not to approve the student's performance as a result of the assessment, the doctoral degree cannot be recommended. At the discretion of a majority of the committee, the student may be given one additional chance to satisfy the committee to the point that no more than one committee member refuses to approve the student's performance on the comprehensive assessment.

For any student, exceptions to the above policies must be approved by the dean of the Graduate College on an individual basis. The dean of the Graduate College will notify the chair of Marshall University's Graduate Council of any exceptions which were approved and give the reasons for each exception.

COURSE LOAD

A normal course load for graduate students is nine to twelve semester hours in the Fall and Spring semesters, and four to six semester hours in each of the summer terms. Any student seeking registration beyond this limit must request a course overload approval in the Graduate College office.

COURSE NUMBERING

Graduate courses numbered 500-599 may be similar to certain undergraduate 400-499 series courses and may meet jointly. A Marshall University course taken at the 500 level will not meet degree requirements if it was already taken at the 400 level. Courses numbered 600-699 and 700-899 are open only to graduate students. Exceptions to this policy sometimes are granted to seniors with excellent academic records. See *Undergraduate Enrollment in Graduate Courses*.

CREDIT HOUR

One lecture credit hour is given normally for each 15 classroom contact hours plus 30 hours of outside preparation or equivalent. One laboratory credit hour requires at least 30 hours of laboratory work per one lecture credit plus necessary outside preparation or equivalent. Laboratory experiences are complements to classroom courses that focus on the theory and principles of the discipline. They are organized activities involving the observation and verification of experiments and experimental techniques.

DEGREE PROGRAM (See also *Changing Degree Programs*)

A degree program is a unified, complementary series of courses or learning experiences that lead to a degree.

DEGREES

Marshall University offers programs of study leading to the degrees of:

- Master of Arts, M.A.
- Master of Arts in Teaching, M.A.T.
- Master of Arts in Journalism, M.A.J.
- Master of Business Administration, M.B.A.
- Master of Public Administration, M.P.A.
- Master of Public Health (M.P.H.)
- Master of Science, M.S.
- Master of Science in Engineering, M.S.E.
- Master of Science in Nursing, M.S.N.
- Master of Social Work, M.S.W.
- Education Specialist, Ed.S.
- Doctor of Education, Ed.D.
- Doctor of Management Practice in Nurse Anesthesia, D.M.P.N.A.
- Doctor of Pharmacy, Pharm.D.
- Doctor of Philosophy, Ph.D.
- Doctor of Physical Therapy, D.P.T.
- Doctor of Psychology, Psy.D.

DISMISSAL FROM PROGRAM

Only grades of *A*, *B*, *C*, *CR*, or *S* are acceptable in fulfilling graduate degree requirements on any Plan of Study.

Particular programs may require higher performance than *C* in certain courses. Exclusively, all courses completed after admission to the current degree program, along with any previous Marshall University coursework to be counted toward the current degree (should be in the student's Plan of Study), will be used to calculate the student's GPA—no other courses will be included in the GPA.

Several programs maintain a policy that stipulates dismissal of students who earn two grades of *C* or less. Repeating a course for a higher grade does not negate the existence of the former grade. As such, a student may be dismissed from the program upon earning a second grade of *C* or less even if the student repeated a course and earned a higher grade. Students are advised to review with care the degree requirements for their program of study in the *Graduate Catalog* published the year they began the program.

A graduate student is required to maintain a minimum cumulative GPA of 3.0 for this coursework. If, upon the completion of 12 hours or thereafter, a degree student's GPA is less than 3.0, the student may be subject to dismissal from the program. See *Grade Point Average and Other Requirements for Graduation* and *Repeating Courses* for more information.

DOCTORAL DEGREES

Marshall University follows The U.S. Department of Education's definition of a doctoral degree as an earned degree that carries the title of Doctor. The Doctor of Philosophy degree (Ph.D.) requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctor's degrees are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), management practice in nurse anesthesia (D.M.P.N.A), pharmacy (Pharm.D.), physical therapy (D.P.T.), and psychology (Psy.D.). (<http://nccs.ed.gov/programs/coe/glossary.asp>)

Since 1992, Marshall University has offered the Ph.D. in Biomedical Sciences. The doctorate in clinical psychology (the Psy. D.) admitted its first class in the Fall of 2002. The Ed.D. features offers majors in Curriculum and Instruction and Educational Leadership. The Doctor of Management Practice in Nurse Anesthesia (D.M.P.N.A) is offered by the College of Business in collaboration with the School of Nurse Anesthesia of the Charleston Area Medical Center. In 2011, Marshall University added the Doctor of Physical Therapy (D.P.T.), and Doctor of Pharmacy (Pharm.D.) degrees.

DROPPING COURSES AND COMPLETELY WITHDRAWING FROM THE UNIVERSITY (See also *Medical Withdrawal*)

1. Dropping of Courses

Dropping a course after the schedule adjustment period requires that a drop form bearing the instructor's signature be submitted to the Registrar's Office. Students on academic probation must have the Dean's approval to drop a course.

Off-campus or night courses may be dropped by mailing a request to drop to the Registrar's Office. The postmark on such a request will be the official date of withdrawal.

2. Withdrawal from the University

Withdrawal from the university is defined as dropping all classes for which a student is registered.

Withdrawal requires that a withdrawal form be submitted to the Registrar's Office or that a request for withdrawal be mailed to the Registrar's Office. It is not possible to withdraw by telephone.

The effective date of withdrawal is the date that the withdrawal form is submitted to the Registrar's Office. The postmark on mail requests will be the official date of withdrawal.

3. Grades Assigned in Case of Dropping Courses or Withdrawal from the University

In all cases of dropping courses or withdrawal from the University the instructors will report grades as follows:

- a. A student dropping courses or withdrawing from the University on or before the tenth Friday after the first class day of the regular semester will receive a grade of "W." For eight-week courses, summer sessions and other courses of varying lengths, the "W" period ends the Friday immediately following the two-thirds point in the course. Exact "W" dates are identified in the annual University Academic Calendar.
- b. A "W" grade (withdrew) will have no bearing on the student's Grade Point Average.
- c. Students who drop courses without approval, or who do not follow regulations provided in the preceding paragraphs, receive a grade of "F" at the end of the Semester or summer term.

4. Final Date for Dropping or Withdrawing

The final date for dropping an individual class is the tenth Friday in a regular term. The last date for complete withdrawal from the University is the last day of classes. In both cases, "W" grades are assigned.

5. Military Service

Men and women called to active duty in the armed services of the United States shall be granted full refund of fees, but no credit, if the call comes before the end of the first three-fourths of the semester or term, and full credit, but no refund of fees, shall be granted if the call comes thereafter; provided, however, that credit as described above will be granted only in those courses in which the student is maintaining a passing mark at the time of departure to military service. The term "called to active duty" is herein defined as being called to active duty as the result of the federal activation of a total reserve component, National Guard unit, or any portion thereof which involves a particular student or an individual who is a bona fide member of the reserve component or a National Guard unit. The final grades, both passing and failing, for three-fourths of a semester or more are to be shown on the student's permanent record.

DUAL DEGREES

Students who wish to seek admission to more than one degree program, whether sequentially or simultaneously, must complete a separate application, pay the non-refundable application fee, and meet all admission requirements for each academic program for which admission is sought. A maximum of 12 semester hours may be used in common among the degrees, with the approval of the department from which the degrees are sought. Such approval must be obtained in writing and put on file in the Graduate College Office at the time the student begins the subsequent master's degree program. All applicable coursework must meet time limitations.

Not all departments may accept a student who is already admitted to another graduate level program. Prior to submitting a Graduate Application for Admission, please check with the academic department(s) of the program(s) in which you are interested.

EDUCATION SPECIALIST

Marshall University also offers the Education Specialist (Ed.S.) degree in Education and in School Psychology. Under the Ed.S. in Education, students may select areas of emphasis in Counseling, Curriculum and Instruction and Literacy Education. For more information, check the appropriate program description in this catalog, or contact the department offering the degree.

FINAL GRADES

Marshall University mails final grades only upon student request. Grades will be available online using myMU. Requests to have grades mailed to the permanent address in the student information system may be submitted online using myMU or by submitting a written request to the Office of the Registrar, One John Marshall Drive, Huntington, WV 25755. Written requests must contain name, student number, and signature of the student.

FULL-TIME GRADUATE STUDENT

The West Virginia Higher Education Policy Commission defines a full-time graduate student at Marshall University as carrying nine or more semester hours in a regular semester. During a single summer term a full-time graduate student carries four or more semester hours. This may differ from the definition for fee purposes. (See *Financial Information*.)

FOUR-PLUS-ONE DEGREE PROGRAMS

See *Accelerated Master's Degree Program*.

GRADE INFORMATION AND REGULATIONS

Grade Point Average Defined

Anywhere in this catalog where GPA is discussed, unless otherwise noted, GPA means degree GPA. However, the final transcript GPA includes all graduate-level grades taken at Marshall University at any time, regardless of whether or not they count toward the student's degree. The GPA is calculated only on graduate coursework taken at Marshall University, and only includes coursework taken within the past seven years, or older for coursework that has been revalidated (see Time Limitations for coursework older than seven years). Exclusively, all courses completed after admission to the current degree program, along with any previous Marshall University coursework to be counted toward the current degree (should be in the student's Plan of Study), will be used to calculate the student's GPA—no other courses will be included in the GPA.

Courses with grades of *W*, *PR*, *NC*, *CR*, *S*, or *U* are not computed in the GPA. The grade of *I* is computed as an *F* in determining qualifications for graduation.

See *Repeating Courses* for more information.

Grade Point Average Requirements – Good Standing

Grades on coursework may not average lower than 3.0 at any time in the program. All grades of *C* or less are counted in computing the GPA, but no more than six hours of *C* and no grades below *C* may be applied toward a graduate degree. Individual degree programs may have more stringent requirements, so refer to your degree program for information.

A graduate student is required to maintain a minimum cumulative GPA of 3.0 for this coursework. If, upon the completion of 12 hours or thereafter, a degree student's GPA is less than 3.0, the student may be subject to dismissal from the program.

Grades and Quality Points

The following system of grades and quality points is used for graduate courses:

- | | |
|----------|---|
| <i>A</i> | For achievement of distinction. Four quality points are earned for each semester hour with a grade of <i>A</i> . |
| <i>B</i> | For competent and acceptable work. Three quality points are earned for each semester hour with a grade of <i>B</i> . |
| <i>C</i> | For below average performance. Two quality points are earned for each semester hour with a grade of <i>C</i> . (No more than six hours of <i>C</i> may be applied toward a graduate degree.) |
| <i>D</i> | For patently substandard work. One quality point is earned for each semester hour with a grade of <i>D</i> . (No grade of <i>D</i> may be applied toward a graduate degree.) |
| <i>F</i> | Failure, given for unsatisfactory work. No quality points. |
| <i>W</i> | Withdrawn on or before the tenth Friday after the first class day of the regular semester or the Friday after the two-thirds point in the summer session. "W" grades are assigned for complete withdrawals. |
| <i>I</i> | An <i>I</i> grade (Incomplete) is given to students who do not complete course requirements because of illness or for some other valid reason (see <i>Incomplete Grade</i>). The <i>I</i> grade is not considered in determining the Grade Point Average. The student has the responsibility of completing the work within the period defined by the |

instructor. This period is typically the end of the next fall or spring semester, whichever comes earlier, after the semester in which the incomplete grade was assigned. If the work is completed satisfactorily, one of the four passing marks will be awarded. If the work is unsatisfactory or the student fails to complete the work within the allotted time, an *F* or failing grade will be recorded. All grades remain on the student's permanent record as originally submitted by the course instructor. Any grade change is added to the permanent record.

- CR/NC* Recorded as *CR* (for satisfactory performance) or *NC* (for unsatisfactory performance) for courses designated by the department or division for credit/no credit grading. *CR* and *NC* are not considered in determining the Grade Point Average.
- S/U* For certain courses, which are so designated in the catalog, every student is given a grade of *S*, which denotes satisfactory completion of the course, or *U*, which denotes unsatisfactory work. *S* and *U* are not considered in determining the Grade Point Average.
- PR* Indicates progress on a thesis, dissertation or in select research courses. It is replaced by the final grade upon completion up to established credit limits.

NOTE: At the graduate level, the grades of *CR* and *S* are considered the equivalent of the grade of *B* or higher.

GRADUATE ASSISTANTSHIPS

Many departments offering graduate degrees as well as non-academic units have graduate assistantships available. The amount of the award will vary depending upon the unit offering the assistantship, the residency status of the student, and the time commitment required (10 hours a week or 20 hours a week). All awards include a stipend and a waiver of a portion of the tuition.

Graduate Assistantships are available each semester in teaching, research, or administrative work. Reappointment depends on job performance and academic progress. Please note that a student cannot hold more than one Graduate Assistantship at a time. More information is at this site: www.marshall.edu/graduate/graduate-assistantships-2/graduate-assistantship-overview.

Eligibility:

- Full or Conditional admission to a graduate degree-granting program at Marshall University;
- First-time graduate students must have a minimum undergraduate GPA of 2.75 on a 4.0 scale for all previously completed undergraduate coursework; returning GA's must have a minimum graduate GPA of 3.0;
- During Fall or Spring semester must be enrolled for at least 9 hours of graduate coursework for a full-time assistantship or at least 3 hours of graduate coursework for a half-time assistantship; during summer terms must be enrolled for at least 4 hours of graduate coursework for a full-time assistantship or at least 2 hours of graduate coursework for a half-time assistantship. NOTE: undergraduate hours are eligible for a tuition benefit when required in a student's graduate program.

Apply for an assistantship by contacting the department in which you intend to be enrolled.

Note: By an act of Congress, all graduate assistants must submit an approved I-9 form. Payment of the GA stipend will not be authorized until this form is accepted by the Human Resources Office.

Inquiries about graduate fellowships, work-study opportunities, loans, and other forms of financial assistance for graduate students should be directed to the Graduate College Office or to the Office of Student Financial Assistance, Marshall University, Huntington, WV 25755.

GRADE POINT AVERAGE AND OTHER REQUIREMENTS FOR GRADUATION

The requirements for graduation include completion of the program requirements, successful completion of required comprehensive assessments, a GPA of at least 3.0 (see *Grade Information and Regulations*), and satisfactory fulfillment of other academic requirements as may be established by the various programs. Additionally, the student must have at least a 3.0 GPA in the major, or in CORE courses of an interdisciplinary program. Only grades of *A*, *B*, *C*, *CR*, or *S* are acceptable in fulfilling graduate degree requirements on any Plan of Study. Particular programs may require higher performance than *C* in certain courses. Grades of *W*, *PR*, *CR*, *NC*, *S*, *U*, and *I* are not counted in the GPA calculation, except that an *I* grade will be calculated as an *F* (for courses where a letter grade is normally given), *NC*, or *U*, depending on the type of course, for determining qualifications for graduation.

Additional Requirements

- All grades of *C* or less are counted in computing averages, but no more than six hours of *C* and no grades below *C* may be applied toward a graduate degree. Individual degree programs may have more stringent requirements, so refer to your degree program for information.
- Up to six hours of *CR* or *S* may be included within a degree program but they will not affect the GPA.
- Master's degree students must complete a minimum of 30 hours of graduate coursework. For programs requiring a thesis, a minimum of 3 and a maximum credit of 6 hours may be granted for the thesis toward the total degree credits,

except in chemistry and biological sciences, where up to 12 thesis hours may be applied toward the MS degree. Individual programs may require more than the 30-hour minimum requirement, so students must consult individual program degree requirements.

- A minimum of 18 hours must be earned in the major subject. The major department may optionally require a minor with a minimum of 6 hours in another subject.
- Courses may be taken in a third closely related field if approved by the advisor. In special teacher-education curricula, courses may be distributed among several fields with the approval of the advisor.
- Graduate courses are numbered 500 to 899. Selected courses with 400 series numbers for undergraduate credit may have 500 series numbers for graduate credit. In courses open to both graduate and undergraduate students, graduate students are required to do more work than undergraduates. This may include more extensive reading, an extra research paper, and other individual work.
- A Marshall University course taken at the 400 level cannot be retaken at the 500 level; it will not be applicable to the master's degree.
- At least one-half of the minimum required hours for the student's master's degree must be earned in classes numbered 600 or above.

Meeting minimum requirements in hours of credit does not necessarily constitute eligibility for the degree. The work taken must constitute a unified and approved program in the field. Students may be required to take appropriate national exams in order to graduate.

During the seven-year time limit, Marshall University reserves the right to advise students of their status on academic performance related to the probability of receiving a degree within the prescribed time limit.

GRADUATE STUDENT EMPLOYMENT

Graduate students who are employed should limit their schedules in proportion to the time available for graduate study. As a general practice, the maximum graduate load recommended for a student who is employed full-time is six hours in a regular semester or three hours in a summer term.

HYBRID COURSES

Hybrid course refers to any distance education course in which a portion of the course is delivered synchronously with scheduled and required online, face-to-face, or on-site attendance requirements; the remainder of the course is delivered asynchronously. Types of hybrid courses include the following delivery modes and are designated in the Marshall University schedule of courses:

- T-course is a hybrid course in which 25% or more of the course is delivered synchronously requiring scheduled face-to-face or online attendance (Technology Enhanced: TE).
- V-course is a synchronous course in which the faculty member holds live class meetings in person, by technological means, or by both delivery formats simultaneously (Virtual Class: VC).
- IV-course is a synchronous course in which the faculty member holds live class meetings using the interactive video system (Interactive Video: IV).

Hybrid courses start and end on the same dates as the regular semester courses and are not assessed an additional per credit hour fee. Hybrid courses also use the Blackboard learning management system to deliver technology-enhanced or virtual courses. Students may visit www.marshall.edu/muonline for complete information on hybrid courses, including technical requirements, student readiness, and course listing.

INCOMPLETE GRADE

An *I* grade (Incomplete) is given to students who have completed at least three quarters of the work for the course, as determined by the instructor, but who do not complete course requirements for reasons deemed acceptable to the course instructor. The *I* grade is not considered in determining the Grade Point Average, except for graduation. Students must be in good standing in the class prior to requesting an incomplete. The course instructor decides whether or not an incomplete will be granted and specifies in writing what work the student must complete to fulfill the course requirements; this remaining-requirements description is to be submitted with the University's Incomplete Grade Form, with copies to the student and the instructor. To complete the course, the student has until the end of the next fall or spring semester, whichever comes earlier, after the semester in which the incomplete grade was assigned, or the instructor may establish an earlier deadline. If extenuating circumstances exist, which prevent the student from completing the course in the prescribed time, the incomplete grade may be extended with written approval of the instructor, the instructor's chair or division head, and the appropriate dean. If the student satisfactorily completes the course in the prescribed time he/she will receive either a letter grade, a *CR* grade, or an *S* grade, depending upon what type of grade is appropriate for the course. If the student fails to complete the course requirements during the stipulated time, the grade of *I* changes to a grade of *F*, *NC*, or *U*, depending on the type of grade appropriate for the course. All grades remain on the student's permanent record as originally submitted by the course instructor, except for *I* grades that have been completed and changed by the instructor. Any grade change is added to the permanent record.

INDEPENDENT STUDY

Independent Studies are tutorials, directed and independent readings, directed and independent research, problem reports, and other individualized activities which allow students to explore in depth a specific aspect of a discipline or professional field not covered by the established curriculum. The independent study topic is not covered (or not covered in sufficient depth) by courses inside or outside of the student's degree program. Written objectives of each independent study course, approved by the chair and dean, must be maintained in departmental files.

INELIGIBILITY FOR SCHOLASTIC DEFICIENCIES

See *Academic Rights and Responsibilities of Students*.

IN-SERVICE TEACHER RESTRICTION

In addition to offering teacher preparation programs, Marshall University is actively involved in the continuing education of all professional teachers. The West Virginia Board of Education has approved a program of continuing education for teachers and school service personnel. Information relative to a teacher's renewing a professional certificate is available from the certification specialist, College of Education and Professional Development, (304) 696-2857 in Huntington and (304) 746-1909 in South Charleston. The teacher must have approval of his/her renewal advisor prior to enrolling in any course which is to be used for certificate renewal, salary classification, or additional endorsements.

INTERNSHIPS

Internships are supervised, contractual work-study arrangements with professional agencies or institutions.

MAJOR

A major is a field of study within an approved degree program, having its own prescribed curriculum. A degree program may have more than one major.

MASTER'S DEGREES

Marshall University follows The U.S. Department of Education's definition of a master's degree as a degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. The Master of Arts (M.A.) and the Master of Science (M.S.) are programs offered by several of the university's colleges for advanced scholarship in the discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program of study in business administration (M.B.A), education (M.Ed. and M.A.T.), engineering (M.S.E.), journalism (M.A.J.), nursing (M.S.N.), public health (M.P.H.), social work (M.S.W.), and public administration (M.P.A.) (<http://nces.ed.gov/programs/coe/glossary.asp>)

Marshall University offers a wide array of master's degrees. The master's may serve one or more of the following purposes: to provide greater specialization within one's area of interest; to facilitate licensure in certain fields; to provide access to Education Specialist or doctoral degrees; to support professional advancement, and to promote intellectual growth and personal fulfillment.

MEDICAL WITHDRAWAL

(See also *Dropping Courses and Completely Withdrawing from the University*)

Mandatory Withdrawal for Medical Reasons (initiated by the university)

1. A student will be subject to a mandatory medical withdrawal if it is determined by the Dean of Student Affairs and/or designee that the student is endangering him/herself or other members of the University community by his/her continued membership in the University community.
2. Through an approved designee, the Dean of Student Affairs reserves the right to request a complete mental or physical evaluation if it is reasonably believed that said student's behavior or health habits warrant it.
3. The student shall be referred to the appropriate health physician and a written document of evaluation and recommendations will be requested and forwarded to the University designee. The University will then act upon the evaluation and recommendations with regard to the student's continuation at Marshall University.
4. If evaluation supports or indicates a recommendation for a medical withdrawal from the University, the appropriate Student Affairs office will facilitate the withdrawal.

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5. Students will be accorded an informal hearing before the Dean of Student Affairs or a designee to obtain an understanding of the evaluation and rationale for the mandatory withdrawal.
6. In the event that the student declines the opportunity for such an evaluation, a withdrawal for medical reasons may be unilaterally effected by the University.
7. Withdrawal for medical reasons will be done without academic penalty to the student. Fees will be refunded in accordance with university policy.
8. A decision to withdraw may be appealed to the Student Conduct and Welfare Committee or a special subcommittee thereof appointed by the chairperson.

Adopted by Student Conduct and Welfare Committee, December 7, 1984; approved by the President, January 22, 1985.

Request for Medical Withdrawal (initiated by the student)

A student whose health or medical treatment disrupts his or her academic work should review the Class Attendance, Dropping Courses and Completely Withdrawing from the University, and Incomplete Grade policies, and discuss available options with his or her instructors and academic advisor. Depending on the circumstances, the student might: a) request to be absent from one or more class meetings, b) withdraw from courses as needed and receive a grade of *W* for each course, or c) request to receive a grade of 'I' for the courses. As with all withdrawals, the student is still required to complete the degree within the time limit based on his or her entry into the program. If the student is receiving financial aid and is considering a withdrawal, he or she should first review the plan with the staff of Financial Aid.

MINOR

Minors approved by the Graduate Council to which code numbers have been assigned may appear on a graduate student's transcript if the following conditions are met:

- the student's advisor approves the minor courses as part of the student's Plan of Study; and
- the program offering the minor allows it to be designated as the student's minor. Such permission must be obtained in writing. The department or division chair in the minor program signs the student's Plan of Study to signify approval.

As of the date of this catalog, the following graduate minors are available: (please see department information for requirements):

Anthropology
Classics
Criminal Justice
Exercise Science
Environmental Science
Geobiophysical Science
Geography
History
Mathematics
Philosophy
Psychology
Safety
Sport Studies
Sociology

MULTIPLE DEGREES

See Dual Degrees.

NON-DEGREE STUDENTS

- Persons who desire university instruction without becoming graduate degree candidates may attend as non-degree students, provided they have received a bachelor's degree from an accepted, regionally accredited undergraduate college or university.
- Before enrolling in a class, non-degree graduate students must obtain permission from the instructor. Students wishing to take courses offered by the College of Business must secure approval of the academic advisor. The fees for attendance as a non-degree student are the same as those set for other graduate students. Non-degree enrollment for graduate courses is not available to persons under suspension by the university.
- A non-degree student who does not hold a master's or higher degree may take a maximum of 15 semester hours. Permission for non-degree students to register for additional hours beyond 15 can be granted by the Dean of the Graduate College or the Dean of the Graduate School of Education and Professional Development.

- Applicants for non-degree status will complete a Graduate Application for Admission, pay the application fee, and have the registrar send an official transcript showing proof of a bachelor's degree from an accepted, regionally accredited undergraduate college or university not later than the scheduled time of registration.
- A person holding a graduate degree may take an unrestricted number of additional courses for which he/she has the prerequisites and departmental permission, provided both a transcript showing the undergraduate degree and a transcript showing a master's degree or higher (both from an accepted, regionally accredited college or university) are submitted. All transcripts must be official and sent to Graduate Admissions directly from the registrar.
- Non-degree graduate students may apply later for admission to degree programs by filing the necessary documents, provided they meet the admission requirements described in the current Marshall University Graduate Catalog. However, work taken as a non-degree student cannot in itself qualify a person for admission as a degree candidate. Only credit approved by the assigned program advisor and the appropriate dean will be counted toward a degree awarded by the university.

ONLINE COURSES (See also *Technology-Enhanced Courses*)

Online courses are online versions of classes offered on the Marshall campuses in which 100% of the content is delivered asynchronously over the Internet. Online courses are designated as such in the *Schedule of Courses* (Online Course: OC).

Online courses are delivered with the Blackboard learning management system (LMS). E-mail communication and delivery of assignments, readings, and other course materials between students and instructors occurs digitally within the LMS. There are no required on-campus or real-time meetings and instructors may occasionally use MU e-mail or other forms of online contact to communicate with students. Online courses generally follow the University calendar for the term in which they are offered, but individual exceptions may apply.

Students should check the syllabus for each individual class for a beginning and ending date. Students may register for online courses using myMU during the designated registration periods each term, in person at the Registrar's Office, or by mail. Hours of enrollment are reflected in the actual term in which the student is registered. For all verification purposes, hours of enrollment are counted only in the term in which the student is registered. Note that the withdrawal period for online courses parallels that of regular courses. A student may withdraw from an individual online course through 2/3 of the official course length. After that time, only a complete withdrawal from the university is allowed. The refund policy for online courses also parallels that of regular courses.

Online courses are currently assessed a fee per credit hour for graduate courses, regardless of residency or number of credit hours the student may be registered for in addition to the online courses. Current online course fees can be located on the Bursar's website at www.marshall.edu/bursar. Students may visit www.marshall.edu/muonline for complete information on online courses, including technical requirements, student readiness, and course listing.

Note: Tuition waivers are not applicable to online courses.

PLAGIARISM

Plagiarism (submitting as one's own work or creation any oral, graphic, or written material wholly or in part created by another) is a form of academic dishonesty. Sanctions for academic dishonesty may range from an instructor-imposed sanction such as a failing grade in the course in which plagiarism has been documented to dismissal from the university. Refer to the section on Academic Dishonesty for the complete university policy on academic dishonesty.

PLAN OF STUDY

Each degree-seeking student at the master's or doctoral level is required to develop a "Plan of Study" with his or her graduate advisor. The Plan of Study is a student's "blueprint" for completing degree requirements. A student's certification for graduation depends on completion of the Plan of Study.

A Plan of Study approved by the department/program must be submitted for approval to the appropriate dean before the student registers for his or her 12th semester hour. Students who fail to do so will have a hold placed on subsequent enrollment. If changes are made to the Plan of Study, the student's advisor must report those changes to the appropriate dean or to his or her designee. Consult the degree programs section of the catalog for specific information about each program's Plan of Study. See *Repeating Courses* for more information.

PRACTICUM

A practicum is a learning activity that involves the application of previously learned processes, theories, systems, etc. Generally, credit is assigned on the same basis as that of a laboratory.

PREREQUISITES

The purpose of prerequisites for certain courses is to assure adequate preparation of the student for the information to be presented in any particular course as well as to insure a coherent, balanced, sequential, and unified set of learning experiences. Course prerequisites may be either previous undergraduate or graduate preparation. In general, course prerequisites will not be waived except by written approval of the instructor and program director or dean.

PROBATION

See *Academic Probation*.

PROGRAM

See *Degree Program*.

READMISSION

See *Time Limitation*.

REPEATING COURSES

Students who a grade of C or less may repeat the course with the goal of earning a higher grade. If the course is required for the student's plan of study, the more current grade may be used to fulfill degree requirements. All course grades, original and repeated, will be listed on the student's transcript and will be used in the calculation of GPAs.

Several programs maintain a policy that stipulates dismissal of students who earn two grades of C or less. Repeating a course for a higher grade does not negate the existence of the former grade. As such, a student may be dismissed from the program upon earning a second grade of C or less even if the student repeated a course and earned a higher grade. See *Grade Point Average and Other Requirements for Graduation* for more information.

REVALIDATION OF COURSEWORK

See *Time Limitation*.

ROLES AND RESPONSIBILITIES OF THE THESIS/DISSERTATION COMMITTEE

The roles and responsibilities of the faculty serving on a student's thesis/dissertation committee are manifold. In essence, the members of the committee help the student demonstrate the ability to plan and execute a scholarly and creative project while developing an expertise within the discipline. To this end, the members of the committee advise the student to ensure he or she has identified a project that will sufficiently challenge his or her skills, make use of appropriate disciplinary research and creative methods, and be completed using available resources in a timely manner. The members of the committee also ensure the highest quality of the published thesis/dissertation by requiring the student to submit a final thesis/dissertation that conforms to the preferred editorial guidelines of the discipline and the Graduate College. As such, the signature page included in the thesis/dissertation verifies that the faculty have read with care the thesis/dissertation to ensure the student's work is without error in the form, substance, and expression of the student's work. The members of the committee sign this page once the student has prepared a final draft of the approved thesis and affirm that the work meets the editorial standards of the Graduate College.

SCHEDULE ADJUSTMENT

Schedule adjustment is the adding of courses or dropping of courses, or the changing of class hours or days after a person has registered in any semester or term. The specific Schedule Adjustment Period for any semester or term is specified in the Academic Calendar for that semester or term. After the conclusion of the Schedule Adjustment Period, students are not permitted to add classes or make changes in class hours or days, nor are late registrations permitted except with the permission of the Graduate Dean. Dropping of classes after the Schedule Adjustment Period is discussed in the section *Dropping Courses*.

SCHOLARSHIPS

For information on available graduate scholarships see www.marshall.edu/graduate.

SECOND MASTER'S DEGREE

See Dual Degrees, Multiple Degrees.

SEMESTER HOUR

See Credit Hour.

SEMINAR

A seminar is a small group of students engaged in advanced study of the original research or some important recent advancements in the field. Seminars are organized under the direction of a faculty member, and credit is allowed according to university regulations for granting semester-hour credit.

SPECIAL TOPICS

Special Topics are experimental courses that may be offered twice by a given department with no prior committee approval. Such courses may satisfy university, college or department requirements toward a given degree and may carry specific requisites.

SENIORS IN GRADUATE COURSES

See Undergraduate Enrollment in Graduate Courses.

STAFF DEVELOPMENT COURSES

School personnel approved by their county school systems may use a departmental form to be admitted in the Staff Development category. Students admitted in this category are restricted to registering for Staff Development classes (560 series) in the College of Education and Professional Development for which they will receive credit/non-credit or satisfactory/unsatisfactory grades. Such classes cannot be used in degree, professional development or licensure programs. Students who wish to mix regular and Staff Development classes must seek regular admission to the Graduate College.

Staff Development courses are offered exclusively as Credit/No Credit and *S/U*. They may not be taken under the audit option and may not be applied toward the credit hour requirement for a graduate degree.

SYLLABUS POLICY

During the first two weeks of semester classes (3 days of summer term), instructors must provide each student a copy of the course requirements which includes these items:

- Course name and number.
- Instructor's name, office location, phone, e-mail address and office hours.
- List of all required texts.
- Attendance policy.
- Grading policy.
- Due dates for major projects and exams.
- Course description from most recent catalog
- Course student learning outcomes.
- Schedule of class sessions and assignments.
- Grid showing how each course student learning outcome will be practiced, and assessed, in the course.
- Link to Official University Policies located on the Academic Affairs website.
- Semester course meets, e.g., Spring 2012
- Time course meets, e.g. M/W/F 1:00-1:50 p.m.
- Course location.

This policy may not apply to the following types of courses: thesis, seminar, problem report, independent study, field work, internships and medical clerkships.

Colleges may develop more detailed requirements concerning the content of the syllabus.

Adopted by Marshall University Board of Governors, August 14, 2012.

In many cases, syllabi will be available on the World Wide Web. In the case of an Independent Study, the student must complete the necessary form, obtain the required signatures, and submit it or a permission to enroll form to the Registrar before enrolling.

TECHNOLOGY-ENHANCED COURSES (T-COURSES)

See *Hybrid Courses*.

THESIS

Degree program graduate students may elect the thesis option for the number of credits allowed by each program. The thesis advisor and student are guided by departmental requirements and the student's needs and interests in determining whether he/she is to write a thesis. Students who will profit more by doing additional coursework in lieu of a thesis must earn at least 36 course hours of credit in most programs.

When a student decides to prepare a thesis, written notice and approval must be obtained. Notification of approval will come from the appropriate program director, program coordinator, or dean after review and acceptance of a prospectus by the advisor and a thesis committee. The committee should have the same composition as the examining committee for the comprehensive assessment.

- Students graduating with a thesis must register for a cumulative minimum of 3 credit hours of thesis. The maximum amount of credit that may be earned for the thesis is 6 hours for all departments except biology and chemistry. Research and thesis in those two fields are permitted to a maximum of 12 hours. Students in departments other than chemistry register for thesis 681. Chemistry majors register for research 682. The student continues to register for thesis 681 or research 682, as appropriate, and pay tuition for the number of hours per semester as agreed to between the student and the thesis advisor.
- The thesis advisor reports a mark of PR (progress) for satisfactory work at the end of each term or semester for which the student is registered with the total amount of credit to be allowed.
- The thesis must be prepared according to the instructions provided at the Graduate College website, www.marshall.edu/graduate/current-students/edt, or according to the guidelines (available in the department), which have been approved by the Graduate Dean.
- When the thesis is completed, it is submitted to the advisor and thesis committee for tentative approval. The candidate must then give a presentation open to the academic community based upon the results of the thesis and give a satisfactory defense of the thesis before his/her thesis committee. Upon successful defense of the thesis, the advisor with the concurrence of the committee assigns a grade which applies to all hours earned for the thesis.
- The advisor may report a final grade of *F* at the end of any semester or term when in his/her opinion, because of irregular reports or unsatisfactory progress, the student should not be permitted to continue to register for research.
- The mark of PR (progress) may be used to indicate progress on a thesis, dissertation, or in select research courses.
- A thesis or dissertation approved by a student's committee must be submitted electronically. Full instructions for electronic theses and dissertations (ETD's) are located at: www.marshall.edu/graduate/current-students/edt.
- Submission of the thesis must occur by the dates printed in the academic calendar of the term in which the student intends to graduate. If the student fails to meet these dates, the Graduate Dean may postpone the student's graduation until the end of the following term.
- The Graduate Dean will review the submitted thesis for style and format; students may be required to make modifications prior to final approval by the Graduate Dean.

Value and Nature of Thesis

The experience of collecting, assembling and interpreting a body of information for a thesis is essential in developing the capacity to do independent work. This is a primary difference between graduate and undergraduate work. For capable graduate students, preparation of the thesis may be of great value. To be urged to write a thesis is a compliment to one's ability. The presentation and oral defense of the thesis is designed to emphasize the importance of graduate student research in the academic environment and give public credit to the student's achievements. The objectives of a graduate thesis at the master's level include development of the ability to plan and execute a scholarly and/or analytical study and the development of expertise in a specific subject area. The thesis should illustrate that a graduate student has:

- Comprehended the essentials of a selected subject area;
- Demonstrated understanding of the problem selected;
- Obtained working knowledge of research techniques appropriate to the Master's or Ed.S. degree level;
- Demonstrated the ability to write in a professional and scholarly style;
- Produced a study which is of value to the subject field or professional education.

THREE-PLUS-TWO PROGRAMS

See *Accelerated Master's Degree Program* and/or degree requirements section of the College of Business.

TIME LIMITATION FOR MASTER'S AND ED.S. DEGREES

The time limit for the master's and Ed.S. degrees is *seven years* from the date of completion of the earliest course applied toward the degree, including transferred courses.

Time Requirement on Readmission

If a student has not completed his/her Master's or Ed.S. degree within *seven years* from the end of the first graduate course to be counted toward his/her degree, and if the student has not been enrolled in a course toward that degree for the most-recent one year when that seven-year limit is reached (meaning the seventh year), then the student will be dropped from the program. To continue to work on that degree, the student must reapply for admission to that degree program through the regular graduate admission process, and pay the appropriate admission fees.

Time Extension

To ensure that a student's knowledge base is current at the time the degree is awarded, all credit that exceeds the time limit must be revalidated.

When a student requests an extension of time, the advisor and program director or department chair should review the program of study, identify coursework which exceeds the time limit, and make a recommendation for revalidation of expired coursework through one or more of the following options: (NOTE: the current fee for course revalidation is \$25/credit hour)

- Option 1: Examination: A validation exam shall be the equivalent to a comprehensive final exam for the course. In most cases, validation must be done by a written exam.
- Option 2: Independent Study: The department or program may elect to design an independent study if no course currently exists by which the student may update course content.
- Option 3: The student may repeat expired coursework.
- Option 4: Additional Hours: The department or program may assign additional hours of course work to ensure currency of knowledge in rapidly changing content areas.
- Option 5: Portfolio that revalidates objectives of course(s) and degree objectives (may include work experiences, thesis or final project).

Decisions about revalidation of credit are forwarded to the graduate dean of the academic unit for approval. When the student has satisfied the conditions imposed for revalidation, the signed Plan of Study with a memorandum from the chair/program director confirming that the conditions were completed satisfactorily will be forwarded to the graduate dean of the academic unit with the completed application for graduation. The memorandum will include a statement of evidence of completion (e.g., examination, grade report, portfolio).

Outdated courses which are not revalidated will not be used in computing Grade Point Averages for graduation, but they will remain on the record.

Students completing programs in the College of Education and Professional Development which lead to certification should contact the Dean of the College of Education and Professional Development for additional information on time limitations.

TRANSCRIPT

A transcript is a copy of the student's permanent academic record. An official transcript can only be issued by the Office of the Registrar. Official transcripts cost \$8.00 per copy. The Office of the Registrar will process transcript requests within 24 to 48 hours of receipt. Processing time may be extended if current term grades and/or graduate posting are required. Students with outstanding financial, social or other obligations to the university forfeit rights to a transcript until the obligations are resolved. Requests for official transcripts must be sent directly to the Office of the Registrar. Students must sign the request to authorize release of the transcript. Students may obtain unofficial transcripts at no cost in the registrar's office or the college dean's office. Unofficial transcripts also may be accessed using the university's online self-service portal, myMU.

TRANSFER OF GRADUATE CREDITS

A student with an approved Plan of Study may transfer to Marshall University credit earned in graduate coursework completed at another regionally accredited graduate institution provided that the courses are appropriate to the student's program and the grades earned are *B* or better or equivalent, and acceptable to the advisor and Graduate Dean.

On the master's and education specialist level, transfer credits may not exceed 12 hours. For graduate certificate programs, transfer credits may not exceed 6 credit hours.

Graduate credits transferred from other institutions will not become a part of the Grade Point Average recorded on the student's Marshall University transcript and will simply meet credit hour requirements toward graduation.

All transfer credits must have been earned within a seven-year time limit counted from the date of enrollment in the first graduate course to be applied toward meeting degree requirements of the student's program.

TRANSIENT STUDENTS

A student who is enrolled at another regionally accredited graduate institution may, upon submission to the Graduate Admissions office an admission application and a letter of good standing from the home university, enroll for Marshall University graduate coursework. This admission is valid for one semester only. The student must submit a new application and letter of good standing each semester he/she wishes to attend.

Normally, up to twelve credit hours of coursework may be transferred back to the home institution.

Permission to transfer credits is arranged, by the student, with the home university. Transient students who wish to register for coursework beyond twelve credit hours at Marshall are required to obtain the approval of Marshall University's Graduate Dean.

TUITION WAIVER SCHOLARSHIP

A very limited number of Graduate Scholarship Tuition Waivers is available, through competitive application, to Marshall University students and full-time faculty and staff. Priority consideration is given to full-time faculty and staff MU employees.

Tuition waiver application deadlines for each upcoming semester will be posted to the Graduate College website at www.marshall.edu/graduate/graduate-scholarship-tuition-waiver.

Waivers cover all or a portion of System Capital fees and Educational & General fees. Waivers typically are available for one 3 credit graduate course (e-courses excluded). Students are not eligible for waivers in consecutive semesters.

Applications are available in the Graduate College office (Old Main 113) on the Huntington campus, through a student's academic department office on the South Charleston campus, or online at www.marshall.edu/graduate/graduate-scholarship-tuition-waiver.

Beginning Fall Semester, 2013:

1. Students are eligible for ONE award in 3 consecutive semesters (i.e. a student who receives an award in Fall 2013, is not eligible for another award until Fall 2014; a student who receives an award in Spring 2014 is not eligible for another award until Spring 2015; a student who receives an award in Summer 2014 is not eligible for another award until Summer 2015.)
2. Beginning with the Fall 2013 scholarship waiver period, students are limited to a maximum of 4 awards. (Past awards do not apply).

UNDERGRADUATE STUDENTS IN GRADUATE COURSES

Seniors with a cumulative GPA of at least 2.75 may register for graduate classes (500 and 600 series) after they have received approval from their undergraduate dean, the chair of the department offering the course, and the appropriate graduate college/school dean. Complete applications (available at the Graduate College website, the Graduate College office, Old Main 113, or the Graduate Records office on the South Charleston campus), must be on file in the appropriate graduate dean's office and permission secured prior to the opening of the term of enrollment. Credit for graduate courses completed as a senior can be applied to either an undergraduate or a graduate degree at Marshall University but not to both. No more than 12 graduate hours may be taken as an undergraduate.

WITHDRAWAL FROM THE UNIVERSITY

See *Dropping Courses and Completely Withdrawing from the University or Medical Withdrawal*.

WORKSHOPS

Workshops are highly practical, participatory courses usually designed for advanced students or professionals. They provide experience or instruction in a new technique, theory or development in a given discipline. If credit is granted, appropriate university guidelines will be followed.



Degree Programs

College of Arts and Media

Mr. Donald Van Horn, Dean

www.marshall.edu/cam

Journalism, M.A.J.

Music, M.A.

Other programs: graduate certificates in Digital Communications, Integrated Strategic Communications, and Media Management

College of Business

Mr. Robert Simpson, Interim Dean

www.marshall.edu/cob

Accountancy, M.S.

Business Administration, M.B.A.

Health Care Administration, M.S.

Human Resource Management, M.S.

Doctor of Management Practice in Nurse Anesthesia, D.M.P.N.A.

Other programs: Business Foundations, Graduate Certificate in Management Foundations

College of Education and Professional Development

Dr. Teresa Eagle, Dean

www.marshall.edu/coepd

Adult and Continuing Education, M.S.

Counseling, M.A., Ed.S.

Curriculum and Instruction, Ed.S.

Doctor of Education, Ed.D.

Education, M.A.

Leadership Studies, M.A.

Literacy Education, M.A., Ed.S.

School Psychology, Ed.S.

Special Education, M.A.

Teaching, M.A.T.

Other programs: graduate certificates, teacher endorsements

College of Health Professions

Dr. Michael Prewitt, Dean

www.marshall.edu/cohp

Athletic Training, M.S.
Biomechanics, M.S.
Communication Disorders, M.S.
Dietetics, M.S.
Exercise Science, M.S.
Health Informatics, M.S.
Nursing, M.S.N.
Physical Therapy, D.P.T.
Public Health, M.S.
Sport Administration, M.S.

Other programs: minors in Exercise Science and Sport Studies, graduate certificates in Family Nurse Practitioner (post master's), Nursing Administration (post master's), Nursing Education (post master's), Dietetic Internship

College of Information Technology and Engineering

Dr. Wael Zatar, Dean

www.marshall.edu/cite

Computer Science, M.S.
Engineering, M.S.E.
Environmental Science, M.S.
Information Systems, M.S.
Safety, M.S.
Technology Management, M.S.

Other programs: minor in Environmental Science, graduate certificates in Bioinformatics, Information Security

College of Liberal Arts

Dr. Robert Bookwalter, Dean

www.marshall.edu/cola

Communication Studies, M.A.
English, M.A.
Geography, M.A., M.S.
History, M.A.
Humanities, M.A.
Latin, M.A.
Political Science, M.A.
Public Administration, M.P.A.
Psychology, M.A.
Doctor of Psychology, Psy.D.
Sociology, M.A.

Other programs: minors in Anthropology, Classics, Geography, History, Philosophy, Psychology, and Sociology; graduate certificates in Appalachian Studies, Behavioral Statistics, Clinical Psychology, Geospatial Information Science-Basic, Geospatial Information Science-Advanced, Latin, Public History, Women's Studies

College of Science
Dr. Charles Somerville, Dean
www.marshall.edu/cos

Biological Sciences, M.A., M.S.
Chemistry, M.S.
Criminal Justice, M.S.
Forensic Science, M.S.
Mathematics, M.A.
Physical and Applied Science, M.S.

Other program: graduate certificate in Bioinformatics

Joan C. Edwards School of Medicine
Dr. Joseph Shapiro, Dean
<http://musom.marshall.edu>

Biomedical Sciences, M.S., Ph.D.

Other program: graduate certificate in Digital Forensics

School of Pharmacy
Dr. Kevin Yingling, Dean
www.marshall.edu/pharmacy

Pharmacy, Pharm.D.



Program Requirements

College of Arts and Media

Mr. Donald Van Horn, Dean

www.marshall.edu/cam

JOURNALISM, M.A.J.

Areas of Emphasis

Health Care Public Relations

New Media Studies

Graduate Certificates

Digital Communications

Integrated Strategic Communications

Media Management

Program Description: M.A.J.

Journalism and Mass Communications offers a flexible program designed to accommodate persons with or without an undergraduate degree in journalism and with or without mass communications or professional media experience. Career interests should include one or more of the following: advertising, broadcast journalism, online journalism, print journalism, public relations, radio-television, sports journalism, video production and journalism education.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition:

1. Applicants who earned an undergraduate GPA of 3.0 or better must score a minimum of 371 on the three combined sections of the GRE.
2. Applicants who earned an undergraduate GPA of 2.5 to 2.99 must score a minimum of 396 on the three combined sections of the GRE.

GRE scores are reported in three areas of verbal, quantitative and analytical writing. The verbal and quantitative sections are scored on a scale of 130 to 170. The analytical writing score is reported on a scale of 0 to 6. Before adding the three sections to determine if the 371 or 396 requirements have been met, convert the analytical writing score using the following scale:

0.5 = 14	4.0 = 113
1.0 = 28	4.5 = 128
1.5 = 43	5.0 = 142
2.0 = 57	5.5 = 156
2.5 = 71	6.0 = 170
3.0 = 85	
3.5 = 99	

3. International student applicants must have a minimum score of 525 on the paper Test of English as a Foreign Language (TOEFL) or 71 on the Internet-based test, or they must complete English as a Second Language.

Program Requirements

Students are required to complete EDF 517, PSY 517 or another acceptable statistics course (not required if student completed an acceptable statistics course before enrolling in the master's program); Journalism 600, Proseminar in Mass Communications; Journalism 601, Theory of Mass Communications; and Journalism 602, Mass Communications Research and Methodology, JMC 604, Law and Ethics, and JMC 612, History of American Journalism. In addition students who opt for the thesis track must take JMC 630, Seminar in Media Criticism, and students who opt for the professional track must take JMC 603, Media Management. Completing the core meets the requirement that half of the graduate students' hours be completed at the 600 level. The remainder of each student's program is determined in consultation with and approval from the graduate coordinator.

- International students are not required to take JMC 612, but they must identify, with the approval of the graduate coordinator, an acceptable substitution for their plan of study and for their comprehensive assessment.
- *Plan of Study*: During the first term students must plan with the graduate coordinator a detailed program of courses and discuss other requirements for the Master of Arts in Journalism degree. A *Plan of Study* approved by the student's graduate coordinator must be submitted for approval to the Graduate College Dean before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.
- Students are responsible for learning and for meeting all requirements, guidelines and deadlines included in the *Graduate Catalog*.
- Professional track students must complete a minimum of 30 graduate hours (plus any undergraduate courses deemed by the graduate coordinator to be necessary) and the comprehensive examination.
- Thesis track students must complete a minimum of 24 graduate hours (plus any undergraduate courses deemed necessary by the graduate coordinator), a six-credit-hour thesis, and the comprehensive examination.
- A minor consisting of a minimum of six hours in one subject area may be approved by the graduate coordinator.
- Students who enter the master's program without undergraduate preparation in journalism and mass communications and also without any relevant professional experience may be permitted by the graduate coordinator to take all of their coursework in journalism and mass communications.
- A comprehensive written examination is required. The examination is not based exclusively on the specific courses completed but affords the student an opportunity to demonstrate comprehensive knowledge of the major subject. The five-part examination covers proseminar, mass communications theory, research, law and ethics, and journalism and mass communications history. International students may substitute another area of concentration (approved by the graduate coordinator) for history.

Area of Emphasis in Health Care Public Relations

The School of Journalism and Mass Communications offers a flexible graduate program in journalism and mass communications with a health care public relations area of emphasis designed to accommodate persons with or without an undergraduate degree in journalism and with or without mass communications or professional public relations experience. Career interests should include public relations positions in health care organizations or agencies that work on public relations health care campaigns.

Curriculum

Core (required)

JMC	600	Proseminar in Graduate Studies
JMC	601	Theory of Mass Communication
JMC	602	Mass Communications Research and Methodology
JMC	604	Journalism and Mass Communications Law and Ethics
JMC	612	History of Mass Communication

Other required courses:

JMC	620	Public Relations in Health Care)
JMC	539	Public Relations Campaign Management
JMC	501	Multi-Media Writing (required if no JMC background)
CLS	105	Medical Terminology or other medical terminology course approved by the graduate coordinator (required if no background in health care)
EDF or PSY	517	Statistical Methods/Intermediate Behavioral Statistics)

Choose the rest from:

JMC	537	Public Relations Writing
JMC	641	Web/Online Strategies for Journalism and Mass Communications)

CMM	574	Health Communication
HCA	600	The Health Care System
HCA	640	The Health Care Professional OR
HCA	655	Health Care Marketing
JMC	508	Strategic Communications Research

Area of Emphasis in New Media Studies

The School of Journalism and Mass Communications offers a flexible graduate program in journalism and mass communications with an emphasis in new media studies designed to accommodate persons with or without an undergraduate degree in journalism and with or without mass communications or professional public relations experience.

The M.A.J. in New Media Studies is designed to assist students in migrating to evolving digital communication technology. The degree stresses an interdisciplinary approach to the changing communications environment and accommodates professionals needing to rethink traditional media outlets. Students focus on two branches of learning, a larger branch that incorporates media and storytelling, and a smaller branch of a specific discipline selected by the student. An example could be a student wishing to develop media for the health field. The second branch of electives would then be selected from specific health courses that would benefit his or her Master's Initiative. A science fiction writer with a B.A. in creative writing may wish to use his or her branch electives to further study a specific science. A journalist may wish to develop a digital brand and choose marketing or business courses for his or her branch elective. Students consult with a faculty advisor to determine the appropriate path of study.

The Master's Initiative consists of developing a digital product instead of a traditional text-based thesis. The Master's Initiative combines digital communication, storytelling and design competencies with the branch elective into a fresh and innovative product. Entrepreneurial thinking is encouraged.

The New Media Studies emphasis is a complete online degree designed to enhance careers in journalism, public relations, librarianship, publishing or business for current media professionals who desire to update their knowledge of computer-based tools or pursue the integration of emerging technologies into their work. Non-degree students are encouraged to enroll in individual courses for personal development or certification credits.

Curriculum

Core (18 hours required)

JMC	606	Depth Reporting (3 credit hours)
JMC	604	Law (3 credit hours)
JMC	640	Design Thinking (3 credit hours)
JMC	605	Master's Initiative Network (3 credit hours)
JMC	682	Master's Initiative (6 credit hours)

Required JMC Electives (choose 6 hours from the following)

JMC	500	Photojournalism (3 hours)
JMC	562	Web Design for Mass Media (3 hours)
JMC	612	History of Mass Communication (3 hours)
JMC	641	Web/Online Strategies for JMC (3 hours)
JMC	678	Organizational Storytelling(3 hours)
JMC	643	New Media Cultures (3 hours)

Required Branch Electives (choose 6 hours)

With advisor's approval, select from available Marshall Graduate courses outside of the School of Journalism and Mass Communications program.

Journalism and Mass Communications Graduate Certificates

Journalism and Mass Communications offers graduate certificates in Digital Communications, in Integrated Strategic Communications and in Media Management. Certificates serve students with or without a background in the field but with an interest in newspaper, magazine, television, radio, the internet or converged media, advertising or public relations. Courses are packaged to target specific areas of development that will augment depth of knowledge or skills, help students remain competitive in the job market, advance their careers, or help them pursue personal enrichment. Students may complete a stand-alone certificate or incorporate it into their JMC master's program or other master's programs on campus.

Admission to the certificate programs requires:

- official transcript baccalaureate degree from a regionally accredited college or university,
- an application for admission to a certificate program or a Secondary Program Request form if already admitted to a graduate degree program,

- at least a 2.5 undergraduate GPA, and
- a 3.0 graduate GPA if already awarded a master's degree, OR current admission to a Marshall University graduate program

Courses completed in certificate programs can apply to an M.A.J. where appropriate. (Students who want to apply certificate credit to a master's must meet all admission requirements for the M.A.J. including completion of the GRE.)

Students must maintain a 3.0 GPA in all coursework with no more than two C's. If the student falls below these standards, the student will be placed on academic probation. A student who successfully completes the series of courses will earn a certificate.

Students pursuing the graduate certificate in **Digital Communications** must complete 15 hours as follows:

Required courses:

- JMC 562 Web Design for Mass Media
- JMC 641 Web/Online Strategies for JMC

Select nine hours from among the following:

- JMC 500 Photojournalism
- JMC 501 Multi-Media Writing
- JMC 532 Corporate and Instructional Video
- JMC 575 Documentary Journalism
- JMC 606 Depth Reporting

Students pursuing the graduate certificate in **Integrated Strategic Communications** must complete 15 hours as follows:

Required courses:

- JMC 508 Strategic Communications Research
- JMC 515 Advertising Strategy OR JMC 538 – Public Relations Case Studies

Select nine hours from among the following:

- JMC 515 Advertising Strategy (if not taken as part of required six hours)
- JMC 525 Advertising Campaigns
- JMC 532 Corporate and Instructional Video
- JMC 537 Public Relations Writing
- JMC 538 Public Relations Case Studies (if not taken as part of required six hours)
- JMC 539 Public Relations Campaigns
- JMC 609 Seminar in Public Relations
- JMC 641 Web/Online Strategies for Mass Communications

Students pursuing the graduate certificate in **Media Management** must complete 15 hours as follows:

Required courses:

- JMC 603 Media Management
- JMC 604 Journalism and Mass Communications Law and Ethics

Select nine hours from among the following:

- JMC 510 Magazine Editorial Practice
- JMC 533 Radio-Television Programming
- JMC 536 International Communications
- JMC 550 Contemporary Issues in Radio and Television
- JMC 555 Race, Gender and Mass Media
- JMC 632 Public Broadcasting
- JMC 612 History of Mass Communications
- JMC 641 Web/Online Strategies for Mass Communications

MUSIC, M.A.

Areas of Emphasis

Jazz Studies

Music Composition

Music Education

Music History/Literature

Music Performance

Program Description

The mission of the School of Music and Theatre is to prepare students for careers in performance, education, and other music-related fields who will make a positive impact on their artistic discipline and on schools and communities. Additionally, the Department will provide enriching experiences for those who will continue their musical activities as an avocation; and to cultivate within the region an increased awareness of the educational, cultural, and aesthetic aspects of music. In fulfilling its mission, the department is committed to the following goals:

- To provide a nurturing environment for musical, academic and personal growth;
- To educate students to think critically, work creatively, communicate effectively, and become technologically literate;
- To function as a visible, responsible and responsive student-centered department dedicated to academic excellence;
- To maintain a faculty of musicians/teachers who, through dedication to excellence, sound pedagogy and effective communication skills, present models that inspire students to achieve their full potential;
- To meet educational, research, and service needs of the region through collaboration with academic and technical institutions, businesses, government agencies, and cultural organizations;
- To contribute to the cultural life of the university and community by providing concerts, recitals, festivals, joint musical ventures and other services;
- To provide leadership within the university and the region in all matters pertaining to music.

The School of Music and Theatre offers the following areas of emphasis within the Master of Arts degree: Music Education, Applied Music Performance, Music History and Literature, and Music Composition. Programs require 32 to 36 hours (thesis or non-thesis options).

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition, applicants must:

- Have a bachelor's degree from an accredited institution with a major in music or the equivalent.
- Submit an application to the School of Music and Theatre, available at www.marshall.edu/music.
- Have an interview with the Department Chair, Graduate Coordinator, and other graduate faculty.
- Have an audition on the major instrument (Performance) or a portfolio of previous academic work and/or professional work (Composition, Music Education, Music History).

Potential graduate students should contact the School of Music and Theatre Graduate Coordinator for more specific information.

Placement Examinations

Students in all graduate music degree areas of emphasis must complete placement examinations in music theory and music history prior to the end of the first semester of study. Remedial classes are available for students needing assistance. Any hours attained in these classes (graduate music history review and graduate theory review) do not count toward degree completion.

Comprehensive Examinations/Applied Study

All graduate students, regardless of area of emphasis, must complete both written and oral comprehensive examinations. Requirements for performance levels in applied music can be found in the School of Music and Theatre Handbook.

Thesis Option

Students may choose the thesis or non-thesis option in select areas of emphasis. The thesis may take the form of a written report, graduate recital, and/or a musical composition as determined by one's graduate committee. Ordinarily, no more than 3-4 hours may be earned through work on a thesis.

Ensemble Participation

As recommended by their major advisors, all full-time graduate students may be required to participate in a music ensemble during the regular academic year. Credit will be awarded up to the amount listed in each degree program.

Degree Requirements

A Plan of Study approved by the student's advisor must be submitted for approval to the Graduate College Dean before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.

Master of Arts with Emphasis in Jazz Studies (32 credits)

Required Courses: (27 credits)

- MUS 512 Advanced Jazz Pedagogy and Conducting (3)
- MUS 513 Advanced Jazz Styles and Analysis (2)
- MUS 559 Jazz Ensemble (4)
- MUS 560 Jazz Improvisation Ensemble (4)
- MUS 6XX Applied Music (8)
- MUS 621 Music Research Methods (3)
- MUS 681 Recital (3)

Electives (5 credits) to be selected from:

- MUS 649 Advanced Jazz Arranging and Composition (3)
- MUS 631 Advanced Jazz Improvisation (2)
- MUS 657 Jazz History (3)
- Other Graduate Music Courses

Students must follow departmental policies in preparing and presenting the graduate performance recital.

Master of Arts with Emphasis in Music Education – Thesis Option (32 credits)

Required Courses: (18 credits)

- MUS 622 Styles and Analysis (3)
- MUS 610 History and Philosophy of Music Education (3)
- MUS 611 Music Psychology and Learning Theory (3)
- MUS 616 Curriculum and Administration (3)
- MUS 621 Music Research Methods (3)
- MUS 681 Thesis (3)

Specialization (8-10 credits)

- MUS 511 Introduction to Orff (3)
- MUS 615 Advanced Marching Band Techniques (3)
- MUS 620A Instrumental Techniques and Materials (3)
- MUS 630 Instrumental Conducting (3)
- MUS 604D Choral Literature (2)
- MUS 619A Vocal Pedagogy (2)
- MUS 620B Choral Techniques and Materials (3)
- MUS 629, Choral Conducting (3)
- MUS 670 Current Trends in Music Education (PreK-5) (3)
- MUS 675 Music in Early Childhood (Birth to Age 5) (3)

Electives (2-6 credits) to be selected from:

- Graduate Music Courses
- 1-4 credits in Applied Music
- 1-2 credits in ensembles
- Graduate Education courses

Master of Arts with Emphasis in Music Education – Non-Thesis Option (36 credits)*Required Courses: (15 credits)*

- MUS 622 Styles and Analysis (3)
- MUS 610 History and Philosophy of Music Education (3)
- MUS 611 Music Psychology and Learning Theory (3)
- MUS 616 Curriculum and Administration (3)
- MUS 621 Music Research Methods (3)

Specialization (12-20 credits)

- MUS 511 Introduction to Orff (3)
- MUS 615 Advanced Marching Band Techniques (3)
- MUS 620A Instrumental Techniques and Materials (3)
- MUS 630A Instrumental Conducting (2)
- MUS 630B Instrumental Conducting (2)
- MUS 604D Choral Literature (2)
- MUS 619A Vocal Pedagogy (2)
- MUS 620B Choral Techniques and Materials (3)
- MUS 629A Choral Conducting (2)
- MUS 629B Choral Conducting (2)
- MUS 670 Current Trends in Music Education (PreK-5) (3)
- MUS 675 Music in Early Childhood (Birth to Age 5) (3)

Electives (1-9 credits)

Graduate Music Courses
1-4 credits in Applied Music
1-2 credits in ensembles
Graduate Education courses

Master of Arts with Emphasis in Music History/Literature – Thesis Option (32 credits)*Required Courses (26 credits)*

- MUS 622 Styles and Analysis)
- MUS 612 Projects and Problems in Music
- MUS 621 Music Research Methods)
- MUS 640A Music Theory)

4 Music History period courses (12 credits) to be chosen from:

- MUS 510 Introduction to World Music
- MUS 526 American Music and Its Influences
- MUS 650 Music of the Middle Ages
- MUS 651 Music of the Renaissance
- MUS 652 Music of the Baroque Era
- MUS 653 Music of the Classical Era
- MUS 654 Music of the Romantic Area
- MUS 655 Music ca. 1900 to the Present
- MUS 681 Thesis

Electives (6 credits)

Graduate Music Courses
1-4 credits in Applied Music
1-2 credits in ensembles

Students enrolled in the M.A. program in Music History & Literature must demonstrate reading knowledge of German. This requirement can be satisfied by one of the following actions:

1. Pass the music history area German translation exam (administered as needed) with a score of 75% or higher;
2. Successfully complete GER 101, GER 102, GER 203 and GER 204, offered by the Marshall University Department of Modern Languages;
3. Successfully complete the University of Wisconsin Independent Learning course German 391 (German for Reading Knowledge). For more information, see their website: <http://continuingstudies.wisc.edu/lslanguages/german-reading.htm>.

Master of Arts with Emphasis in Music History/Literature – Non-Thesis Option (36 credits)*Required Courses (23 credits)*

- MUS 622 Styles and Analysis (3)
- MUS 612 Projects and Problems in Music (2)
- MUS 621 Music Research Methods (3)
- MUS 640A Music Theory (3)

Music History period courses (12 credits) to be chosen from:

- MUS 510 Introduction to World Music
- MUS 526 American Music and Its Influences
- MUS 650 Music of the Middle Ages
- MUS 651 Music of the Renaissance
- MUS 652 Music of the Baroque Era
- MUS 653 Music of the Classical Era
- MUS 654 Music of the Romantic Area
- MUS 655 Music ca. 1900 to the Present

Music Electives (7 credits)

- Graduate Music Courses
- 1-4 credits in Applied Music
- 1-2 credits in ensembles

Non-Music Electives (6 credits)

May be chosen in consultation with advisor from the following areas: Art, Classics, English, Humanities, Languages, Philosophy, Religious Studies, Sociology, Theatre

Students enrolled in the M.A. program in Music History & Literature must demonstrate reading knowledge of German. This requirement can be satisfied by one of the following actions:

1. Pass the music history area German translation exam (administered as needed) with a score of 75% or higher;
2. Successfully complete GER 101, GER 102, GER 203 and GER 204, offered by the Marshall University Department of Modern Languages;
3. Successfully complete the University of Wisconsin Independent Learning course German 391 (German for Reading Knowledge). For more information see their website: <http://continuingstudies.wisc.edu/lsa/languages/german-reading.htm>

Master of Arts with Emphasis in Music Performance (32 credits)*Required Courses (25 credits)*

- MUS 622 Styles and Analysis (3)
- MUS 621 Music Research Methods (3)
- MUS 640A Music Theory (3)
- Applied Music (8 credits)
- MUS 604 Literature Courses in Principal Applied Area (2)
- Graduate History Course (3 credits)
- MUS 681 Thesis-Recital

Instrumental Track Electives (7 credits)

Graduate Music Courses

Vocal Track Electives (7 credits)

- MUS 619A Vocal Pedagogy (2)
- 2 Graduate Ensemble Credits
- Graduate Music Courses

*Voice performance majors with fewer than 2 semesters study of French, German, or Italian must complete 2 semesters of undergraduate study in one of those languages.

** Students must follow departmental policies in preparing and presenting the graduate performance recital.

Master of Arts with an Emphasis in Music Composition (32 credits)

Required Courses (28 credits)

MUS	532	Electronic Music (2)
MUS	622	Styles and Analysis (3)
MUS	621	Music Research Methods (3)
MUS	640A	Music Theory (3)
MUS	641	Counterpoint (3)
MUS	655	Music Since 1900 (3)
MUS	645	Composition (8)
MUS	681	Thesis-Recital (3)

Electives (4 credits)

MUS	640B	Music Theory (3)
MUS	646	Choral Arranging (3)
MUS	647	Instrumental Arranging (3)
MUS	648	Orchestration (3)
MUS	649	Advanced Jazz Arranging (3)
Additional courses from applied, history, theory, technology		
1-4 credits in Applied Music		
1-2 credits in ensembles		

* Students must follow departmental policies in preparing and presenting the graduate performance recital.

ACCOUNTANCY, M.S.

Program Description

The Master of Science in Accountancy emphasizes skills necessary to succeed in the profession of public accounting. The program requires 30 semester hours of study.

Admission Requirements

Applicants should follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Applicants must also:

- Have a business-related bachelor's degree or higher from an AACSB-accredited program with a Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale;
OR
All other applicants may be admitted if they score 500 or better on the Graduate Management Admission Test (GMAT) or if they have an index of at least 1,100 computed by multiplying the undergraduate grade point average by 200 and adding the GMAT score. The minimum acceptable GMAT score is 400 and 15th percentile verbal.
- All applicants must have completed the following accounting foundation courses or equivalents, each with a grade of C or better:
 - ACC 311 Intermediate Accounting I
 - ACC 312 Intermediate Accounting II
 - ACC 318 Cost Accounting
 - ACC 341 Accounting Information Systems
 - ACC 348 Federal Taxation
 - ACC 429 Auditing

Program Requirements

The following courses must be completed:

Functional Studies

ACC	615	Audit Theory and Practice
ACC	616	Advanced Income Tax Procedure
ACC	617	Advanced Controllershship
ACC	618	Accounting Research
ACC	632	Auditing Accounting Information Systems
ACC	698	Professional Development and Ethics in Accounting
LE	691	Government and Business Relationships
MKT	686	IMC for Professional Services

Accounting electives (any two courses)

ACC	544	Consulting for CPAs
ACC	580-583	Special Topics
ACC	614	Theory of Accounting
ACC	650	Special Topics
ACC	660	Independent Study

One of the following courses may be substituted for one accounting elective:

MGT 680 Entrepreneurship

or other courses approved by the Program Director

In addition, a student with an undergraduate degree other than business must complete a program of study, approved by the Director of the M.S. program, of business subjects to qualify the student to sit for the Uniform CPA Examination and to become licensed as a CPA.

BUSINESS ADMINISTRATION, M.B.A.

Business Administration, M.B.A. (36-Hour Curriculum)

Program Description

Qualified candidates are given an opportunity to earn the Master of Business Administration degree. In keeping with its purpose of providing professional preparation and foundation, the M.B.A. program gives emphasis to building a strong fundamental framework and to developing skills in managerial problem-solving and decision-making.

Program Design

Business policies and procedures, reflecting rapid advancement in technology, are subject to change over time. Methods and practices in current use may be totally inadequate for coming decades. For this reason, greater emphasis is placed on sound general principles and decision-making techniques which provide a base for continuous learning.

To accomplish this purpose, the program involves:

1. A series of Business Foundation courses which enable the student to continue professional development. The foundation courses required will be determined by the M.B.A. Director and/or the Graduate School of Management Academic Advisor.
2. A broad study of functional areas of business and their interrelationships, with emphasis on application of knowledge, concepts, and analytical methods for problem-solving.

The program can be completed in 15-18 months, attending on a full-time basis, depending on the candidate's previous training.

The M.B.A. program includes:

	<i>Hours</i>
Business Foundation courses, required as determined by the M.B.A. Director and/or the GSM Academic Advisor	0-15
M.B.A. Functional Studies courses	36
TOTAL	36-51

The university and the College of Business reserve the right, even after the enrollment of students, to make individual curricular adjustments whenever serious deficiencies or needs are found. This may involve additional coursework in speech and/or English whenever necessary. Deficiencies will be determined by the M.B.A. program director. Students may be required to take such courses without credit toward the master's degree and at their own expense.

Admission Requirements

Full Admission

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Applicants must either have:

1. An undergraduate degree in business from a regionally accredited institution with an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate coursework; and completed all of the required Business Foundations courses or their equivalents within seven years of application.

OR

2. An undergraduate degree from a regionally accredited institution with a minimum undergraduate GPA of 2.5 or higher on a 4.0 scale for all previously completed undergraduate university work; and completed the GRE or GMAT and submit official scores OR have a doctoral degree from a regionally accredited institution; and completed all of the required Business Foundation courses or their equivalents within previous seven years of receipt of application.

Note: Applicants may be asked to submit additional material if needed before an admission decision is made.

Generally, more students apply to the M.B.A. program than are accepted each year; therefore, the selection process is competitive.

Provisional Admission

An applicant whose undergraduate GPA is below a 3.0 from a regionally accredited institution and/or is lacking some or all of the foundation requirements may be admitted provisionally until all foundation requirements are completed. Applicants with GPAs below a 3.0 can include letters of recommendation, statement of purpose, resume, or any other material that could make their case to the Admissions Committee. Two reference letters and a resume are the minimum credentials needed. While provisionally admitted, the applicant must maintain a GPA of 3.0 or higher in the required foundation courses. Once all required foundation courses are completed with a 3.0 or higher average, the applicant will be eligible for full admission. Failure to complete the required foundation courses and/or to maintain a 3.0 or higher while provisionally admitted will lead

to academic probation or dismissal from the program. Required Business Foundation courses are determined by the M.B.A. Director or the GSM Academic Advisor. Note: Applicants may be asked to submit additional material if needed before an admission decision is made. Generally, more students apply to the M.B.A. program than are accepted each year; therefore, the selection process is competitive.

Program Requirements

Plan of Study

The student and his/her advisor shall prepare a Plan of Study which must be approved during the semester in which the student initially enrolls. A plan should be appropriate to meet the needs of the student in his/her chosen field. It shall include the specific courses the student is expected to complete; and shall also list all other requirements of the program or school. Courses listed on the Plan of Study shall be those judged appropriate by the faculty. Subsequent requests for changes in the plan must be formally approved by the M.B.A. Director or the Academic Advisor. Any deviation from the final Plan of Study and/or discrepancy between it and the student's official transcript will delay graduation. Any Plan of Study that was approved may become void if a student is inactive for one year (unless on an official leave of absence).

Grade Point Average Requirement

A student must have a 3.0 overall GPA in all program coursework, with no more than two C's in his or her 36 hours of Functional Studies courses. In addition, the student must maintain a cumulative 3.0 GPA in all courses completed after admission to the degree program, along with any previous Marshall University coursework to be counted toward the current degree. This standard must be met for the student to graduate. If the student falls below these standards, then that student shall be placed on academic probation and will be subject to dismissal from the program.

Comprehensive Assessment

Degree candidates are required to complete a comprehensive assessment prior to receipt of the master's degree. The timing and form of a student's comprehensive assessment shall be approved in advance by the Director of the Graduate School of Management. The comprehensive assessment is usually a written term paper required within the final, integrated capstone course, MGT 699, "Business Policy and Strategy."

Course Enrollment Policy

In order to take any 600-level course in the College of Business, students must be enrolled in a graduate program in the college. On an exception basis, a student not enrolled in an LCOB graduate program may take only one 600- level course with the written approval of the Academic Advisor or the MBA Director. Cooperative programs with other departments must be approved by the MBA Director. It is the responsibility of the student to obtain this approval before attempting to register. Additionally, the student must meet the specific course prerequisites. Students who violate this policy will be administratively withdrawn.

Course Requirements

All students are required to complete 36 hours of M.B.A. Functional Studies courses and 0-15 hours of Business Foundation courses, as determined by the M.B.A. Director and/or the GSM Academic Advisor. The 36-hour M.B.A. courses must be completed with a GPA of 3.0 (*B* or better) with no more than 2 C's. In addition, each candidate must pass a comprehensive assessment, which normally is a required written term paper within the final, integrated capstone course, MGT 699, "Business Policy and Strategy."

Business Foundation Courses

MGT	500	Analytic Methods and Techniques
ACC	510	Survey of Accounting
ECN	501	Economic Analysis
MKT	511	Marketing and Management
FIN	510	Principles of Business Finance

M.B.A. Functional Studies Courses

MGT	601	Quantitative Methods for Business
ACC	613	Profit Planning and Controls
FIN	620	Financial Management
MGT	672	Organizational Behavior
MKT	682	Advanced Marketing Management

(continued)

*For those applicants who elect to use only upper-level (latter half) undergraduate coursework to calculate the index, the index requirement shall be 1050 or greater. For those who already possess a master's degree and elect to use graduate coursework to calculate the index, the index requirement is 1100. *Waiver of Admissions Examination:* Applicants with an earned doctoral degree from a regionally accredited institution are not required to take the GMAT.

MIS 678 Management Information Systems
 ECN 630 Managerial Economics
 MGT 674 Production/Operations Management
 MGT 699 Business Policy and Strategy
 Three elective courses

Area of Concentration

Students who choose to take two elective courses in either Marketing, Finance, Management, Health Care Administration, or Human Resource Management in addition to the functional study courses can receive a concentration in that functional area.

Business Foundations Program

NOTE: The Business Foundations program is not a degree-granting program. Applicants who do not meet the standards for full admission into the 36-hour M.B.A. curriculum may still be admitted into the Business Foundations program. This program is open to those who have no undergraduate background in business. Participation in this program may be used to meet the requirements for admission into the 36-hour M.B.A. curriculum. There is no GMAT requirement or GPA requirement for admission into the Business Foundations program. Those wishing to complete the 36-hour M.B.A. curriculum, however, must meet the requirements for full admission to the M.B.A. Program. No grade below a *C* will be counted toward the requirements of the M.B.A. program.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

A student admitted to the Business Foundations program may not take a 600-level course without the approval of the GSM Academic Advisor.

All required Business Foundation courses or their equivalents must have been completed within seven years of application:

<i>Courses</i>	<i>Undergraduate Equivalents</i>
Survey of Accounting Accounting 510	Principles of Accounting 6 Hours
Economic Analysis Economics 501	Principles of Economics (Micro/Macro) 6 Hours
Finance Finance 510	Principles of Finance 3 Hours
Statistics/Calculus Management 500	Business Statistics 3 Hours
Marketing & Management Marketing 511	Principles of Management 3 Hours
Principles of Marketing	3 Hours
Computer literacy	Computer literacy

Executive M.B.A.

Admissions for the Executive M.B.A. program in the College of Business are currently suspended. For further information, please contact the college at 304-696-2314.

3+2 Program (B.B.A. with M.A., M.B.A., HRM or HCA)

The 3+2 Program offered by the College of Business allows students to earn both their Bachelor of Business Administration and Master of Accountancy, Business Administration, Human Resources Management, or Health Care Administration degrees in a total of five years. Students are allowed to double-count up to nine hours of graduate-level

courses from the master's degree toward their bachelor's degree requirements. Please contact the Graduate Academic Advisor for the specific entrance requirements.

Dual Degree: Pharm.D. and M.B.A.

Students admitted to the School of Pharmacy may also seek admission to the Graduate College to pursue a Master of Business Administration (M.B.A.) degree. The application procedure and the student's enrollment status will vary depending on the student's undergraduate degree.

All students wishing to pursue the dual degree option must first consult with the Pharm. D. advisor regarding when they should apply for admission. Students who are admitted to the M.B.A. program will be advised by a Pharm. D. advisor and an M.B.A. advisor. The advisors are responsible for ensuring students are making appropriate progress toward both degrees, enroll in the proper sequence of courses, and enroll in the proper section of the courses.

Pharm. D. Students Holding a Baccalaureate Degree: All students who have earned a baccalaureate degree from a regionally accredited college or university may apply for admission to the M.B.A. program. Students must meet the published admission criteria and complete the published degree requirements for the M.B.A. program. When admitted, the student will be classified depending upon his or her completion of core business courses.

Pharm. D. Students Who Do Not Have a Baccalaureate Degree: Students who have not earned a baccalaureate degree from a regionally accredited college or university may apply for admission to the M.B.A. program and pursue the degree under the following conditions. During their enrollment in the two degree programs, students who do not hold the baccalaureate will be continuously classified as Provisionally Admitted for the M.B.A. program. Students beginning the final semester of the Pharm. D. program of study will apply for graduation. Students in good academic standing in both programs and eligible to receive both degrees at the end of the term will be reclassified as Fully Admitted to the M.B.A. program. Students who withdraw or are dismissed from the Pharm. D. program will also be withdrawn from the M.B.A. program regardless of level of degree completion or academic standing.

Graduate Certificate in Management Foundations

This certificate is designed for students with non-business undergraduate degrees. It is envisioned as a generalist overview of graduate business topics. Students desiring a fully developed master's degree in business should enroll in the MBA program. The Graduate Certificate in Management Foundations will help students to improve their depth of knowledge, remain competitive in the job market, learn new skills, advance their careers, or pursue personal enrichment.

Admission

A prospective certificate-only student should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the Certificate in Management Foundations.

Requirements

The Graduate Certificate in Management Foundations requires 18 graduate credit hours. Students must complete the series of courses with a minimum 3.0 GPA and cannot have more than two grades of C:

A student pursuing a certificate must complete the following courses:

ACC	510	Survey of Accounting
ECN	501	Economic Analysis
MKT	511	Marketing and Management
MGT	500	Statistics
FIN	510	Finance

Elective: HRM 600, HCA 600, MGT 620, ACC 613, MGT 601, LE 691, ECN 630, MIS 678, or other course selected with advisor's approval

All six courses must be taken; no courses may be waived.

Anyone desiring to enroll in the Management Foundations Certificate program is encouraged to contact the Graduate Academic Advisor for further information.

HEALTH CARE ADMINISTRATION, M.S.

Program Description

The Master of Science in Health Care Administration is designed to provide individuals with a comprehensive perspective of the health care environment. Emphasis is placed on a global view of health care rather than a targeted sector (such as hospitals, nursing homes, etc.) of the industry. Students completing the program frequently pursue employment opportunities

in environments ranging from hospitals to medical practices to health insurers/buyers. While the program attracts individuals from all undergraduate disciplines, many of the students have strong clinical backgrounds and are interested in building their management skills with a focus toward their clinical expertise.

Admission Requirements

Full Admission

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Applicants must either have:

1. An undergraduate degree from a regionally accredited institution with an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate coursework.

OR

2. Have a doctoral degree from a regionally accredited institution; and completed all of the required Business Foundation courses or their equivalents within seven years of application.

Provisional Admission

An applicant whose undergraduate GPA is below a 3.0 from a regionally accredited institution and/or is lacking some or all of the foundation requirements may be admitted provisionally until all foundation requirements are completed. Applicants with GPAs below a 3.0 can include letters of recommendation, statement of purpose, resume, or any other material that could make their case to the Admissions Committee. Two reference letters and a resume are the minimum credentials needed. While provisionally admitted, the applicant must maintain a GPA of 3.0 or higher in the required foundations courses. Once all required foundation courses are completed with a 3.0 or higher average, the applicant will be eligible for full admission. Failure to complete the required foundation courses and/or to maintain a 3.0 or higher while provisionally admitted will lead to academic probation or dismissal from the program. Required Business Foundation courses are determined by the M.B.A. Director or the GSM Academic Advisor. *Note:* Applicants may be asked to submit additional material if needed before an admission decision is made. Generally, more students apply to the H.C.A. program than are accepted each year; therefore, the selection process is competitive.

Program Requirements

Plan of Study

The student and his/her advisor shall prepare a Plan of Study which must be approved during the semester in which the student initially enrolls. A plan should be appropriate to meet the needs of the student in his/her chosen field. It shall include the specific courses the student is expected to complete; and shall also list all other requirements of the program or school. Courses listed on the Plan of Study shall be those judged appropriate by the faculty. Subsequent requests for changes in the plan must be formally approved by the Academic Advisor. Any deviation from the final Plan of Study and/or discrepancy between it and the student's official transcript will delay graduation. Any Plan of Study that was approved may become void if a student is inactive for one year (unless on an official leave of absence).

Grade Point Average Requirement

A student must have a 3.0 overall GPA in all program coursework, with no more than two C's in his or her program. In addition the student must maintain a cumulative 3.0 GPA in all courses completed after admission to the degree program, along with any previous Marshall University coursework to be counted toward the current degree. This standard must be met for the student to graduate. If the student falls below these standards, then that student shall be placed on academic probation or will be subject to dismissal from the program.

Comprehensive Assessment

Degree candidates are required to complete a comprehensive assessment prior to receipt of the master's degree. The timing and form of a student's comprehensive assessment shall be approved in advance by the Director of the Graduate School of Management. The comprehensive assessment is usually a written term paper required within the final, integrated capstone course, HCA 695, "Field Research in Health Care Management."

Course Enrollment Policy

In order to take any 600-level course in the College of Business, students must be enrolled in a graduate program in the college. On an exception basis, a student not enrolled in an LCOB graduate program may take only one 600-level course with the written approval of the Academic Advisor or the MBA Director. Cooperative programs with other departments must be approved by the MBA Director. It is the responsibility of the student to obtain this approval before attempting to register. Additionally, the student must meet the specific course prerequisites. Students who violate this policy will be administratively withdrawn.

* *Waiver of Admissions Examination:* Applicants with an earned doctoral degree from a regionally accredited institution are not required to take the GRE or GMAT.

Course Requirements

MKT	511	Marketing and Management
HCA	600	The Health Care System
HCA	610	Health Care Financial Management
HCA	615	Health Care Economics
HCA	653	Integrated Delivery Systems
HCA	630	Legal Issues in Health Care Management
HCA	656	Management of Health Care Technology and Information Systems
MGT	620	Human Resource Management
HCA	655	Health Care Marketing
MGT	672	Organizational Behavior
HCA	695	Field Research in Health Care Management
Elective (in HCA)		

HUMAN RESOURCE MANAGEMENT, M.S.

Program Description

The Master of Science in Human Resource Management degree program is designed to prepare graduates for research and administrative positions in both public and private sector human resource management offices, labor unions, other employee associations, and agencies concerned with employer-employee relations. Graduate instruction is provided in human resource management; in trade unionism and collective bargaining; and in legal and public policy issues which may relate to any of the preceding. These matters are examined academically within the contexts of social, economic, and political considerations; and are analyzed via the theoretical and empirical contributions of the social/behavioral sciences. The study of human resource management is based upon the knowledge and methods developed in a number of traditional areas of study. The major disciplines represented in the program are economics, psychology, sociology, management, and law. Coursework in related fields is available and encouraged.

Admission Requirements

Full Admission

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Applicants must either have:

1. An undergraduate degree from a regionally accredited institution with an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate coursework.
- OR
2. Have a doctoral degree from a regionally accredited institution; and completed all of the required Business Foundation courses or their equivalents within seven years of application.

Provisional Admission

An applicant whose undergraduate GPA is below a 3.0 from a regionally accredited institution and/or is lacking some or all of the foundation requirements may be admitted provisionally until all foundation requirements are completed. Applicants with GPAs below a 3.0 can include letters of recommendation, statement of purpose, resume, or any other material that could make their case to the Admissions Committee. Two reference letters and a resume are the minimum credentials needed. While provisionally admitted, the applicant must maintain a GPA of 3.0 or higher in the required Foundation courses. Once all required foundation courses are completed with a 3.0 or higher average, the applicant will be eligible for full admission. Failure to complete the required foundation courses and/or to maintain a 3.0 or higher while provisionally admitted will lead to academic probation or dismissal from the program. Required Business Foundation courses are determined by the M.B.A. Director or the GSM Academic Advisor. *Note:* Applicants may be asked to submit additional material if needed before an admission decision is made. Generally, more students apply to the HRM program than are accepted each year; therefore, the selection process is competitive.

Program Requirements

Plan of Study

The student and his/her advisor shall prepare a Plan of Study which must be approved during the semester in which the student initially enrolls. A plan should be appropriate to meet the needs of the student in his/her chosen field. It shall include the specific courses the student is expected to complete; and shall also list all other requirements of the program or school.

Courses listed on the Plan of Study shall be those judged appropriate by the faculty. Subsequent requests for changes in the plan must be formally approved by the Academic Advisor. Any deviation from the final Plan of Study and/or discrepancy between it and the student's official transcript will delay graduation. Any Plan of Study that was approved may become void if a student is inactive for one year (unless on an official leave of absence).

Grade Point Average Requirement

A student must have a 3.0 overall GPA in all program coursework, with no more than two C's in his or her program. In addition the student must maintain a cumulative 3.0 GPA in all courses completed after admission to the degree program, along with any previous Marshall University coursework to be counted toward the current degree. This standard must be met for the student to graduate. If the student falls below these standards, then that student shall be placed on academic probation or will be subject to dismissal from the program.

Comprehensive Assessment

Degree candidates are required to complete a comprehensive assessment prior to receipt of the master's degree. The timing and form of a student's comprehensive assessment shall be approved in advance by the Director of the Graduate School of Management. The comprehensive assessment is usually a written term paper required within the final, integrated capstone course, MGT 696, "Administrative Policy and Strategy."

Course Enrollment Policy

In order to take any 600-level course in the College of Business, students must be enrolled in a graduate program in the college. On an exception basis, a student not enrolled in an LCOB graduate program may take only one 600-level course with the written approval of the Academic Advisor or the MBA Director. Cooperative programs with other departments must be approved by the MBA Director. It is the responsibility of the student to obtain this approval before attempting to register. Additionally, the student must meet the specific course prerequisites. Students who violate this policy will be administratively withdrawn.

Course Requirements

Foundation courses, required as determined by the Academic Advisor	0-6
M.S.H.R.M. Core Courses	27
Electives	3
TOTAL	30-36

Foundation Courses (as required)

ECN	502	Economic Analysis
MKT	511	Marketing and Management

Core Courses (required of all students)

HRM	600	Development of Labor Relations
HRM	605	Human Resource Economics
HRM	610	Negotiation and Dispute Resolution
MGT	620	Human Resource Management
HRM	630	Employment Law
HRM	660	Compensation and Benefits
MGT	672	Organizational Behavior
MGT	692	Ethics and Global Aspects of Business
MGT	696	Administrative Policy and Strategy

MANAGEMENT PRACTICE IN NURSE ANESTHESIA, D.M.P.N.A.

Program Description

The Management Practice in Nurse Anesthesia doctoral program is an innovative practice doctorate developed jointly by the Lewis College of Business and the Charleston Area Medical Center Health Education and Research Institute School of Nurse Anesthesia (CAMC). The program offers a unique combination of advanced professional nurse anesthesia practice and entrepreneurial business management training.

The 36-month program is delivered in an integrated classroom and clinical format designed to prepare certified registered nurses for a career in the field of nurse anesthesia. At the end of the program, graduates will have completed 127 hours of study and clinical practice as well as a comprehensive doctoral research project. Students attend classes at the Marshall University South Charleston campus as well as CAMC's medical facilities in Charleston.

The program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA). The COA is fully accredited by the U.S. Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA).

Admission Requirements

Full Admission

All applicants must meet the following criteria. The program does not offer conditional or provisional admission.

1. Graduate from an approved baccalaureate or higher degree generic program in nursing or graduate from an approved associate degree with an appropriate baccalaureate degree.
2. Minimum overall undergraduate grade point average of 3.0.
3. Graduate Record Examination (GRE) scores submitted from the Education Testing Service, sent directly to Marshall University Graduate College, whose Institutional Code reporting number is 5396.
 - a. A photo copy of the student report GRE scores should be included with the CAMC application.
 - b. GRE scores must be no older than five (5) years.
 - c. Preferred scores are Verbal 153 and Quantitative 144.
- d. Please note the dates of score reporting in the GRE booklet and schedule the test so that the scores will be reported in time for full consideration of your application.
4. A current, valid, professional registered nursing license in one jurisdiction of the United States, which satisfies the requirements of the West Virginia Board of Examiners for Registered Professional Nurses. Once admitted, the School requires all in state and out of state students to maintain licensure in the State of West Virginia.
5. A minimum of one year full time work experience (two years preferred) or its part time equivalent, as a RN in a critical care setting. The applicant must have developed as an independent decision-maker, capable of using and interpreting advanced monitoring techniques based on knowledge of physiological and pharmacological principles.
6. Three (3) references by persons in the medical profession who are familiar with the applicant's qualifications. One of which must be the immediate supervisor.
7. Resume detailing education and work experience.
8. A personal interview may be requested.

Program Requirements

Plan of Study

All students in this program are required to complete a comprehensive program of study including the courses listed below. The department maintains a well-established rotation of courses that allows students to compete the degree requirements in a timely manner.

BSC	716	Advanced Cellular Physiology for Nurse Anesthesia	2
BSC	717	Advanced Anatomy, Physiology and Pathophysiology for Nurse Anesthesia I	3
BSC	718	Advanced Anatomy, Physiology and Pathophysiology for Nurse Anesthesia II	3
BSC	719	Advanced Anatomy, Physiology and Pathophysiology for Nurse Anesthesia III	3
CHM	723	Chemistry, Physics, and Biochemistry for Nurse Anesthesia	3
MPNA	700	Introduction to Health Care Systems: Health Policy and Delivery	3
MPNA	710	Financial Management for Health Care Professionals	3
MPNA	711	Marketing and Management for Health Care Professionals	
MPNA	715	Health Care Economics	3
MPNA	724	Evidence-Based Research Methods for Nurse Anesthesia I	3
MPNA	725	Evidence-Based Research Methods for Nurse Anesthesia II	3
MPNA	726	Statistical Methods for Field and/or Clinical Research	3
MPNA	730	Medical/Legal Issues in Health Care	3
MPNA	734	Basic Principles of Nurse Anesthesia Practice	3
MPNA	734A	Basic Principles: Stimulation Lab	1
MPNA	743	Applied Nurse Anesthesia Management, Leadership, Professional Aspects	5
MPNA	745A	Advanced Principles: Pediatrics for Nurse Anesthetists I	1

MPNA 745B	Advanced Principles: Obstetrics for Nurse Anesthetists II	1
MPNA 745C	Advanced Principles: Clinical Case Management Seminar III	1
MPNA 753	Management of Complex Health Care Organizations	3
MPNA 755	Marketing Goods and Services in a Medical Environment	3
MPNA 756	Clinical and Administrative Information Systems	3
MPNA 772	Organizational Behavior in Health Care	3
MPNA 777	Moral Management: Ethics in Nurse Anesthesia	3
MPNA 796	Administrative Policy, Strategy and Entrepreneurship	3
MPNA 799	Research Project	3
MPNA 799	Research Project	3
MPNA 799	Research Project	3
NUR 720	Advanced Pharmacology for Nurse Anesthesia I	4
NUR 721	Advanced Pharmacology for Nurse Anesthesia II	4
NUR 735	Clinical Practice Inquiry	3
NUR 741	Introduction to Health Care Clinical Practicum/ Advanced Physical Assessment	6
NUR 741A	Health Care Clinical Practicum/Mentoring	1
NUR 741A	Health Care Clinical Practicum	1
NUR 741A	Health Care Clinical Practicum	1
NUR 741A	Health Care Clinical Practicum	1
NUR 741A	Health Care Clinical Practicum	1
NUR 741A	Health Care Clinical Practicum	1
NUR 741B	Health Care Clinical Practicum	3
NUR 741C	Health Care Clinical Practicum	6
NUR 741C	Health Care Clinical Practicum	6
NUR 741C	Health Care Clinical Practicum	6
NUR 741C	Health Care Clinical Practicum	6
NUR 744	Regional Anesthesia	1

Grade Point Average

All students must maintain a 3.0 overall GPA in all program coursework. Students are advised to read the department's Student Handbook with care, as that document lists other program requirements for students to remain in good standing.

Final Research Project

The culminating requirement for the D.M.P.N.A. degree is a research project that allows the student an opportunity to develop and demonstrate a synthesis of graduate knowledge and skills within the context of improving health care. Every research project will include the synthesis of strategic, creative thinking, decision making, planning, project management, and communication skills that are hallmarks of a D.M.P.N.A. graduate. The D.M.P.N.A. program at Marshall University follows a practitioner-scholar model. The emphasis is on understanding the field of nurse anesthesia as an empirically-informed discipline. A D.M.P.N.A. student must develop his or her proposal in consultation with his/her research project committee chair, and the final project report must both be approved by the entire research project committee. The research project must receive Office of Institutional Integrity approval and the student must successfully defend the written and oral presentation.

College of Education and Professional Development

Dr. Teresa Eagle, Dean

www.marshall.edu/coepd

ADULT AND CONTINUING EDUCATION, M.S.

Areas of Emphasis

Adult Education and Evaluation

Career and Technical Center Teaching

Training and Development

Program Description, M.S.

The Master of Science degree program in Adult and Continuing Education (ACE) is a field-based program designed to serve adult learners who may be employed on a full-time basis. The comprehensive program is intended for individuals who serve in an instructional, training, leadership, or professional role in human services areas of business, industry, government, community agencies, health care, or education. The program is designed for learners who aspire to become training and development professionals in business, industry, or service organizations. Students will learn to teach adults by gaining classroom knowledge, experiencing work-based activities, and participating in projects intended to develop the competencies utilized by professionals in the areas of Adult Education, Training and Development, and Career and Technical Center Teaching. The areas of emphasis in Adult and Continuing Education allow a program to be tailored to meet the personal and professional needs of a broad spectrum of graduate students. The courses provide students with the opportunity to continue their graduate education in a flexible program through a state-wide delivery system.

The areas of emphasis in Adult and Continuing Education (ACE) allow a program to be tailored to meet the personal and professional needs of a broad spectrum of graduate students. The courses provide students with the opportunity to continue their graduate education in a flexible program through an online delivery system. The program offers three areas of emphasis; (1) Adult Education and Evaluation, and (2) Career and Technical Center Teaching, and (3) Training and Development. Students entering the program will build upon the academic background gained through their undergraduate education and professional employment. The program's coursework will provide the additional academic requirements, training, and leadership development necessary to complete a Master of Science degree. The student's plan of study will be created in consultation with his or her advisor, selecting an area of emphasis and planning the program.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: *www.marshall.edu/graduate/how-to-apply-for-admission*.

In addition to Marshall University's requirements for admission, the following criteria must be met for admission to the Adult and Continuing Education program:

- Admission to the program also requires an undergraduate Grade Point Average (GPA) of 2.75 or higher on a 4.0 scale for all previously completed undergraduate work.
- Admission to the Career and Technical Teaching emphasis requires that students be employed as a career and technical center teacher in West Virginia.

Program Requirements, M.S. – Areas of Emphasis in Adult Education and Evaluation

A total of 30 credit hours is required for program completion for the Adult Education and Evaluation area of emphasis to satisfy the Master of Science degree requirements.

A Plan of Study will be sent to the student at the time of admission. Changes in required courses and the choice of any elective courses must be approved, and signed by the advisor on the office copy of the Plan of Study. The Plan of Study is a student's "blueprint" for completing graduation requirements.

The required GPA to complete the master's degree is 3.0 (B). Students must prepare an academic portfolio in the capstone course during their last semester of enrollment, and may take no more than one other 3-hour course in the semester that the capstone course is taken.

Adult Education and Evaluation Area of Emphasis

The Adult Education and Evaluation area of emphasis serves training and development professionals looking to expand knowledge and further careers, as well as professionals wanting to transition into teaching adults.

Adult Education serves persons who work with adults in either an instructional or an administrative role. Students are drawn from various areas such as the human services agencies, those with staff development, or in-service responsibilities in

hospitals, business or government, as well as those in adult preparatory programs at the postsecondary or community college level.

Core Courses - Required (12 hours)

ATE	600	Aspects of Training and Development
ATE	603	Introduction to Adult Education and Adult Learners
ATE	656	Instructional Planning for Adult Populations
LS	632	Human Relations in the Public Sector

General Courses (15 hours)

ATE	618	Literature of Adult and Continuing Education
ATE	628	Adult Instruction: Environmental and Personal Aspects
ATE	661	Practicum in Adult and Continuing Education
ATE	671	Evaluation of Adult and Technical Education
ATE	677	Research Methods and Design
ATE	689	Grant Proposal Writing

Capstone (3 hours)

ATE	685	Capstone Portfolio
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Total Adult Education and Evaluation Program Hours.....30

Program Requirements, M.S. – Area of Emphasis in Career and Technical Center Teaching

A total of 30 credit hours is required for program completion for the Career and Technical Center Teaching area of emphasis to satisfy the Master of Science degree requirements.

A Plan of Study will be sent to the student at the time of admission. Changes in required courses and the choice of any elective courses must be approved, and signed by the advisor on the office copy of the Plan of Study. The Plan of Study is a student's "blueprint" for completing graduation requirements.

The required GPA to complete the master's degree is 3.0 (*B*). Students must prepare an academic portfolio in the capstone course during their last semester of enrollment, and may take no more than one other 3-hour course in the semester that the capstone course is taken.

Career and Technical Center Teaching Area of Emphasis

Core Courses - Required (12 hours)

ATE	600	Aspects of Training and Development
ATE	603	Introduction to Adult Education and Adult Learners
ATE	656	Instructional Planning for Adult Populations
LS	632	Human Relations in the Public Sector

West Virginia Licensure Courses (15 hours)

ATE	508	Teaching Methods in Career and Technical Education
ATE	511	Introduction to Career and Technical Education
ATE	524	Safety in Career and Technical Education
ATE	548	Applied Basic Skills in Career and Technical Education
ATE	631	Survey of Practical Computer Applications
ATE	637	Individual Computer Program Applications
ATE	673	Assessment in Adult and Technical Education

Capstone (3 hours)

ATE	685	Capstone Portfolio
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Total Career and Technical Center Teaching Program Hours.....30

Program Requirements, M.S. – Area of Emphasis in Training and Development

Training and Development serves persons employed in business, industry, or other organizations involved in the advancement of knowledge, competencies, and skills of their employees. Students are drawn from various areas such as a management, marketing, human resources, and safety, whose responsibilities may include instructional design and preparation of employees for current jobs, future assignments, and/or personal enhancement.

For further information on this Area of Emphasis, please call the Leadership Studies department at 304-746-2514.

COUNSELING, M.A.

Areas of Emphasis

Clinical Mental Health Counseling

School Counseling

Graduate Certificate

Violence, Loss, and Trauma Counseling

Program Description, M.A.

The Master of Arts degree in Counseling is a 60-hour planned program of study designed to meet the necessary competencies of professional counselors, and satisfies the curricular requirements for counselor licensure. There are currently two distinct Areas of Emphasis offered within the Counseling program. Curricular elements consist of core courses required of all counseling majors and emphasis courses specific to mental health counseling and school counseling.

The Master of Arts degree in Counseling at Marshall University is built upon the training standards and codes of ethics recognized by CACREP (Council for Accreditation of Counseling and Related Educational Programs), ACA (American Counseling Association), and ASCA (American School Counselors Association) and is consistent with the Marshall University School of Education conceptual framework theme of Preparing The Experienced Professional as Specialist. Within this context it is the mission of the Counseling Program to prepare graduates with the knowledge and skills needed to meet the challenges associated with entry into the field of counseling and into their role as professional counselors. Program graduates are eligible to apply for WV licensure in counseling at the point they complete post-graduate supervision and pass a comprehensive licensure examination.

Admission Requirements

Admission to the Counseling Program is selective and competitive. Admission decisions for all program applicants are rooted in the specific standards of the Marshall University Graduate College and the minimum standards of the Counseling program. Students are admitted to an area of emphasis and must indicate their preferences during the admission application process.

Graduate College

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Counseling Program

Multiple criteria are used in making decisions to admit students to the degree program. Each applicant is evaluated using the following criteria (all material should be submitted directly to Graduate Admissions):

- 1) A bachelor's degree from a regionally accredited institution.
- 2) Evidence of academic aptitude for graduate-level study that includes at least one of the following:
 - a) A 2.75 overall Undergraduate GPA or higher on a 4.0 scale for all previously completed undergraduate courses.
 - b) A Graduate GPA of 3.0 on any previously completed advanced degree.
 - c) GRE scores (no more than five years old) of 286 (quantitative & verbal combined) OR MAT score of 395.
- 3) (International Students) Evidence of English language proficiency. Proof of your proficiency in English may be certified by submitting one of the following:
 - a) (TOEFL) Test of English as a Foreign Language (Internet based) minimum score of 80 for graduate study. ETS code for Marshall University is #5396.
 - b) (MELAB) Michigan English Language Assessment Battery minimum score of 82 for graduate study.
 - c) (IELTS) the International English Language Testing System minimum score of 6.5 for graduate study.
 - d) Completion of Level 6 of Marshall's Academic English program, with minimum Bs in all courses.
 - e) Completion of Marshall Pathway course ENG 160 or ENG 101A with minimum C grade.

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- f) Diploma or degree from an English-speaking school - a degree or diploma from an accredited secondary school, college, or university in which the primary language of instruction is English.
 - g) You have graduated from a regionally accredited college or university in the United States.
 - h) NOTE: English test results that were taken more than two (2) years prior to the date of the application submission cannot be accepted.
- 4) A writing sample expressing career goals and estimation of personal suitability for the profession of counseling. This one-page narrative includes the applicant's motivation and rationale for seeking admission to the Counseling Program, as well as personal background, goals related to professional studies, and goals for working in the counseling field.
 - 5) Resume: A focused, one- to three-page summary of program-relevant educational, career and/or life experiences.
 - 6) Three written references (two from current or former professors). These should be completed by professionals with knowledge of the applicant's suitability for graduate work (*e.g.*, supervisors, undergraduate professors) in helping professions.

Program Requirements

It is the responsibility of all admitted students to meet with their advisors prior to the beginning of coursework. Each student must complete an advisor-approved Plan of Study prior to registering for courses. A minimum Grade Point Average of 3.0 in all degree courses is required prior to enrollment in the practicum, internship, and for graduation.

CORE COURSES

All 45 hours of core courses are offered on both the South Charleston and Huntington campuses. Please note that internship courses are specific to emphasis areas.

CORE CURRICULUM

The Master of Arts degree in Counseling is a 60 hour planned program of study designed to meet the necessary competencies of professional counselors. The curricular elements consist of core courses required of all counseling students and emphasis courses specific to Clinical Mental Health Counseling and School Counseling.

The following 45 semester hours of core courses are required of all students:

COUN	574	Social & Cultural Foundations
COUN	575	Prevention and Treatment of Addictions
COUN	600	Professional Orientation
COUN	602	Human Development & Psychopathology
EDF	621	Educational Research and Writing
COUN	603	Counseling Theories
COUN	604	Group Counseling
COUN	605	Theory & Practice of Human Appraisal
COUN	607	Counseling Techniques in Human Relationships
COUN	631	Diagnosis & Treatment Planning in Mental Health Counseling
COUN	632	Introduction to Marriage, Couple & Family Counseling
COUN	606	Career & Lifestyle Development
COUN	608	Practicum
COUN	691	Internship in Clinical Mental Health
COUN	698	Internship in School Counseling

Total Core Hour Requirement.....45

Please check course prerequisites prior to registration.

*All emphases (60 hours) satisfy the curricular requirements for professional counselor licensure in the State of West Virginia.

COMPREHENSIVE EXAM

All students will take and pass the Counselor Preparation Comprehensive Examination (CPCE) prior to admission to candidacy for Practicum and Internship. Students must apply for and take the exam no later than the semester prior to taking their Practicum course.

AREAS OF EMPHASIS

Clinical Mental Health Counseling

In addition to the core courses, students specializing in Clinical Mental Health Counseling must complete the following emphasis courses:

COUN	555	Crisis Intervention and Conflict Resolution
COUN	630	Introduction to Clinical Mental Health Counseling
		Advisor-Approved Electives (9 hours)

Emphasis total 15
Total credit hours (including core) 60

School Counseling

The School Counseling curriculum meets the State Department of Education certification standards. An alternative school counseling program is available for students without a teacher education background to qualify for West Virginia certification as school counselors. In addition to the core courses, students specializing in School Counseling must complete the following emphasis courses:

COUN	670	Interventions: Current Issues in School Counseling
COUN	672	Organization and Administration of School Counseling Programs
COUN	673	Counseling Children, Parents and Adolescents
COUN	675	Legal and Ethical Issues for School Counselors
		Advisor-approved elective (3 hours)

Emphasis total 15
Total credit hours (including core) 60

Certification Requirements for School Counselors

Students in School Counseling must meet certification requirements established by the West Virginia Department of Education. All students must pass the Praxis II: Specialty Area Test (formerly the National Teachers Examination) in School Counseling prior to applying for certification. Applications for certification are available in the central offices of the county school systems. An alternative school counseling program certification is available for students without a teacher education background to qualify for West Virginia certification as elementary or secondary school counselors.

Students who do not hold a valid West Virginia teaching certificate (non-education majors) must submit passing scores on the Pre-Professional Skills Tests (PPST) prior to enrollment in courses leading to certification.

Non-education majors must also complete 6 hours of additional coursework from the following:

Alternative Certification Courses

EDF	665	Sociology of American Schools OR
LS	532	Human Relations Skills for Leaders
CISP	521	Children with Exceptionalities (check with advisor)

**Total Credit Hours with Alternative Certification
(including core)..... 66**

ELECTIVE COURSE OPTIONS

<i>Course</i>	<i>Title</i>
COUN 545	Beginning Manual Communication
COUN 554	Advanced Manual Communication
COUN 555	Crisis Intervention and Conflict Resolution
COUN 556	Death and Grief Counseling
COUN 577	Stress Management Counseling
COUN 579	Pharmacology in Counseling
COUN 580-583	Special Topics
COUN 585-588	Independent Study
COUN 601	Counselors in Consulting and Community Roles
COUN 611	Foundations of Community Counseling
COUN 616	Domestic Violence

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COUN	617	Seminar in Counseling
COUN	620	Workshop in Counseling
COUN	621	Introduction to Child Abuse and Neglect
COUN	622	Parent Education
PSY	508	Abnormal Psychology

Graduate Certificate in Violence, Loss and Trauma Counseling

NOTE: Professional Continuing Education coursework offered in the certificate program will be eligible for continuing education units by the Counseling Board of Examiners.

The graduate certificate program in Violence, Loss, and Trauma Counseling (VoLT) is completed in one of two ways:

- First, the student may be accepted into the Counseling program and take the certification courses in conjunction with the required degree courses and graduate with a Master of Arts degree in Counseling in addition to a graduate certificate denoting this area of specialty.
- Second, for those holding master's degrees in counseling or related fields, the certificate coursework may be taken as a stand-alone program to be completed in one to two years.

This program is currently the state's only graduate level initiative providing a sequential, specialized professional development opportunity for mental health professionals who contribute to the identification of and interventions in these specialty areas.

Admission Requirements

Students already enrolled in the Counseling program, in the Clinical Mental Health Counseling area of emphasis, should submit to Graduate Admissions a Secondary Program Request form: www.marshall.edu/graduate/secondary-program-request-form.

Prospective certificate-only students should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the Certificate in Violence, Loss, and Trauma Counseling (VoLT).

It is expected that enrollees of this program will generally be engaged in clinical practice or some support aspect of direct client service and/or intervention where family violence, bereavement, or trauma have been identified or suspected.

Admission requirements for the certificate program include the following:

- Concurrent enrollment in a Master's degree in counseling, social work, psychology, or related field, OR
- A master's degree in counseling, social work, psychology, or related field, OR
- Departmental approval.

Course Requirements (15 hours)

COUN	556	Death and Grief Counseling*
COUN	654	An Ecological Approach to Domestic Violence*
COUN	655	Counseling Victims, Perpetrators, and Children of Domestic Violence
COUN	682	Treatment in Trauma Recovery*
COUN	683	Psychophysiology of Trauma
COUN	684	Advanced Techniques in Treatment of Trauma and Loss
COUN	685	Military Culture and Treatment of Veterans
COUN	686	Traumatic Stress and Suffering

*Required for the certificate.

CURRICULUM AND INSTRUCTION, Ed.S., Ed.D.

Education Specialist with Area of Emphasis in Curriculum and Instruction, Ed.S. Curriculum and Instruction Ed.D.

Ed.S. with an Area of Emphasis in Curriculum and Instruction

The Education Specialist degree with an Area of Emphasis in Curriculum and Instruction is designed for post-master's professionals who are seeking a planned and structured program of study. Students may elect to be dually enrolled in the Education Specialist program and Doctor of Education in Curriculum and Instruction program.

Admission Requirements

Applicants must have a master's degree in an appropriate field. Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission

Degree Requirements

Education Specialist degree (Ed.S.) students follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0.

Core: 15

LS	703	Research Design
EDF	625	Qualitative Research in Education OR
EDF	626	Advanced Qualitative Research in Education
CIEC	700	Technology and Curriculum
EDF	711	Survey Research in Education
CI	677	Writing for Publication in Professional Education OR
HUM	604	Expository Writing for Research

Area of Emphasis: 12

CI	701	Curriculum Development
CI	702	Curriculum Theories
CI	703	Theories, Models and Research of Teaching
CI	704	Social and Political Determinants of Curriculum Development

Capstone: 3

EDF	679	Problem Report
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TOTAL 30

Curriculum and Instruction, Ed.D.

This program is designed to offer the opportunity to earn the Doctor of Education (Ed.D.) degree in Curriculum and Instruction. Coursework and other requirements will be met on the South Charleston campus. The mission of the doctoral program in education is to prepare practitioners to be reflective, ethical educators and researchers who contribute to the field of education. Program faculty are committed to creating a community of scholars through mentoring, engaging in collaborative research, and maintaining a focus on sound educational practices.

Acceptance into the Program

The decision to admit an applicant to doctoral work constitutes a significant commitment from the faculty of the department in the form of advising, teaching, chairing or serving on the student's committee, preparing and evaluating examinations, and guiding the successful completion of the dissertation. The applicant should note that the decision to admit students to the doctoral program is a collective judgment of the program faculty and represents their determination of the likelihood of the candidate to succeed in all major phases of the degree program. These judgments take into account the applicant's professional experiences, communication and thinking skills, and other relevant capabilities. Thus, an applicant is not automatically admitted on the basis of meeting only the minimum criteria.

An applicant must have earned at least a master's degree from an accredited institution in Educational Leadership, Curriculum and Instruction, or a related field. Details of all admission requirements and other pertinent information can be found at www.marshall.edu/edd.

EDUCATION, M.A.

Areas of Emphasis

Early Childhood Education
Elementary Mathematics Specialist
Individualized Plan of Study
Instructional Processes and Strategies
Instructional Technology and Learning
Math through Algebra I
School Library Media Specialist
Teaching English as a Second Language

Graduate Certificates

Early Childhood Education
Elementary Mathematics Specialist
Instructional Technology and Learning
Math through Algebra I
Post-Baccalaureate Teacher Certificate
Program Evaluation
School Library Media Specialist
Teaching English as a Second Language

Teacher Licensure in West Virginia

With the exception of the Master of Arts in Teaching, the master's degree and professional development programs described herein *do not* result in *initial* licensure in West Virginia. Students seeking initial West Virginia licensure are advised to consult with their advisors regarding appropriate programs and courses.

Program Descriptions

The goal of the Education programs is to provide coordinated, sequential programs of study in an identified area of education. These programs provide educators, and those in education-related fields, four venues for graduate level professional development:

- Graduate certificate programs,
- Master's degree (M.A.),
- Education Specialist degree (Ed.S.)
- Doctor of Education degree (Ed.D.)

In addition, graduate courses are available outside planned programs to allow professionals to augment their knowledge on topics of current interest or to meet individual needs.

The graduate certificate programs provide concentrated graduate-level study of a specialty. The master's degree offers a theoretical orientation with a focus on the application of theory to practice. The Education Specialist degree with an Area of Emphasis in Curriculum and Instruction is designed for post-master's professionals who are seeking a planned and structured program of study. Students may elect to be dually enrolled in the Education Specialist and Doctor of Education in Curriculum and Instruction. The Doctor of Education in Curriculum and Instruction serves the need of professionals who are seeking a terminal degree in the field. For more information on these post-master's degrees please see individual listings in this catalog.

Admission Requirements to Master's Degree Programs

Applicants to the MA in Education should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

For full admission, applicants must have an undergraduate degree from a regionally accredited institution with an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale OR have a master's degree from a regionally accredited institution.

Applicants having an undergraduate degree from a regionally accredited institution with an undergraduate GPA of 2.5 or above, but below 3.0, may be granted provisional admission. Provisionally admitted applications will be granted full admission upon successful completion of 12 hours toward the approved plan of study with a GPA of 3.25 or higher, assuming that all other admission requirements are met.

Note: Some areas of emphasis are designed to lead to added endorsements for licensed teachers. Applicants may be asked to submit additional materials, such as documentation of current teacher licensure, before an admission decision is made.

Plan of Study

A Plan of Study approved by the student's advisor must be on file before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.

Program Requirements

The Master of Arts in Education consists of a set of core course requirements, an area of emphasis requirement, and a capstone experience. All students must complete 15 hours of coursework in research, human growth and development, technology, instructional methods and assessment (the M.A. core). Each student must also select an area of emphasis consisting of 18-21 hours of required coursework, depending on the area of emphasis. Students will meet the comprehensive assessment requirement through the framework of a 3-hour capstone experience.

Core Courses..... 15 hrs.

EDF	621	Educational Research and Writing OR
EDF	625	Qualitative Research in Education
EDF	616	Advanced Studies in Human Development OR
EDF	619	Educational Psychology
CIEC	534	Applications Software in the Classroom Curriculum Area OR
CIEC	600	Instructional Design and Technology OR
CIEC	635	Using the Internet in the Classroom
CI	623	Instructional Models and Assessment Techniques OR Approved methods course from Area of Emphasis
EDF	612	Educational Evaluation

Area of Emphasis..... 18-21 hrs.

Capstone Experience..... 0-3 hrs.

TOTAL.....36 hrs.

Capstone Experience

Students may meet the capstone experience requirement through either 1) the completion of CI 690, Capstone Experience, or 2) satisfactorily completing a written comprehensive examination and three hours of approved coursework.

ADDITIONAL CERTIFICATION FOR TEACHERS

A teacher with a valid West Virginia professional license who wants to add another teaching endorsement may do so by completing the course requirements, a performance assessment at the appropriate grade level, and, where specified, acceptable scores on the appropriate Praxis II test. Applicants from other states should verify eligibility for added endorsements through their state's Department of Education.

Certificate Program Admission Requirements

Prospective certificate-only students should apply for admission to Marshall University as a Certificate/Professional Development student and select, on the application form, the certificate they wish to pursue. Education certificate programs require:

- A baccalaureate degree from a regionally accredited college or university; and
- An undergraduate Grade Point Average (GPA) of 2.50 or higher on a 4.0 scale for all previously completed undergraduate coursework OR a master's degree.

Plans of Study for Areas of Emphasis, Professional Development Programs

Plans of study marked with a plus sign (+) are available as graduate certificate programs. Certificate coursework may be taken as a stand-alone program.

Plans of study marked with an asterisk (*) may lead to added endorsements for licensed teachers. Endorsement programs are available to teachers who hold a valid West Virginia professional license in any area other than the one for which endorsement is desired. Applicants from other states should verify eligibility for added endorsements through their state's Department of Education

Early Childhood Education: This Area of Emphasis combines theory, research, and practical applications to child development and early childhood education. Options are available for licensed PreK-K teachers pursuing an advanced degree or licensed elementary teachers seeking an added endorsement.

(continued)

ECE Option 1 (PreK-K Licensed):

Option 1 is designed for teachers who hold a PreK-K professional license who wish to pursue an advanced degree. This option may be completed as an Area of Emphasis within the M.A. in Education (36 hours). These 18 hours, plus 12 additional hours in the M.A. Core, three hours in the M.A. Capstone, and a three-hour, advisor-approved elective may be used to receive the M.A. in Education.

CIRG	653	Literacy Acquisition
CI	631	Current Influences on Early Childhood Education
CI	632	Early Childhood Education Programs (approved methods course in the M.A. Core)
CI	633	Adult Involvement in Early Education
CI	634	Language and Cognition in Early Childhood
EDF	513	Human Growth and Development Birth-8

TOTAL 18 hrs.

**+ ECE Option 2 (K-6/K-8 Licensed):*

Option 2 is designed for teachers who hold a K-6 or K-8 professional license who wish to add a PreK-K endorsement. This option may be completed as a Graduate Certificate (21 hours) or may be used as an Area of Emphasis within the M.A. in Education (36 hours). These 21 hours, plus nine additional hours in the M.A. Core, three hours in the M.A. Capstone, and a three hour advisor approved elective may be used to receive the M.A. in Education.

CI	632	Early Childhood Education Programs (approved methods course in the M.A. Core)
CI	633	Early Childhood Education: Adult Involvement in Early Education
CI	634	Language and Cognition in Early Childhood
ECE	535	Administration of Early Childhood Programs
EDF	513	Human Growth and Development Birth-8
CI	630	Early Childhood Education: Practicum in Early Childhood Education
CIEC	534	Applications Software in the Classroom Curriculum Area OR
CIEC	600	Instructional Design and Technology OR
CIEC	635	Using the Internet in the Classroom (approved technology course in the M.A. Core)

TOTAL 21 hrs.

***+ Elementary Mathematics Specialist:** The goals of this Area of Emphasis are to strengthen mathematical content knowledge and mathematical teaching methods of elementary teachers, Grades K-6. This Area of Emphasis is designed for teachers who hold a valid professional license in Elementary Education. Satisfactory completion of the required courses and state licensure requirements leads to the addition of an Elementary Mathematics Specialist endorsement on an existing, current, regular, elementary education teaching license. These courses may be completed as a Graduate Certificate (21 hours) or may be used as an Area of Emphasis within the M.A. in Education (36 hours). These 21 hours, plus nine additional hours in the M.A. Core, three hours in the M.A. Capstone, and a three-hour, advisor-approved elective may be used to receive the M.A. in Education.

CIME	500	Mathematics for the Elementary Teacher I (approved methods course in the M.A. Core)
CIME	501	Mathematics for the Elementary Teacher II
CIME	555	Technical Mathematics for Mathematics Educators
CIME	650	Algebra for Mathematics Educators
CIME	658	Geometry for Mathematics Educators
CIME	673	Elementary Mathematics Methods and Supervised Field Practicum K-6
CIEC	534	Applications Software in the Classroom Curriculum Area (approved technology course in the M.A. Core)

TOTAL21 hrs.

Plans of study marked with an asterisk () may be used as endorsements for teaching certification. Endorsement programs are available only to teachers who hold a valid professional license in any area other than the one for which endorsement is desired.

+Plans of study marked with a plus sign (+) may be used as graduate certificate programs. Certificate coursework may be taken as a stand-alone program.

Individualized Plan of Study: Students selecting an individualized program must work with an advisor to develop a Plan of Study that includes the M.A. Core (15 hours), an individually tailored Area of Emphasis (18 hours), and the Capstone Experience (3 hours).

Instructional Processes and Strategies: This Area of Emphasis is designed to provide advanced preparation to enhance planning, teaching, and learning processes. These 18 hours, plus 15 hours in the M.A. Core, and three hours in the M.A. Capstone may be used to receive the M.A. in Education.

CI	551	Writing to Learn in Content Areas
CI	559	Multicultural Influences in Education
CI	638	Curriculum Planning
CIEC	635	Using the Internet in the Classroom
EDF	610	Trends and Issues in Education
Advisor-approved methods elective		

TOTAL18 hrs.

+Instructional Technology and Learning: This Area of Emphasis focuses on instructional applications and classroom utilization of technology to improve teaching and learning. These courses may be completed as a Graduate Certificate (21 hours) or may be used as an Area of Emphasis within the M.A. in Education (36 hours). These 21 hours, plus nine additional hours in the M.A. Core, three hours in the M.A. Capstone, and a three hour advisor approved elective may be used to receive the M.A. in Education.

CIEC	534	Applications Software in the Classroom Curriculum Area (approved technology course in the M.A. Core)
CIEC	600	Instructional Design and Technology (approved methods course in the M.A. Core)
CIEC	610	Local Area Networks and Telecommunications in the School
CIEC	630	Authoring Systems and Multimedia
CIEC	635	Using the Internet in the Classroom
CIEC	699	Final Project in Curriculum Area
Advisor-approved technology elective		

TOTAL21 hrs.

***+Mathematics through Algebra I:** This Area of Emphasis is available to teachers who hold a valid professional license in any area other than mathematics. Satisfactory completion of the required courses and passing the Praxis II meets the requirements for this added endorsement in West Virginia. The goals of this Area of Emphasis are to provide mathematical content knowledge and mathematical teaching methods to prepare middle school mathematics teachers. These courses may be completed as a Graduate Certificate (24 hours) or may be used as an Area of Emphasis within the M.A. in Education (36 hours). These 24 hours, plus nine additional hours in the M.A. Core and three hours in the M.A. Capstone may be used to receive the M.A. in Education.

CIME	555	Technical Mathematics for Mathematics Educators
CIME	556	Finite Mathematics for Mathematics Educators
CIME	650	Algebra for Mathematics Educators
CIME	657	Precalculus for Mathematics Educators
CIME	658	Geometry for Mathematics Educators
CIEC	534	Applications Software in the Classroom Curriculum Area (approved technology course in the M.A. Core)
CIME	670	Teaching Mathematics (approved methods course in the M.A. Core)
CIME	675	Supervised Field Practicum/Seminar in Mathematics, 5-9 OR
CIME	677	Supervised Field Practicum/Seminar in Mathematics, 5-12

TOTAL24 hrs.

Plans of study marked with an asterisk () may be used as endorsements for teaching certification. Endorsement programs are available only to teachers who hold a valid professional license in any area other than the one for which endorsement is desired.

+Plans of study marked with a plus sign (+) may be used as graduate certificate programs. Certificate coursework may be taken as a stand-alone program.

***+School Library Media Specialist:** The Area of Emphasis in Library Media provides an added endorsement for elementary and secondary teachers who have met initial licensure requirements. The program prepares K-12 teachers to manage school library media centers, collaborate with faculty to support the school curriculum and facilitate information literacy. These courses may be completed as a Graduate Certificate (21 hours) or may be used as an Area of Emphasis within the M.A. in Education (36 hours). These 21 hours, plus 12 additional hours in the M.A. Core, and three hours in the M.A. Capstone may be used to receive the M.A. in Education.

ITL	501	Libraries and the Learning Process
ITL	502	Library Materials for Adolescents
ITL	625	Library Organization and Administration
ITL	627	Cataloging and Reference for School Librarians
ITL	631	Technology and the Library
ITL	650	Library Practice (Field Work)
CIRG	613	Children's Literature

TOTAL.....21 hrs.

***+Teaching English as a Second Language (ESL):** The Area of Emphasis in Teaching English as a Second Language provides an added endorsement for elementary and secondary teachers who have met initial licensure requirements. The purpose of the program is to prepare teachers who work with learners who enter schools with a language other than English. These courses may be completed as a Graduate Certificate (21 hours) or may be used as an Area of Emphasis within the M.A. in Education (36 hours). These 21 hours, plus nine additional hours in the M.A. Core, three hours in the M.A. Capstone, and a three hour advisor approved elective may be used to receive the M.A. in Education.

CISL	550	Second Language Acquisition
CISL	551	Linguistics for ESL
CISL	552	Intercultural Communication
CISL	653	Methods and Materials for ESL: Language Development
CISL	654	Methods and Materials for ESL: Literacy Acquisition (approved methods course in the M.A. Core)
CISL	655	ESL Practicum for Teaching ESL, plus
CIEC	534	Applications Software in the Classroom Curriculum Area OR
CIEC	600	Instructional Design and Technology OR
CIEC	635	Using the Internet in the Classroom (approved technology course in the M.A. Core)

TOTAL.....21 hrs.

CERTIFICATE IN PROGRAM EVALUATION

Evaluation research—systematic research principles and procedures for determining the success of policies, programs, projects, community development and other activities—has grown exponentially over the past several decades, especially as foundations, granting agencies, non-profits, governmental and other organizations and agencies increasingly expect and require the evaluation of services, programs, and projects. The need for researchers trained in both the theories and methods of evaluation research has grown accordingly. The Certificate in Program Evaluation emphasizes the practical application of program planning, assessment, and evaluation through frames of mixed methods research, local cultural contexts, and project-based applications of skills and knowledge.

Students may apply to this certificate program as either degree or non-degree students (in either case, students must apply for the certificate through Graduate Admissions). Also, as in other certificate programs, to make an application, students must possess an undergraduate B.A. or B.S. degree from a regionally accredited college or university, with a minimum of an overall undergraduate grade point average of 2.5 on a scale of 4. No more than 3 hours of transfer credit can be applied to the proposed certificate (and the credit may not be more than 7 years old), to be applied only to the local cultural literacy/competency requirement (students may not transfer CI 627, EDF 620, or EDF 629). Students may apply credits earned in the proposed certificate to graduate degrees in GSEPD as well as in the Graduate Humanities Program as

Plans of study marked with an asterisk () may be used as endorsements for teaching certification. Endorsement programs are available only to teachers who hold a valid professional license in any area other than the one for which endorsement is desired.

+Plans of study marked with a plus sign (+) may be used as graduate certificate programs. Certificate coursework may be taken as a stand-alone program.

electives, to be determined by faculty advising students' programs of study. Credits earned in the proposed certificate can potentially be applied to professional development and other professional continuing education as well; again, depending on individual programs of study and the approval of faculty in GSEPD and/or the Graduate Humanities Program.

Curriculum for Certificate in Program Evaluation

CI	627	Program Planning and Evaluation
EDF	620	Mixed Methods Research
EDF	679	Problem Report
Local Cultural Literacy/Competency – Select one of the following:		
CULS	610	Seminar in Appalachian Culture
CULS	611	Appalachian Studies: Themes and Voices
CULS	612	Time and Place in Appalachia

LEADERSHIP STUDIES, M.A., Ed.D.

Leadership Studies, M.A.

Areas of Emphasis:

Educational Leadership (School Principal)

Justice Leadership

Leadership Specialist

Educational Leadership, Ed.D.

Graduate Certificates:

School Principalship (post-master's)

Social Service and Attendance

Licensure:

School Principalship

Social Service and Attendance

Supervisor of Instruction

School Superintendent

Program Descriptions

The Leadership Studies program offers the following degree programs:

- Master of Arts degree in Leadership Studies (M.A.) with Areas of Emphasis in Educational Leadership, Justice Leadership, Leadership Specialist
- Doctoral Degree in Education (Ed. D.) with a major in Educational Leadership with Areas of Emphasis in Higher Education Administration, Public School Administration and Community College Administration

Leadership Studies also offers professional licensure programs for School Principal, Supervisor of Instruction, School Superintendent, and Social Services and Attendance.

Leadership Studies, M.A. with Educational Leadership Area of Emphasis

The Master of Arts Degree in Leadership Studies offers an area of emphasis in Educational Leadership which includes the coursework for professional administrative licensure as a school principal. It is a portfolio-based program which requires a minimum of 36 semester hours. Courses may not be used if they are more than seven years old at the time of graduation. Students must complete all field-based experiences for courses that are transferred from other accredited institutions or programs. Students completing the program qualify for professional administrative licensure as a PreK-Adul school principal in West Virginia and Ohio. Students from other states should check with their state licensing agencies concerning licensure requirements. Those seeking professional licensure as a school principal in West Virginia must pass the PRAXIS II (5411) and also complete the Evaluation Leadership Institute offered by the West Virginia Center for Professional Development.

Admission Requirements for Educational Leadership Area of Emphasis

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

(continued)

In addition:

Each candidate for the Educational Leadership Area of Emphasis must meet all admission requirements as a degree student. Scores from the Graduate Record Examination, the Miller Analogies Test, or a previous master's degree from an accredited institution must be on file at the time of admission. Students must score at least a 40 (tested prior to October, 2004) or at least a 392 (after October, 2004) on the Miller Analogies Test. Students who take the Graduate Record Examination must have a combined score of 800 verbal and quantitative (tested prior to November, 2011) or at least a 286 (November, 2011 or after). Students must hold a Professional Teaching Certificate and have a minimum of one year of teaching experience at the time of admission to the program.

Program of Studies36 hrs

- LS 510 The Principalship
- LS 515 Instructional Leadership
- LS 520 Administration of Elementary, Middle and Secondary Schools
- LS 530 Human Relations
- LS 600 School Personnel Administration
- LS 606 Planning, Research and Evaluation for School Leaders
- LS 610 Leadership for School Improvement
- LS 612 Education Technology for Administrators
- LS 630 School and the Community
- LS 675 Legal and Policy Issues
- LS 550 Schools as Systems OR
- LS 661
- LS 685 Internship: Portfolio Assessment

Leadership Studies, M.A. with Justice Leadership Area of Emphasis

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission

In addition:

Scores from the Graduate Record Examination, the Miller Analogies Test, or a previous master's degree from an accredited institution must be on file at the time of admission. Students must score at least a 392 on the Miller Analogies Test. Students who take the Graduate Record Examination must have a combined score of 286 (verbal plus quantitative) . All degree students follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0.

Degree Requirements

All degree students follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0. Upon completion of required courses, master's degree students must participate in an externship experience, which synthesizes the content of required courses in their program of studies. A Master of Arts degree in Leadership Studies with an area of emphasis in Justice Leadership requires a minimum of 36 semester hours. A core of 15 hours in Leadership Studies is required. A block of Counseling courses consisting of 18 hours relating to the student's needs is also required.

Program of Studies 36 hrs.

- LS 632 Human Relations in the Public Sector
- LS 625 Human Resources Management
- LS 645 Community Relations in the Public Sector
- LS 615 Leadership in the Public Sector
- LS 655 Externship
- LS 690 Leadership Capstone Course

Select six (18 hrs.) from:

- COUN 555 Crisis Intervention and Conflict Resolution
- COUN 556 Death and Grief Counseling
- COUN 574 Social and Cultural Foundations
- COUN 575 Prevention and Treatment of Addictions
- COUN 641 Correctional Counseling Seminar
- COUN 654 Ecology of Domestic Violence

COUN	655	Counseling Victims, Perpetrators, and Children of Domestic Violence
COUN	682	Treatment in Trauma Recovery
COUN	683	Psychophysiology of Trauma
COUN	684	Advanced Techniques in Treatment of Trauma and Loss

Leadership Studies, M.A. with Leadership Specialist Area of Emphasis

This program is ideally suited to the needs of working professional adult students who wish to gain leadership skills, but do not want to limit their knowledge to any particular area of study.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition, applicants must have:

An undergraduate Grade Point Average (GPA) of 2.75 or higher on a 4.0 scale for all previously completed undergraduate university work.

The applicant may be granted provisional enrollment and directed to complete 12 hours of selected courses designated by the department. If a 3.25 grade point average is maintained in those courses, then the applicant will be admitted to the degree program. All degree students follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0.

Program of Studies 30 hrs.

LS	632	Human Relations in the Public Sector
LS	625	Human Resources Management
ATE	689	Grant Proposal Writing
LS	645	Community Collaborative Planning and Management
LS	615	Leadership in the Public Sector
LS	690	Leadership Capstone Course
Nine hours of electives selected to enhance student skills in specific areas:		
<i>Elective courses:</i>		
LS	640	Legal Issues for Non-Profit and Public Sector Organizations
LS	628	Leading Non-Profit and Public Sector Organizations
LS	635	Organizational Theory
LS	626	Fundraising Management

CERTIFICATE/LICENSURE PROGRAMS IN LEADERSHIP STUDIES

Certificate/Licensure in School Principalship (post-master's)

This program is designed for students who have completed a master's degree in education. Students completing the program qualify for professional administrative licensure as a PreK-Adult school principal in West Virginia and Ohio. Students from other states should check with their state licensing agency concerning licensure requirements. Those seeking professional administrative licensure as a school principal in West Virginia must pass the PRAXIS II (5411—Educational Administration and Supervision Test) and also complete the Evaluation Leadership Institute offered by the West Virginia Center for Professional Development.

Admission Requirements - Principal Licensure and Graduate Certificate Program

An applicant should enroll as a Certificate/Professional Development student and select on the application form "School Principalship."

- A student who desires admission to the Post-Master's Principal Licensure/Graduate Certificate program must have an overall Graduate Grade Point Average (GPA) of 3.0 on a 4.0 scale in an education field from an ELCC-accredited institution.
- Transcripts from the student's graduate institution(s) must be provided to Graduate Admissions at the time of application.
- Students are also required to have a Professional Teaching Certificate and a minimum of one year of teaching experience at the time of application.

Program of Studies 18 hrs.

- LS 510 The Principalship
- LS 610 Leadership for School Improvement
- LS 612 Education Technology for Administrators
- LS 630 School and the Community
- LS 675 Legal and Policy Issues
- LS 660

Certificate/Licensure in Social Service and Attendance

This program provides the required coursework for Social Service and Attendance licensure. The program is designed for educational personnel who hold a valid license, or for social workers who hold at least a bachelor's degree.

Admission Requirements – Social Service and Attendance Licensure/Graduate Certificate Program

An applicant should apply as a Certificate/Professional Development student and select on the application form “Social Service and Attendance.”

- Transcripts from the student's undergraduate institution(s) must be provided to Graduate Admissions at the time of application.
- Each candidate for the Social Services and Attendance Worker licensure must meet all admission requirements as a degree student. Scores from the Graduate Record Examination, the Miller Analogies Test, or a previous master's degree from an accredited institution must be on file at the time of admission. Students must score at least a 40 (tested prior to October 2004) or at least a 392 (after October, 2004) on the Miller Analogies Test. Students who take the Graduate Record Examination must have a combined score of 800 verbal and quantitative (tested prior to November, 2011) or at least a 286 (November, 2011 or after).
- All students follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0.

Program of Studies 12 hrs.

- COUN 670 Interventions for Current Issues in School Counseling OR
- COUN 673 Counseling Children, Adolescents, and Parents
- LS 693 School Law for Support Personnel
- LS 691 The Attendance Director
- LS 692 Internship: School Social Services

Licensure in Supervisor of Instruction

Marshall University's program is currently being revised. Contact the Leadership Studies program for information.

School Superintendent Licensure

Marshall University's program is currently being revised. Contact the Leadership Studies program for information.

LITERACY EDUCATION, M.A.

Program Description

The Master of Arts in Literacy Education consists of six foundation courses, four advanced courses, two of which are practicum experiences, and two elective courses, for a total of 36 credit hours.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission

In addition, applicants must have:

- An undergraduate Grade Point Average (GPA) of 2.7 or higher on a 4.0 scale for all previously completed undergraduate university work;
- A valid WV teaching certificate;

Program Requirements

Degree candidates follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0. The program of study includes several assessments that are completed as candidates move through the program.

A minimum of one year of teaching experience or equivalent as a long-term substitute is required by the time of program completion.

Plan of Study

A Plan of Study approved by the student's advisor must be on file with the Literacy education Program within 30 days of acceptance into the program. The Plan of Study is a student's "blueprint" for completing graduation requirements.

- CIRG 636 Developmental Reading
- CIRG 644 Content Literacy
- CIRG 615 Writing in the Literacy Curriculum
- CIRG 653 Literacy Acquisition
- CIRG 622 The Use of Technology for Literacy Instruction
- CIRG 637 Literacy Assessment
- CIRG 654 Aligning Assessment and Instruction
- CIRG 643 Teaching Struggling Readers: A Practicum
- CIRG 623 Reading Instruction for Literacy Facilitators: A Practicum
- CIRG 621 Current Issues and Problems in Reading
- Two electives, chosen in consultation with the program advisor.

This program requires six hours of supervised practicum and a series of performance assessments completed as candidates move through the program.

Ed.S. WITH AREA OF EMPHASIS IN LITERACY EDUCATION

The Graduate School of Education and Professional Development offers an Education Specialist degree (Ed.S.) with an area of emphasis in Literacy. The goal of the Education Specialist (Ed.S.) program is to provide a unified sequence of graduate studies for school and related personnel who wish to achieve proficiency beyond the master's level in Literacy Education. Please contact the Literacy Education program faculty for additional information.

Admission Requirements

Applicants must have a master's degree in an appropriate field. Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Degree Requirements

Education Specialist degree (Ed.S.) students follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0.

Core	15
LS 703 Research Design	
EDF 625 Qualitative Research in Education OR	
EDF 626 Advanced Qualitative Research in Education	
CIEC 700 Technology and Curriculum	
EDF 711 Survey Research in Education	
CI 677 Writing for Publication in Professional Education OR	
HUM 604 Expository Writing for Research	
Area of Emphasis:.....	12
CIRG 701 Literacy Education Seminar I	
CIRG 702 Literacy Education Seminar II	
CIRG 703 Literacy and Literacy-Related Tests and Techniques OR	
CIRG 704 Advanced Instructional Literacy Processes	
CIRG 707 Issues in Reading	
Capstone:	3
EDF 679 Problem Report	
TOTAL	30

ADDITIONAL LITERACY ENDORSEMENTS AND CERTIFICATES FOR TEACHERS

Teachers who want to add another teaching endorsement may do so by completing the course requirements and performance assessments, and the appropriate PRAXIS II test.

The program offers two certificate programs that support literacy education.

Programs marked with an asterisk (*) may be used as endorsements for teaching reading. Programs marked with a plus sign (+) may be used as graduate certificates.

Certificate Program Admission Requirements

Prospective certificate-only students should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the certificate they wish to pursue.

*Literacy Specialist (24 hours)

Admission to this program is suspended.

*Literacy Education (18 hours)

The Literacy Education Certificate is intended for educators who hold an initial teaching license and wish to become highly qualified teachers of reading. It consists of six courses, with embedded field-experiences and leads to a reading endorsement at either the elementary or secondary level.

Admission Requirements

1. An initial undergraduate degree in education from a regionally accredited college or university; and
2. A valid teaching license

Program Requirements

CIRG	636	Developmental Reading
CIRG	653	Literacy Acquisition
CIRG	644	Content Literacy
CIRG	615	Writing in the Literacy Curriculum
CIRG	622	The Use of Technology for Literacy Instruction
CIRG	637	Literacy Assessment

A series of performance assessments completed as candidates move through the program.

+Family Literacy (12 hours)

Admission Requirements

A relevant undergraduate degree, as determined by the Literacy Education program, from a regionally accredited college or university is needed for admission to the program.

Program Requirements

CIRG	653	Literacy Acquisition
CIRG	651	Principles of Family Literacy
CIRG	652	Implementing and Evaluating a Family Literacy Program
CI	634	Language and Cognition in Early Childhood

SCHOOL PSYCHOLOGY, Ed.S.

Program Description

The Ed.S. program in School Psychology is designed to prepare students to meet the Department of Education requirements for certification in West Virginia and other states. It is approved by the National Association of School Psychologists (NASP).

Prior to pursuing the 42 hours of required coursework and field experiences that lead to the Ed.S. in School Psychology, a student must first complete the M.A. degree in Psychology with an area of emphasis in School Psychology, described in the

Psychology section of this catalog. After successfully completing the first semester of the master's degree program, students may apply to the Ed.S. program.

Students already possessing graduate degrees in psychology, counseling or education do not need to obtain the M.A. degree in Psychology with an area of emphasis in School Psychology. When these students apply to the Ed.S. in School Psychology program, they will be considered for advanced standing based upon a review of coursework, grades, and test scores by the School Psychology faculty.

Admission Requirements

Admission is competitive because of the limited number of available internships. Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition, applicants must:

- submit a sample of their professional writing (a scholarly paper on any subject) and a statement of their professional goals (1000 words or fewer). Submit all materials to Graduate Admissions.

Creating a diverse student body is a priority and minority applicants are encouraged to apply. A limited number of graduate assistantships are available. Students can be accepted into the school psychology program throughout the school year; however, school psychology competency classes begin in the fall semester of each academic year.

Program Requirements

During the second semester in the master's degree in psychology with an emphasis in School Psychology, students will apply for admission to the Ed.S. in School Psychology program. Students are admitted to the Ed.S. program with the expectation that they will complete the program within three to five years, depending on the number of classes in which they enroll each semester. Students are expected to enroll in all three semesters. Failure to make the expected amount of progress may result in reassignment to another internship year.

The internship requires a commitment to a school system for a full academic year and is 1200 hours (12 credit hours). A maximum of 18 students will be admitted to this final-year experience. This paid internship must occur within a school setting and meet stringent criteria specified by the program and the National Association of School Psychologists. In addition, students must complete a thesis or program evaluation and earn a passing score on Praxis II Specialty Area Test in School Psychology before graduation.

Plan of Study: Ed.S. in School Psychology

Requirements:

SPSY	603	Professional Competence II: Professional School Psychology
SPSY	620	Indirect Service Delivery II: Primary Prevention
SPSY	622	Data Based Decision Making II
SPSY	624	Data Based Decision Making III
SPSY	720	Counseling with Youth: Advanced Topics
SPSY	738	School Psychology Practicum I
SPSY	739	School Psychology Practicum II
SPSY	740	School Psychology Practicum III
SPSY	745	Internship in School Psychology
SPSY	750	Research III: Thesis Research
SPSY	751	Program Evaluation
CIRG	636	Educational Foundations II: Developmental Reading
<i>Defend Thesis</i>		

Take Praxis II Specialty Examination in School Psychology

Total of 42 hours required

SPECIAL EDUCATION, M.A.

Areas of Emphasis

Autism

Deaf and Hard of Hearing

Multi-Categorical Special Education

Preschool Special Education

Teaching Visually Impaired

Admission Requirements for Special Education M.A.

All applicants (including those seeking admission as professional development (certification only), should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Applicants must:

- Have an undergraduate Grade Point Average (GPA) of 2.50 or higher on a 4.0 scale for all previously completed undergraduate university work.
- Meet *one* of the following two requirements:
 - A total of 286 on the verbal and quantitative sections of the Graduate Record Examinations (GRE) or
 - A raw score of at least 30 or a scaled score of 378 on the Miller Analogies Test (MAT)

Program Requirements for Special Education M.A.

A master's degree may be earned with a specialization in any of the Areas of Emphasis listed below. Students without a background in education must acquire certification in regular education prior to endorsement in Special Education, or they can enter the Non-Education Certification program (see Section 6 under Program of Study). The Preschool Special Education endorsement is exempt from this requirement.

Plan of Study

A Plan of Study approved by the student's advisor must be submitted for approval to the Graduate College Dean before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.

Program of Study - M.A. in Special Education

1. Master's Degree Requirements9 hrs.

- CISP 611 Special Education Research Part I
- CISP 615 Special Education Research Part II
- CISP 627 Trends and Issues in Special Education OR
- CISP 629 Special Education: Seminar

2. Special Education Core: 18 hrs.

- CISP 520 Introduction to Exceptional Children
- CIEC 534 Applications Software in the Classroom Curriculum Area
- CISP 606 Reading Strategies for Exceptional Children
- CISP 607 Math Strategies for Exceptional Children
- CIRG 644 Literacy in the Content Area
- CISP 626 Special Education: Diagnostic-Clinical Practices

3. Certification Area (select one)

Autism

- CISP 527 Introduction to Autism
- CISP 662 Instructional Characteristics of Autism
- CISP 664 Practicum in Autism

Deaf and Hard of Hearing (special education core not required)

- CIDH 501 American Sign Language (ASL) I
- CIDH 502 American Sign Language (ASL) II

	CIDH	504	Auditory Habilitation: Communication Approaches and Sensory Devices for Children with Hearing Loss	
	CIDH	505,	Introduction to Deaf and Hard of Hearing	
	CIDH	506	Curriculum and Methods for Deaf and Hard of Hearing Students	
	CIDH	601	Teaching Internship and Practicum (Deaf/Hard of Hearing) I (Residential)	
	CIDH	602	Teaching Internship and Practicum (Deaf/Hard of Hearing) I (Local School District)	
	CIDH	607,	Development and Remediation of Reading, Writing, and Discourse for the Deaf and Hard of Hearing	
	CISP	607	Math Strategies for Exceptional Students	
	CIEC	534	Applications Software in the Classroom Curriculum Area	
	Vision Impaired (special education core not required)			
	CIVI	500	Introduction to Visual Impairments	
	CIVI	501	Reading and Writing Strategies/Instruction for Students with Visual Impairments	
	CIVI	502	Structures and Functions of the Human Visual Systems	
	CIVI	503	Assessment and Program Planning of Students with Visual Impairments	
	CIVI	504	Assessment and Program Planning of Students with Visual Impairments and Additional Disabilities	
	CIVI	505	Braille	
	CIVI	600	Math Methods for Visually Impaired	
	CIVI	601	Practicum in Visual Impairment I	
	CIVI	602	Practicum in Visual Impairment II	
	CIVI	603	Basic Orientation and Mobility Skills	
	CIEC	534	Applications Software in the Classroom Curriculum Area	
	Multicategorical			
	CISP	553	Characteristics/Methods Intellectual Disabilities	
	CISP	647	Characteristics/Methods Specific Learning Disabilities	
	CISP	645	Characteristics/Methods Emotionally Disturbed	
	CISP	655	Field Experience: Multicategorical: Mild/Moderate ID	
4.	Electives.....			0 - 9 hrs.
	Total hours.....			36-39 hrs.
5.	Preschool Special Education			
	General Education:			6 hrs.
	EDF	621	Educational Research and Writing OR	
	EDF	625	Qualitative Research in Education	
	CISP	627	Trends and Issues in Special Education OR	
	CISP	629	Special Education: Seminar	
	Early Childhood Education			6 hrs.
	CI	632	Early Childhood Education: Early Childhood Programs	
	CI	634	Language and Cognition in Early Childhood	
	Special Education:			27 hrs.
	CISP	520	Introduction to Exceptional Children	
	CISP	529	Introduction to the Physically Handicapped	
	CISP	554	Working with Families of Exceptional Students	
	CISP	661	Introduction to Preschool Special Education	
	CISP	663	Developmental Issues in Preschool Special Education	
	CISP	665	Assessment in Preschool Special Education	
	CISP	666	Curriculum and Methods in Preschool Special Education	
	CISP	674	Practicum: Preschool Special Education	
Due to the nature of a student's undergraduate program the total required in Preschool Special Education may only be 36.				
	Total hours for Preschool Special Education			36 - 39 hrs.

(continued)

6. Non-Education Certification Program

The Non-Education Certification Program is designed to allow candidates from non-education backgrounds to obtain West Virginia teacher licensure in Visual Impairments, Multicategorical, and Autism at the 5-Adult level. The non-education program does not include a general education teaching endorsement.

Students must meet all Special Education Program admission requirements. In addition to the general Special Education Admission requirements, applicants must pass the Praxis I (Pre-Professional Skills Test) in Reading, Mathematics, and Writing within their first twelve hours of coursework. The Praxis I requirement is waived for applicants with an enhanced ACT score of 26 or higher, a re-centered SAT score of 1125 or higher or if the applicant holds a master's degree.

Current West Virginia Department of Education initial certification requirements also require a minimum overall GPA of 2.5, as well as a 2.5 GPA in the content specialization area. Candidates in the Non-Education Certification program must also meet the WVDE Praxis II testing requirements including the Principles of Learning and Teaching (PLT) test at the 5-9 or 7-12 levels.

In addition to the Special Education Core and Certification Area course requirements, students in the Non-Education Certification program must complete EDF 619 and EDF 616 for certification. Additional master's degree requirements are the same as for all other Special Education master's degree programs.

Additional Certification Requirements

All Special Education majors must pass the Praxis II Test in the area(s) in which they seek endorsement. The Special Education Content Specialization Test is taken at or near the end of the certification coursework in Special Education. Students should contact the Special Education Program Area for additional information about these tests.

Special Note

The reauthorization of the Individuals with Disabilities Education Act (IDEA) has strengthened the requirements in the definition of "highly qualified" for special education teachers if they provide direct instruction in core academic subject areas (English, mathematics, science, etc.). Applicants' transcripts and teacher licenses will be analyzed upon admission to determine what, if any, additional coursework may be required to meet the federal requirements.

TEACHING, M.A.T.

Post-Baccalaureate Teacher Certificate

Program Description: Master of Arts in Teaching

The Master of Arts in Teaching (M.A.T.) degree program is an alternative means for college graduates with degrees in liberal arts, fine arts, and professional fields to attain teacher certification. The program provides the professional education courses and clinical experiences, including student teaching, necessary to prepare individuals for teaching a specific content area in grades PreK-Adult, 5-Adult or 9-Adult. Program completion results in the awarding of a Master of Arts in Teaching degree. Recommendation for certification typically takes place at the same time, unless there are West Virginia Department of Education requirements still pending. Please note that the M.A.T. program does not offer certification in Elementary Education or Special Education.

Admission and Program Requirements: Master of Arts in Teaching

Candidates must request a transcript analysis through a certification officer either in Huntington or South Charleston. An unofficial copy of the transcript may be used for the analysis. The analysis will identify the courses that can be used to meet content licensure requirements and the list of additional courses needed. Candidates must have at least 50% of the required content courses.

1. Candidates deciding to apply to the program after reviewing the transcript analysis should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. Please note that all admissions documents must be submitted to Graduate Admissions before an applicant will be considered for admission.
2. In addition to university admission requirements, applicants must have an overall Grade Point Average (GPA) of 2.80 or higher on a 4.0 scale for all previously completed coursework and a GPA of 2.80 in the content area, must meet the Praxis Core requirement.
3. An applicant may qualify for an exemption of the Praxis Core if he or she has an enhanced ACT score of 26 or higher, a revised SAT score of 1170 or higher, a master's degree or higher, or has completed the Post Baccalaureate Teacher Certificate program through Marshall University and has already been granted a West Virginia Teacher License.

4. Applicants must take and pass all three subtests (reading, writing and math) of the Praxis Core prior to being admitted to the MAT program. The required Praxis Core scores are Reading = 156, Writing =162, and Math = 150.
5. Students may enroll in graduate courses only after they have been fully admitted to the university and the MAT program. All students must maintain a cumulative Grade Point Average of 3.0.
6. A Plan of Study approved by the student's advisor must be submitted for approval to the Graduate College Dean before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.
7. In the last semester of the program, students will be enrolled in EDF 677, MAT Level III Clinical Experience, a 15 week, full-time student teaching experience under the direct supervision of a certified teacher(s). Prerequisites for student teaching include the following: 3.0 GPA in all graduate MAT courses; completion of at least 90% of content courses (100% recommended); completion of EDF 537 and EDF 637, Level I and II Clinical Experiences; completion of all MAT coursework and the Praxis content test(s).
8. Before a candidate may apply for certification/licensure, he or she must take and pass the Praxis, Principles of Learning and Teaching (PLT) Grades 7-12. The PLT may be taken during or following the final semester in the MAT program.
9. Upon completion of the MAT program and all testing requirements, the student should apply for licensure. The teaching license is awarded by the West Virginia Department of Education; however, the candidate must be recommended for licensure by the institution.

Program Options and Degree Requirements: Master of Arts in Teaching

Grades PreK-Adult

- Art Education
- Japanese
- Music Education
- Wellness

Grades 5-Adult

- English
- Mathematics
- General Science
- Social Studies
- Spanish

Grades 9-Adult

- Biology
- Chemistry
- Physics

Foundations of Education and Technology..... 15 Hours

Research and Writing (3 hrs.)

EDF 621 Educational Research and Writing OR

EDF 625 Qualitative Research in Education

Social and Cultural Foundations (3 hrs.)

EDF 665 Sociology of American Schools OR

EDF 615 History of Education in the United States

Development or Psychology (3 hrs.)

EDF 616 Advanced Studies in Human Development OR

EDF 619, Educational Psychology

Instructional Technology (3 hrs.)

CIEC 534 Applications Software in the Classroom Curriculum Area OR|

CIEC 635 Using the Internet in the Classroom

(continued)

Plans of study marked with an asterisk () may be used as endorsements for teaching certification. Endorsement programs are available only to teachers who hold a valid professional license in any area other than the one for which endorsement is desired.

+Plans of study marked with a plus sign (+) may be used as graduate certificate programs. Certificate coursework may be taken as a stand-alone program.

Evaluation or Assessment (3 hrs.)

EDF 612 Educational Evaluation

Curriculum and Instruction 24 Hours

CISP 510 Intro. to Instructional Practices/Exceptional Children

CISP 520 Introduction to Exceptional Children

CI 515 Integrated Methods and Materials

EDF 537 Clinical I - Lab to accompany CI 515

EDF 637 Clinical II

CI 549 Instructional and Classroom Management in Secondary Education

CI 624 Advanced Instructional Strategies

CIRG 644 Literacy in the Content Area

*EDF 677 Clinical III - Student Teaching

In addition to the preceding courses, students must also complete all courses in their teaching specialization.

TOTAL 36 Hours

*Requires minimum of 90% completion of content courses and passing score(s) on the Praxis content examination(s).

Post-Baccalaureate Teacher Certificate Program

In West Virginia the license to teach is granted by the West Virginia Department of Education and is typically issued upon the completion of a four-year undergraduate program of study that included content and professional education courses. The Post-Baccalaureate Teacher Certificate (PBC) program offers an accelerated route to teacher certification for persons who already have undergraduate degrees in content areas such as chemistry, music, and other liberal and fine arts, or professional fields. Using the previously completed content courses as a foundation, this program provides the required professional education courses at the graduate level. Additional undergraduate classes may be needed in the content area.

Upon successful completion of the PBC program, all content courses, and testing requirements, the candidate earns a recommendation to the West Virginia Department of Education for a teaching certificate at the secondary level and is eligible to apply for a certificate from the university. The PBC does not include Elementary Education or Special Education certification.

Admission to PBC and Licensure Requirements

1. Candidates must request a transcript analysis through a certification officer either in Huntington or South Charleston. An unofficial copy of the transcript may be used for the analysis. The analysis will identify the courses that can be used to meet content licensure requirements and the list of additional courses needed. Candidates must have at least 90% of the required content courses.
2. Candidates deciding to apply to the program after reviewing the transcript analysis should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. Students should apply as Certificate/Professional Development students and select the Post-Baccalaureate Teacher Certificate on the admissions form. Please note that all admissions documents must be submitted to Graduate Admissions before an applicant will be considered for admission.
3. In addition to university admissions requirements, applicants must have an overall GPA of 2.80 and a GPA of 2.80 in the content area, and must meet the Praxis Core requirement.
4. An applicant may qualify for an exemption of the Praxis Core if he or she has an enhanced ACT score of 26 or higher, a revised SAT score of 1170 or higher, or a master's degree or higher.
5. Applicants must take and pass all three subtests (reading, writing and math) of the Praxis Core prior to being admitted to the PBC program. The required Praxis scores are Reading = 156, Writing = 162, and Math = 150.
6. Students may enroll in graduate courses only after they have been fully admitted to the PBC program. All students must maintain a cumulative Grade Point Average of 3.0.
7. In the last semester of the program students will be enrolled in EDF 677, MAT Level III Clinical Experience, a 15 week, full-time student teaching experience under the direct supervision of a certified teacher(s). Prerequisites for student teaching include the following: 3.0 GPA in all graduate PBC courses; completion of at least 90% of content courses (100% recommended); completion of EDF 537 and EDF 637, Level I and II Clinical Experiences; completion of all PBC coursework and the Praxis content test(s).

8. Before a candidate may apply for certification/licensure, he or she must take and pass the Praxis Principles of Learning and Teaching (PLT) Grades 7-12. The PLT may be taken during or following the final semester in the PBC program.
9. Upon completion of the PBC program and all testing requirements, the student should apply for licensure. The teaching license is awarded by the West Virginia Department of Education; however, the candidate must be recommended for licensure by the institution

Program Requirements

Foundations of Education.....	6 hours
EDF 616 Advanced Studies in Human Development OR	
EDF 619, Educational Psychology	
EDF 537 Clinical I - Lab to accompany EDF 616 or EDF 619	
EDF 612 Educational Evaluation OR	
EDF 636 Classroom Assessment	
Curriculum and Instruction	12 Hours
CISP 510 Intro. to Instructional Practices/Exceptional Children	
CISP 521 Children with Exceptionalities	
CIRG 644 Literacy in the Content Area	
CI 515 Integrated Methods and Materials	
EDF 637 Clinical II - Lab to accompany CI 515	
Technology.....	3 Hours
CIEC 534 Applications Software in the Classroom Curriculum Area OR	
CIEC 600 Instructional Design and Technology OR	
CIEC 635 Using the Internet in the Classroom	
Supervised Student Teaching	3 Hours
*EDF 677 Clinical III - Student Teaching	
Total	24 Hours

Eligibility for Student Teaching: Students must successfully complete the courses listed above, the appropriate Praxis content knowledge test(s), and have 90% of their content requirements completed prior to enrolling for supervised student teaching.

Eligibility for Licensure: Students must meet content requirements, professional education requirements, and testing requirements. Testing requirements include the appropriate Praxis content knowledge test(s), and the Principles of Learning and Teaching (PLT) Students who apply for licensure from the West Virginia Department of Education are required to submit to the department a fingerprint card for federal and state background checks.

Certification Options:

Art Education, grades PreK-Adult
 Biological Science, grades 9-Adult
 Chemistry, grades 9-Adult
 English, grades 5-Adult
 General Science, grades 5-Adult
 Japanese, grades PreK-Adult
 Mathematics, grades 5-Adult
 Music, grades PreK-Adult
 Physics, grades 9-Adult
 Social Studies, grades 5-Adult
 Spanish, grades 5-Adult
 Wellness, grades PreK-Adult

COMMUNICATION DISORDERS, M.S.

Program Description

The graduate program of the Department of Communication Disorders is accredited by the Council on Academic Accreditation (CAA) of the American Speech-Language-Hearing Association. The Department of Communication Disorders offers a Master of Science degree. Communication Disorders majors at the graduate level follow a prescribed program leading to eligibility for national certification in Speech-Language Pathology by the American Speech-Language-Hearing Association and licensure by the West Virginia Board of Examiners for Speech-Language Pathology and Audiology. Students wishing to be eligible for West Virginia certification as public school speech-language pathologists must also meet the requirements for such certification.

Admission Requirements

Applicants should follow the admissions process described in this catalog.

The Department of Communication Disorders at Marshall University is participating in the central application system known as CSDCAS. Applicants will apply online using the CSDCAS application. To learn more about the CSDCAS application process, visit <http://capcsd.org/csdcas/students.php>.

In addition, applicants must also meet the requirements below. All application materials, except transcripts, must be received by January 15. Transcripts must be received by CSDCAS by February 1.

1. An undergraduate degree (or pending degree) in Communication Disorders from an accredited institution is required. Students with deficits in undergraduate coursework, or those wishing public school certification, may need to complete additional requirements. Applicants must submit their most recent transcript, including grades for the fall semester that precedes the application deadline. Grades from the fall semester that precedes the application deadline may be submitted via an official or unofficial transcript, as official transcripts may not be available by the application deadline. If you will be taking Communication Disorders coursework after the date in which your transcript was submitted, provide this information, including course title(s), in your personal statement. Students admitted to the graduate program will be required to submit final transcripts following completion of the undergraduate degree.
2. An Overall and Communication Disorders Grade Point Average of at least 3.0 is required for full-time admission. A student may be admitted for provisional enrollment with an Overall or Communication Disorders GPA between 2.5 - 3.0 when the applicant possesses a degree and shows academic promise, but does not meet the criteria for full admission. Refer to the Graduate College for further explanation of "provisional enrollment."
3. All students must submit GRE Scores (within the last 5 years)
4. All students must submit a personal statement or letter of intent.
5. All students must submit three letters of recommendation from individuals who can comment on the applicant's academic and/or clinical performance and potential. At least one letter must be from one of the applicant's classroom instructors in communication disorders.

All completed applications are reviewed on an ongoing basis in the spring semester each year.

Students admitted to the program who fail to enroll in the fall semester, as well as students already in the program who fail to enroll for a semester without prior permission from their academic advisor, are considered withdrawn from the program and not eligible for future enrollment.

NOTE: Applicants who are accepted to the graduate program will be simultaneously admitted as students in the Graduate College.

International applicants will be required to submit an official TOEFL score in addition to the other requirements described for consideration. The minimum TOEFL scores to be considered for admission must be a Total Score of 89 with the minimum section requirement of "Speaking" of 26. International applicants will have to complete their credential evaluation at an approved agency to prove that their education is equivalent to the U.S. undergraduate education. Documentation will need to be submitted with the application through CSDCAS. Please visit www.marshall.edu/admissions for more information and follow the instructions on the website of Marshall University Graduate College (www.marshall.edu/graduate/admissions/international-admission)

Program Requirements

A minimum of 35 graduate credit hours of academic coursework is required in addition to clinical practicum. All practicum necessary to complete certification requirements must be completed prior to graduation. Minimum practicum

requirements include 24 hours of clinical courses. Students who are assigned clinical practicum are expected to fulfill the responsibilities of these assignments for the full semester. Students who fail to do so may not be assured of future assignments.

The student and advisor will develop a Plan of Study or blueprint for graduation requirements. The Plan of Study must be on file in the Graduate College office before the student registers for the 12th semester hour.

The Speech-Language Pathology specialty area exam of the ETS Praxis Series serves as the comprehensive examination required for all students. A score of 163 or better is considered passing and is required for graduation. In addition to the comprehensive examination, a candidate who writes a thesis will be required to pass an oral examination on the thesis.

Students should consult the department chair, their Communication Disorders academic advisor, and the clinic handbook regarding all academic and clinical requirements and standards specific to the program.

DIETETICS, M.S.

Dietetic Internship Certificate

Program Description

The mission of the Master of Science degree program is to prepare graduates to practice in advanced level professional positions in the fields of clinical nutrition, community nutrition, and/or food and nutrition management. The program offers a unique opportunity to dietetics professionals in southern West Virginia. It is open to persons who have completed a bachelor's degree in dietetics at a regionally accredited institution and have been admitted to the dietetic internship certificate program or are currently a Registered Dietitian.

Admission Requirements

Prospective students who wish to apply for admission to the master's degree program must meet the admission requirements for the internship, which are available at www.marshall.edu/dietetics. Submit official GRE scores to the Graduate Admissions Office.

Upon successful completion of the internship certificate program, students will submit an additional application requesting full admission to the master's program.

Any other prospective students must currently hold the status of Registered Dietitian through the Commission on Dietetic Registration. Admission of these students will be handled on a case-by-case basis by the department. They should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Program Requirements

Students presently enrolled in or who have completed the internship certificate program, which consists of seven courses, accumulate 21 graduate credits, which provide the basis for the master's degree. The degree consists of a total of 36 graduate credit hours.

The student and advisor will develop a Plan of Study or blueprint for graduation requirements. The Plan of Study must be on file in the Graduate College office before the student registers for the 12th semester hour.

- In addition to the internship certificate requirements, students pursuing a master's degree choose from one of three concentration areas: clinical nutrition, community nutrition, or food/nutrition management.
- Course requirements can vary and must be approved by the student's advisor.
- Students are provided with an option to complete a thesis and nine additional hours of coursework in the chosen area of concentration. Those choosing a thesis option will be required to defend the thesis orally.
- Students choosing a non-thesis option will be required to complete an additional 15 hours of coursework in the chosen concentration and to sit for a written comprehensive examination in their final semester.

For specific course requirements, prospective students should consult the department chair for further details.

Good Standing

In addition to the requirements listed in the Graduate College's standards for Good Standing, a student pursuing a degree in Dietetics will:

- Maintain a GPA of 3.0 or higher and receive a score of satisfactory or better on all preceptor evaluations, when applicable.

Dietetic Internship Certificate

A post-baccalaureate certificate program to qualify to take the registration exam to become a Registered Dietitian (RD) is available. Students who have an undergraduate major in dietetics may be selected to enroll in the Accredited Dietetic Internship Program to receive the supervised practice component required before taking the exam. Enrollment is by a selective, competitive process. The internship has been granted full accreditation by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, telephone 312-899-4876.

Detailed internship information is available at www.marshall.edu/dietetics.

HEALTH INFORMATICS, M.S.

Program Mission

The mission of the Master of Science in Health Informatics (MSHI) program is to provide students with high quality education and training that will make them valuable employees in today's data- and information-driven health care enterprises.

The relevance of this mission is reflected in the fact that health informatics professionals are in great demand. According to the U.S. Bureau of Labor Statistics, 10 of the 20 fastest growing occupations in the country are concentrated in health care services, making it an ideal career field for people who are looking for a growth opportunity and enjoy helping people (www.bls.gov)

With the health care environment enjoying such growth, this has a direct impact on the demand for health informatics professionals in the United States; this area is expected to see an 18 percent increase in the number of jobs available through 2016. With the 2010 enactment of the Affordable Care Act (ACA) and the Federal Government mandate that every U.S. citizen have an electronic health record (EHR) by 2015, together with the 2009 American Recovery and Reinvestment Act (ARRA) via the associated Health Information Technology Economic and Clinical Health (HITECH) Act, and the requirement by the federal government that each state develop a Health Information Exchange in order to become part of a vast electronic national health information infrastructure, the health informatics job growth rate will undoubtedly only continue to increase.

Accreditation

The Master of Science in Health Informatics is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). Currently, it is one of first three nationally accredited programs in the United States. It is also the only accredited, graduate-level program in health informatics in the state of West Virginia.

Other Recognition

The Master's in Health Informatics at Marshall University is ranked #1 on the "Top 25 Master's in Healthcare Informatics Degrees Ranked by Affordability 2014." In order to be eligible for the ranking, a health informatics program must meet two of three standards of high overall program quality. For more information, see <http://mba-healthcare-management.com/best/masters-healthcare-informatics>.

Program Description

Health Informatics is a cutting-edge, multidisciplinary profession that utilizes information technologies, informatics and information systems and integrates them into the health care arena; it is the science that defines how health information is technically captured, transmitted and utilized, consisting of 3 core areas:

- **Information Systems** – focuses on such issues as information systems analysis, design, implementation, management and leadership;
- **Informatics** – focuses on the study of structure, function and transfer of information, socio-technical aspects of health computing, and human-computer interaction;
- **Information Technology** – focuses on computer networks, database and systems administration, security and programming

The MSHI program is a highly integrated academic initiative comprising three colleges:

- College of Health Professions
- College of Business
- College of Information Technology and Engineering

The combination of skills and knowledge acquired through coursework in these three colleges, together with student internships in the health informatics field at the academic, government or industry levels, provides students with the high quality multidisciplinary education and real-world training that will result in valuable employees who are well prepared for the multifaceted demands and complexities in today's data- and information-driven health care enterprises.

The program requires at least 4 semesters of coursework, including an educationally directed practicum (Health Informatics Internship) experience. The total number of credits includes at least 39 post-baccalaureate hours of study. Because this graduate degree focuses both on didactic and clinical applications, the program is a combination of classroom and clinical application credits. Graduate-level credits will be provided for the supervised practicum.

For more information regarding the Master of Science in Health Informatics program at Marshall University, please visit the health informatics website at www.marshall.edu/cohp/index.php/departments/health-informatics/programs2.

Admission Requirements

Applicants should follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. (Submit all materials to the Graduate Admissions Office.)

- Students must have an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale from their undergraduate degree granting institution
- Students must have GRE scores from GRE tests taken within the past five years.

Conditional Admission

If an applicant meets the minimum GPA requirements, but has not taken the GRE within the last 5 years, he or she can be conditionally admitted and enroll for one term, with the requirement that the GRE will be taken during the first semester following admission.

Provisional Admission

The Health Informatics program may admit applicants provisionally, on a limited basis at the discretion of the program director. Example: If a student does not meet the GPA admission requirement, but believes he or she had the necessary qualifications to succeed in the Health Informatics program, he or she may still be accepted at the discretion of the program director.

Program Requirements: 39 hrs.

NOTE: A students may be advised to take additional foundational informatics courses, such as medical terminology, databases, biostatistics, etc., if .the student has no prior experience in those areas.

Students must take courses from 3 colleges:

College of Health Professions Courses.....15-19 hrs.

HP	605	The Role of EHR and PHR.
HP	615	Health Quality and Safety
HP	650	Health Informatics Practicum
HP	620	Legal and Regulatory Environment for Health Care and Informatics
HP	630	Research Methods and Data Analytics for Health Informatics
HP	685-688	Independent Study (1-4 hrs.)

College of Business Courses12 hrs.

MIS	678	Management Information Systems
HCA	600	The Health Care System
HCA	656	Management of Health Care Technology and Information Systems
MIS	680	Health Care Communications Technology and Telematics.

College of Information Technology and Engineering Courses12 hrs.

IS	623:	Database Management.
EM	660:	Project Management
IS	665:	Health Informatics; or elective
TM	664:	Health Informatics

Health Informatics Practicum

MSHI students will be required to complete the Health Informatics Practicum (HP 650), which includes successfully completing at least 400 hours in an educationally directed Health Informatics internship at one of several Health Informatics job sites which have been approved by the MSHI program director. The student internships consist of job placements within the Health Informatics field at academic, government or healthcare industry levels.

Besides successful completion of the required health informatics courses at MU, graduation from the MSHI program will be contingent upon successfully completing the HP 650 Practicum. For more details about the practicum, see the MSHI Practicum Web page.

KINESIOLOGY

Athletic Training (Professional), M.S.

Biomechanics, M.S.

Exercise Science, M.S.

Areas of Emphasis

Athletic Training

Cardiometabolic Rehabilitation

Exercise Physiology and Human Performance

Sport Administration, M.S.

Areas of Emphasis

Recreation and Physical Activity

Sport Management

Minor in Sport Studies

The School of Kinesiology offers graduate degrees in Athletic Training (M.S.), Biomechanics (M.S.), Exercise Science (M.S.) and Sport Administration (M.S.) The Sport Administration degree program offers two areas of emphasis: Sport Management; and Recreation and Physical Activity.

All degree programs require from 32 to 39 hours and successful completion of an oral comprehensive examination or thesis defense. Thesis and non-thesis options are available in the Exercise Science and Sport Administration programs.

Admission requirements are different for the degree programs. A personal interview may be required. Provisional admission to a program is possible, and will be considered on an individual basis. (See definition of Provisional Admission in this catalog) All students applying to the Exercise Science, M.S. program must have successfully completed an undergraduate course in either exercise physiology or human physiology. Applicants lacking these courses may be provisionally admitted and must complete required undergraduate courses within the first 12 hours of graduate coursework. Students are limited to twelve semester hours of transfer credit from other institutions, and limited to a maximum of nine semester hours taught at the 500 level.

Professional Master of Science - Athletic Training (PMAT)

The Marshall University Athletic Training Program (ATP) is fully accredited by the CAATE (Commission on Accreditation of Athletic Training Education; www.caate.net). It is a rigorous academic program that includes coursework in athletic training, anatomy, physiology, exercise physiology, psychology, and other science-related courses. The multifaceted program blends classroom instruction with clinical rotations, where students obtain real life experience working hands-on with certified athletic trainers, physicians, physical therapists, and other allied health care professionals to provide patient care. The rigorous curriculum prepares students to take the national BOC board exam (Board of Certification Exam; www.bocatac.org) to practice as entry-level professionals. This program is NOT a Post-Professional master's degree available to students who are already eligible for BOC certification or currently certified by the BOC. A degree in Athletic Training and BOC certification offer a graduate opportunities to practice in a variety of clinical settings. These settings include, but are not limited to, high school, college and professional athletics; outpatient clinics; industrial rehabilitation sites; physician practices; the performing arts; safety settings, and higher education.

The PMAT is a 3-2 program, allowing current Marshall University students to apply after their 3rd year of undergraduate studies and to graduate two years later (5 years total) with both bachelor's and master's degrees. Additionally, students who hold a bachelor's degree from either Marshall or another accredited institution can also apply and complete the Professional Master of Science in Athletic Training program. Both routes prepare students to take the national BOC board exam. Acceptance into the PMAT program is competitive and separate from acceptance to Marshall University.

Admission Criteria

Acceptance into the Professional Master of Science in Athletic Training program is competitive and not guaranteed. Prospective students must meet the minimum criteria listed that follow to be considered for admission to the program:

- Admission to Marshall University;
- An overall cumulative minimum GPA of 2.75;
- A letter grade of C or better on all prerequisite coursework
- Submit by February 15 all forms and supporting documentation to apply to the PMAT (NOTE: refer to the current edition of the Athletic Training Program Policies and Procedures Manual for information regarding the application and admission requirements)
- Directed observation clinical experience (NOTE: refer to the current edition of the Athletic Training Program Policies and Procedures Manual for details regarding the requirements for this DO clinical experience)
- Successful interview (Interviews are extended in March)
- Ability to meet the Technical Standards of Admission documented by a licensed physician

Prerequisites - Provisional Admission Criteria

Prospective students must have taken or be currently enrolled in the following courses when applying to the PMAT program. All students applying in their 3rd year from Marshall University must have all Core I, Core II, and a minimum of 90 credit hours completed by the end of the application semester, including the below prerequisite courses.:

- Anatomy and physiology (6-8 cr.)
- Introduction to Athletic Training/Prevention and Care of Athletic Injuries (3 cr.)
- Exercise physiology (3-4 cr.)
- First Aid and CPR; must also hold current First Aid and CPR healthcare provider or professional rescuer certifications (1 -3 cr.)
- General psychology (3cr.)
- Kinesiology or biomechanics (3-4 cr.)
- Nutrition (3 cr.)
- Personal Health/Wellness (2-3 cr.)
- Statistical methods (3 cr.)
- Medical terminology (2-3 cr.)

Athletic Training Core

HS	512	Foundational Clinical Skills in Athletic Training (3 cr.)
HS	515	Athletic Training Clinical Experience I (1 cr.)
HS	523	Orthopedic Assessment of the Upper Extremity for Athletic Trainers (4 cr.)
HS	524	Orthopedic Assessment of the Lower Extremity for Athletic Trainers (4 cr.)
HS	525	Athletic Training Clinical Experience II (3 cr.)
HS	548	Therapeutic Interventions in Athletic Training I (4 cr.)
HS	549	Therapeutic Interventions in Athletic Training II (4 cr.)
HS	609	Organization and Administration in Athletic Training (3 cr.)
HS	630	Seminar in Athletic Training (3 cr.)
HS	634	Athletic Training Externship (3 cr.)
HS	639	Examination of General Medical Conditions (3 cr.)
HS	645	Athletic Training Clinical Experience III (3 cr.)
HS	655	Athletic Training Clinical Experience IV (3 cr.)
HS	679	Trends in Athletic Training (3 cr.)
HS	681	Graduate Project in Athletic Training (3 cr.)
ESS	670	Research Methods (3 cr.)

Students choose two courses (6 hours) from the below list of courses:

HS	566	Biomechanical Analysis (3 cr.)
ESS	636	Structural Kinesiology (3 cr.)
ESS	642	Advanced Training and Conditioning (3 cr.)
HS/ESS Elective (3 cr. at 600 level)		

Additional Requirements

- BOC Exam registration
- 3.0 overall GPA and no more than 6 hours of *C* and no grades below *C* may be applied toward a graduate degree
- Completion of all Athletic Training Clinical Experience courses with a letter grade of *B* or better

Biomechanics

Program Description

Biomechanics is the study of forces and their effects on living systems. Biomechanics provides advanced knowledge in biomechanics particularly related to performance enhancement and injury prevention. Students focus their academic course work on developing the ability to understand and apply the principles of biomechanics when serving as a movement analyst in competitive and recreational sport situations, as well as in the workplace.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Prospective students wishing to enter Biomechanics at MU must meet all MU admission criteria for the graduate level and be fully admitted to the MU graduate program. In addition to the MU graduate college admission criteria, all students must apply to the College of Health Professions Biomechanics program. Completion of the undergraduate degree at MU does not guarantee admission to the M.S. program; however, preference will be given to Marshall alumni if all things are equal. Additional admission requirements exist for the M.S. in Biomechanics program (see below).

Students may enter the program in three ways: 1) at the completion of a bachelor's degree, 2) transfer from another accredited university or school of higher learning, or, 3) after the junior year of a B.S. degree program with permission of the dean of the College of Health Professions (MU students only). Criteria for admission will match the MU standards for admission to graduate programs. Specifically, a student who desires admission as a degree-seeking graduate student must have an overall undergraduate Grade Point Average (GPA) of at least 2.75 on a 4.0 scale and must submit GRE scores and three letters of reference. To continue in the M.S. in Biomechanics program, students are required to maintain a 3.0 GPA in all coursework.

Program Requirements

The M.S. in Biomechanics will consist of at least 36 post-baccalaureate credit hours that will be taken in a prescribed sequence to be developed by the student's graduate committee advisor. Students without a background in biomechanics will be advised to take additional foundation biomechanical courses. The Master of Science program consists of the following coursework:

Required

EDF	517	Statistical Methods
ESS	670	Research in Physical Education
HS	610	Advanced Biomechanics
HS	615	Mechanical Analysis
HS	635	Research Methods for Biomechanics
HS	650	Gait
HS	681	Thesis or HS 660, Internship

Electives (12 hours)

These are only suggested courses. Some course may require permission from the instructor prior to enrollment. All prerequisites must be met.

ESS	578	Exercise Metabolism
ESS	601	Advanced Exercise Testing
ESS	621	Exercise Physiology I
ESS	636	Structural Kinesiology
ESS	642	Devising and Implementing Training and Conditioning Programs
ESS	651	Mechanical Analysis of Motor Skills
ESS	670	Research in Kinesiology
HP	605	Medical Vocabularies and Classification Systems
ESS	644	Cardiovascular Exercise Physiology

ESS	645	Respiratory Exercise Physiology
ACB	620	Gross Anatomy/Embryology
BMS	600	Foundations of Biomedical Science
BMS	628	Neuroscience I
BMS	629	Neuroscience II
BMS	630	Neuroscience
BMS	632	Neuroscience Research Techniques
DTS	670	Advanced Medical Nutrition Therapy I
EDF	616	Advanced Studies in Human Development
EDF	617	Multiple Regression
MTH	518	Biostatistics
MPNA	724	Evidence-Based Research Methods I
MPNA	725	Evidence-Based Research Methods II
MPNA	726	Statistical Methods for Research
SFT	560	Fundamentals of Ergonomics
SFT	610	Concepts in Occupational Safety and Health
SFT	630	Research in Occupational Safety and Health
SFT	645	Safety Engineering and Equipment Design
SFT	660	Human Factors in Accident Prevention

Thesis or Comprehensive Examination

The thesis project is a collaborative academic effort between the student and the faculty of the School of Kinesiology. The student can receive up to 6 credit hours toward his or her 36 credit hour degree requirement. The thesis project and oral defense of the student's thesis project must occur prior to the completion of the student's final semester in the program. The thesis project needs to reflect an effort that is at least equivalent to the 6 credit hours and is to be completed over 2 or more semesters.

As an alternative to a thesis project, a student can choose to take a written/oral comprehensive examination. The comprehensive examination will consist of responses to written and verbal questions that are prepared by select faculty members of the School of Kinesiology.

Exercise Science

Program Description

The M.S. in Exercise Science prepares students for allied health careers in the clinical, commercial, corporate, community, university, and medical settings. Options include an emphasis on leadership roles and skills that permit one to work with individuals on a client/patient continuum extending from the elite athlete to those with chronic diseases, to the recreational athlete and those simply wishing to stay healthy by living sensibly. Options include careers in cardiopulmonary rehabilitation and diabetes management programs as well as athletic training, exercise physiology, and other health related fields such as physical therapy, pharmaceutical and pacemaker sales. This program also prepares students to enter pre-professional schools for physician assistants, and physicians. Graduates from the M.S. in Exercise Science are also prepared to pursue studies for advanced degree in related doctoral programs.

The course of study for the M.S. in Exercise Science degree is a two-year program with a 36-hour requirement.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition (submit all materials directly to Graduate Admissions office):

- an undergraduate Grade Point Average (GPA) of 2.75 or higher on a 4.0 scale for all previously completed undergraduate university work;
- an appropriate undergraduate/graduate background that includes anatomy, physiology, and exercise physiology;
- Graduate Record Exam scores or MCAT scores;
- three letters of reference.

Program Requirements

Core

ESS	578	Exercise Metabolism
ESS	601	Advanced Exercise Testing

(continued)

ESS	642	Devising and Implementing Training and Conditioning Programs
ESS	670	Research in Kinesiology
BSC	517	Statistical Methods or equivalent

Students must choose one of the following Areas of Emphasis:

- i. Athletic Training (21 hours)
 - HS 625 Evidence-Based Practice in Therapeutic Electrophysical Agents
 - HS 630 Seminar in Athletic Training
 - HS 646 Athletic Training I
 - HS 647 Athletic Training II
 - Advisor-approved, 3-hour elective
 - ESS 681 Thesis OR 6 hours of advisor-approved electives and omprehensive examinations
- ii. Cardiometabolic Rehabilitation (21 hours)
 - ESS 621 Exercise Physiology 1 (Cardiorespirator and Metabolic Adaptation)
 - ESS 623 Advanced Exercise Physiology (Neuromuscular and Environmental Adaptation)
 - ESS 660 Internship
 - ESS 682 Health Promotion, Disease Prevention, and Rehabilitation: Clinical Perspectives
 - Electives:* Choose 6 hours from the following or other approved courses:
 - ESS 644 Cardiovascular Exercise Physiology
 - ESS 645 Respiratory Exercise Physiology
 - ESS 683 Cardiovascular Assessment
- iii. Exercise Physiology and Human Performance (21 hours)

The Exercise Physiology and Human Performance track prepares a student to work in performance enhancement, fitness, and weight loss industries as an exercise professional who specializes in applying the integrated sciences of biochemistry, biomechanics, and physiology to the athletic and adult fitness populations.

 - ESS 621 Exercise Physiology 1 (Cardiorespiratory & Metabolic Adaptation)
 - ESS 623 Advanced Exercise Physiology 2 (Neuromusc. and Environmental Adaptation)
 - ESS 683 Cardiovascular Assessment
 - HS 566 Biomechanical Analysis of Movement OR
 - HS 610 Advanced Biomechanics
 - ESS 660 Internship OR
 - ESS 681 Thesis
 - Advisor-approved, 3-hour elective

Sport Administration

Program Description

The Sport Administration M.S. degree is a program in the School of Kinesiology with areas of emphasis in Sport Management or Recreation and Physical Activity. Graduates of this program are prepared to work in a variety of settings.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

For **Full Admission** (submit all materials directly to Graduate Admissions office):

Option 1:

- an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate university work;
- at least a 295 combined score on verbal and quantitative reasoning on the GRE or at least 500 on the GMAT.

Option 2:

- If an applicant obtains an undergraduate Grade Point Average (GPA) of 3.3 or higher on a 4.0 scale for all previously completed undergraduate university work, the admissions examination of GRE or GMAT requirement may be waived.

A limited number of students may be admitted provisionally (see definition of Provisional Admission in this catalog):

- an undergraduate Grade Point Average (GPA) of 2.75 or higher on a 4.0 scale for all previously completed undergraduate university work;
- at least a 285 combined score on verbal and quantitative reasoning on the GRE or at least 500 on the GMAT.

Program Requirements

If the thesis option is selected, the student must complete 32 hours, of which six hours are for the thesis. The non-thesis option requires the completion of 36 hours. However, both options require the successful passing of an oral comprehensive examination or thesis defense. Programs illustrated below are the non-thesis option.

Sport Management Area of Emphasis

Core

ESS	615	Legal Concern in PE and Athletics
ESS	652	Organizational Behavior of Sport and Leisure Industry
ESS	674	Sport Finance/Economics
ESS	675	Marketing Management of Sport Industry

Research

ESS	671	Research Methods in Sport Studies
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Statistics

EDF	517	Statistical Methods OR
MGT	500	Analytical Methods and Techniques OR
MGT	601	Quantitative Methods for Business OR
PSY	517	Intermediate Behavioral Statistics OR
Equivalent		

Internship

ESS	660	Internship
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Restricted Electives (9 hrs.)

ESS	511	Ethics in Sport
ESS	516	Planning and Developing HPER and Athletic Facilities
ESS	540	Women in Sport
ESS	575	Seminar in Sports Management and Marketing
ESS	624	Issues in Physical Education
ESS	643	Sport in the Social Process
ESS	696	Seminar in Physical Education

Or selected courses with the approval of advisor.

External Electives

Graduate School of Management courses
or selected courses with the approval of advisor, 6 hrs.

Recreation & Physical Activity Area of Emphasis36 Hours

Core

ESS	615	Legal Concern in PE and Athletics
ESS	652	Organizational Behavior of Sport and Leisure Industry
ESS	674	Sport Finance/Economics
ESS	675	Marketing Management of Sport Industry

Research

ESS	671	Research Methods in Sport Studies
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Statistics

EDF	517	Statistical Methods OR
MGT	500	Analytical Methods and Techniques OR
MGT	601	Quantitative Methods for Business OR
PSY	517	Intermediate Behavioral Statistics OR
Equivalent		

(continued)

Internship

ESS 660 Internship

Restricted Electives (15 hours)

ESS 511 Ethics in Sport

ESS 516 Planning and Developing HPER and Athletic Facilities

ESS 540 Women in Sport

ESS 575 Seminar in Sports Management and Marketing

ESS 624 Issues in Physical Education

ESS 643 Sport in the Social Process

ESS 696 Seminar in Physical Education

Or selected courses with the approval of advisor.

External Electives

Selected courses with the approval of advisor, 6 hrs.

Minor in Sport Studies

Interested students should contact the director of the Sport Administration program.

NURSING, M.S.N.

Areas of Emphasis

Family Nurse Practitioner

Nursing Administration

Nursing Education

Nurse-Midwifery (collaborative program with Shenandoah University)

Psychiatric Mental Health Nurse Practitioner

(collaborative program with Shenandoah University)

Graduate Certificates

Family Nurse Practitioner (post master's)

Nursing Administration (post master's)

Nursing Education (post master's)

Program Description

The purpose of this program is to prepare graduates for advanced practice nursing, as family nurse practitioners, nurse educators, or nurse managers. In addition, in collaboration with Shenandoah University, the program offers students the opportunity to become nurse midwives or psychiatric mental health nurse practitioners.

Coursework in the Master of Science in Nursing program incorporates the classroom, laboratory, and clinical modes of instruction. All nursing students have experiences with rural and/or underserved populations as part of the state initiatives for primary health care. The Master of Science in Nursing program requires the completion of a minimum of 41 credit hours for the family nurse practitioner (MSN-FNP) area of emphasis, 36 credit hours for the nursing administration (MSN-NA) and nursing education (MSN-NE) areas of emphasis, 44 credit hours for the nurse-midwifery (MSN-NM) area of emphasis, and 52 credits for psychiatric mental health nurse (MSN-PMHNP) practitioners.

Certifications

Upon successful completion of the MSN-FNP program, graduates are eligible to take the American Academy of Nurse Practitioners (AANP) Certification Examination for Adult and Family Nurse Practitioners and/or the American Nurses' Credentialing Center (ANCC) Certification for Family Nurse Practitioners. Graduates of the MSN-NA program are eligible to take the ANCC Certification Examination for Nursing Administration or Nursing Administration Advanced, depending on their experience and stage of professional development. Graduates of the Nursing Education (MSN-NE) program are eligible to take the National League for Nursing Certified Nurse Educator Examination. Nurse-Midwifery (MSN-NM) graduates are eligible to take the American Midwife Certification Board Exam. MSN-PMHNP graduates are eligible to take the ANCC Family Psychiatric Mental Health Nurse Practitioner Certification Exam.

The MSN program purpose is achieved through three program components.

1. The core component (12 credits) focuses on knowledge and skills related to nursing theory, advanced nursing research, leadership, and health care issues.
2. The area of emphasis component (18 to 35 credits) allows the student to specialize in a particular area. The family nurse practitioner area of emphasis (29 credits) provides students with the opportunity to develop competency as a family nurse practitioner. The nursing administration area of emphasis (18 credits) provides students with the opportunity to acquire knowledge and skills necessary to administer/manage rural/underserved primary care agencies, home health care, and other health care agencies or units. The nursing education area of emphasis (21 credits) gives the student the opportunity to gain the knowledge and skills necessary to be a nurse educator. The nurse-midwifery area of emphasis (32 credits) provides knowledge and skills to practice as a nurse-midwife. The psychiatric mental health nurse practitioner provides the student the opportunity to develop competency as psychiatric mental health nurse practitioner (35 credits).
3. The elective component (6 credits) allows students to choose one of four options: 1) thesis, 2) role development courses in teaching, or 3) elective courses related to the student's area of interest, or 4) organizational dynamics or financial strategies in administration.

The M.S.N. program must be completed in a period not to exceed 7 calendar years from the date of first class enrollment.

Accreditation

The Master of Science in Nursing program is accredited by the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; phone, 404-975-5000; fax, 404-975-5020; Web, www.acenursing.org. In addition, the ACEN is a source for information regarding tuition, fees, and length of the program.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Students must also submit a separate application to the MSN program at www.marshall.edu/cohp.

Deadline

Completed application by September 15 and March 15 of each year.

In addition:

The nursing program is available to a limited number of qualified applicants. Admission is determined on a competitive basis. To be eligible for regular admission to the program, applicants must meet the following admission requirements:

1. Baccalaureate degree with a major in nursing from an ACEN- or CCNE-accredited program, if nursing degree is from a school of nursing in the United States. Baccalaureate degree with a major in nursing for students graduating from an international school of nursing (accredited program requirement is waived for students graduating from an international school of nursing).
2. Baccalaureate degree with a major in nursing and a master's degree in any field.
3. Undergraduate course credit for 3 semester hours of basic statistics with a grade of "C" or better.
4. Undergraduate course credit for 3 semester hours of basic research with a grade of "C" or better.
5. Evidence of a current unencumbered license as a registered nurse in a U.S. jurisdiction. Verification form is included in the MSN application package.
6. Scholastic achievement as evidenced by an overall undergraduate/graduate Grade Point Average of 3.0 or higher.
7. It is strongly recommended that all MSN students have two years of full-time nursing practice prior to application to the program. Those who do not meet this criterion will be considered on an individual basis.
8. Midwifery and psychiatric mental health applicants must have an interview with Shenandoah University faculty prior to the application deadline.

An applicant with a master's in nursing is eligible to be admitted as a post-master's student depending on space availability.

Program Requirements

The student and advisor will develop a Plan of Study or blueprint for graduation requirements. The Plan of Study must be on file in the Graduate College office before the student registers for the 12th semester hour.

(continued)

Course Requirements: Family Nurse Practitioner

Core Component Courses (12 credits)

NUR	602	Theoretical Foundations in Nursing
NUR	604	Leadership in Nursing
NUR	606	Advanced Nursing Research
NUR	608	Issues in Health Care

Area of Emphasis Component Courses (29 credits)

NUR	620	Advanced Pathophysiology I
NUR	621	Advanced Pathophysiology II
NUR	622	Advanced Physical Assessment
NUR	624	Advanced Family Nursing Practice I
NUR	626	Advanced Family Nursing Practice II
NUR	663	Advanced Pharmacology I
NUR	664	Advanced Pharmacology II
NUR	695	Internship: Advanced Family Nursing

TOTAL CREDITS41**Course Requirements: Nursing Administration**

Core Component Courses (12 credits)

NUR	602	Theoretical Foundations in Nursing
NUR	604	Leadership in Nursing
NUR	606	Advanced Nursing Research
NUR	608	Issues in Health Care

Area of Emphasis Component Courses (18 credits)

NUR	642	Organizational Dynamics in Nursing
NUR	644	Financial Strategies in Nursing Administration
NUR	646	Nursing Management in Health Care Settings I
NUR	648	Nursing Management in Health Care Settings II

Elective Component Courses (Select 6 credits from the following offerings)

NUR	681	Thesis
NUR	616	Curriculum Development in Nursing
NUR	618	Teaching in Nursing
Other Electives		

TOTAL CREDITS36**Course Requirements: Nursing Education**

Core Component Courses (12 credits)

NUR	602	Theoretical Foundations in Nursing
NUR	604	Leadership in Nursing
NUR	606	Advanced Nursing Research
NUR	608	Issues in Health Care

Area of Concentration Component Courses (18 credits)

NUR	616	Curriculum Development in Nursing
NUR	618	Teaching in Nursing
NUR	619	Practicum: Teaching in Nursing
EDF	636	Classroom Assessment
CIEC	600	Computing and Instructional Design
EDF	619	Educational Psychology

Elective Course Options (3 credits from the following offerings)

NUR 681 Thesis

OR Other Electives

TOTAL CREDITS.....36

Course Requirements: Nurse-Midwifery (offered in cooperation with Shenandoah University)

Core and Related Courses at Marshall University (25 credits)

NUR 602 Theoretical Foundations in Nursing

NUR 604 Leadership in Nursing

NUR 606 Advanced Nursing Research

NUR 608 Issues in Health Care

NUR 620 Advanced Pathophysiology I

NUR 621 Advanced Pathophysiology II

NUR 622 Advanced Physical Assessment

NUR 663 Advanced Pharmacology I

NUR 664 Advanced Pharmacology II

Once the student has successfully completed his or her 25 credit hours at Marshall University, the student will transfer to Shenandoah University to obtain an additional 19 credit hours of classroom and clinical midwifery courses. The student will spend one week at the beginning of each semester at Shenandoah and then return to rural WV to be placed with a preceptor to obtain the clinical portion of the program. The student will continue to receive didactic material from Shenandoah midwifery faculty.

Advanced Practice Midwifery Courses at Shenandoah University (19 credits) *Hours*

NM 610 Primary Care of Women

NM 620 Comprehensive Antepartal Care

NM 630 Midwifery Practicum

NM 640 Comprehensive Perinatal Care

NMLB 651 Integrated Midwifery Internship

NM 652 Evidence-Based Practice Project

NM 660 Advanced Nurse-Midwifery Role Development

TOTAL CREDITS.....44

Upon successful completion of the 19 credit hours at Shenandoah, the student transfers these 19 hours to Marshall University. The student will receive an M.S.N. from Marshall University and a certificate in Nurse-Midwifery from Shenandoah University. The student is then eligible to take the Certified Nurse Midwifery Exam from the American Midwives Certification.

Course Requirements: Psychiatric Mental Health Nurse Practitioner (offered in cooperation with Shenandoah University)

The curriculum will consist of 52 credit hours: 25 of these hours will be taken in Marshall University's School of Nursing MSN program; and 27 credit hours will be taken from Shenandoah University's Division of Nursing.

Core and Related Courses at Marshall University (25 credits)

NUR 602 Theoretical Foundations in Nursing

NUR 604 Leadership in Nursing

NUR 606 Advanced Nursing Research

NUR 608 Issues in Health Care

NUR 620 Advanced Pathophysiology I

NUR 621 Advanced Pathophysiology II

NUR 622 Advanced Physical Assessment

NUR 663 Advanced Pharmacology I

NUR 664 Advanced Pharmacology II

(continued)

Students will meet all Marshall University School of Nursing and Shenandoah University admissions requirements; including an interview by SU psychiatric mental health nurse faculty. Students will take the above courses at Marshall University and the PMHNP courses at Shenandoah University.

SU will offer 27 hours of courses, all offered through SU psychiatric mental health nurse faculty. Students enrolled in the PMHNP will attend PMHNP classes at Shenandoah University after attending the core graduate courses at Marshall University.

The PMHNP curriculum allows students to attend classes during concentrated times (2 weekends a semester). The remaining weeks of the semester, students are placed with clinical preceptors to apply what they have learned in the didactic portion of the course(s). Students then return to campus for examinations, or arrange for a proctored examination. Twenty three credit hours will be transferred from SU to Marshall University.

Psychiatric Mental Health Nurse Practitioner courses at Shenandoah University (27 credits)

NP	599	Pharmacology and Therapeutics Independent Study
PMH	645	Individual Therapy Theories
PMH	650	Individual Therapy Practicum
PMH	665	Group, Family, Community Theory
PMH	670	Group, Family, Community Practicum
PMH	685	Geriatric PMH Nursing
PMH	686	Child and Adolescent Nursing
PMH	695	Advanced NP Practicum in PMH Nursing
HP	576	Substance and Relationship Abuse
NP	690	Advanced NP Role Development

TOTAL CREDITS (including core and related courses).....52

Upon successful completion of the 27 credit hours at Shenandoah, the student transfers these 27 hours to Marshall University. The student will receive an M.S.N. from Marshall University and a certificate from Shenandoah University.

Admission Requirements for Post Master's Certificates

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Students must also submit a separate application to the MSN program at www.marshall.edu/cohp.

In addition: The Post Master's Certificate program is available to a limited number of qualified applicants. Admission is determined on a competitive basis. Applicants must meet the following minimum requirements.

1. Master of Science in Nursing from an ACEN- or CCNE-accredited program. Applicants who are graduates of programs outside the ACEN or CCNE jurisdictions will be evaluated on an individual basis.
2. Evidence of a current unencumbered license as a registered nurse in a U.S. jurisdiction. Verification form is included in the MSN application package.

POST MASTER'S CERTIFICATE IN NURSING ADMINISTRATION PROGRAM

The purpose of the Post Master's Certificate in Nursing Administration program is to prepare nurses who have Master of Science in Nursing degrees as nurse administrators. The graduates of this program are eligible to take the American Nurses' Credentialing Center Certification Examination for Nursing Administration or Nursing Administration Advanced.

Course Requirements: Post Master's Certificate in Nursing Administration Program

NUR	642	Organizational Dynamics
NUR	644	Financial Strategies
NUR	646	Nursing Management in Healthcare Settings I
NUR	648	Nursing Management in Healthcare Settings II

TOTAL CREDITS18

Additional courses may be taken after consultation with the graduate faculty advisor for nursing administration.

POST MASTER'S CERTIFICATE IN NURSING EDUCATION PROGRAM

The purpose of the Post Master's Certificate in Nursing Education program is to prepare nurses who have Master of Science in Nursing degrees as nurse educators. Graduates of this program are eligible to take the National League for Nursing Certified Nurse Educator Examination.

Course Requirements: Post Master's Certificate in Nursing Education Program

NUR	616	Curriculum Development in Nursing
NUR	618	Teaching in Nursing
NUR	619	Practicum: Teaching in Nursing
EDF	636	Classroom Assessment
CIEC	600	Computing and Instructional Design
EDF	619	Educational Psychology

TOTAL CREDITS21

Additional courses may be taken after consultation with the graduate faculty advisor for nursing education.

POST MASTER'S CERTIFICATE IN FAMILY NURSE PRACTITIONER PROGRAM

The purpose of the Post Master's Certificate in Family Nurse Practitioner program is to prepare nurses, who have a Master of Science in Nursing degree, as family nurse practitioners. The graduates of this program are eligible to take the American Nurses' Credentialing Center Certification Examination for Family Nurse Practitioners and/or American Academy of Nurse Practitioners Certification Examination for Adult and Family Nurse Practitioners.

Course Requirements: Post Master's Certificate in Family Nurse Practitioner Program

NUR	620	Advanced Pathophysiology I
NUR	621	Advanced Pathophysiology II
NUR	622	Advanced Physical Assessment
NUR	624	Advanced Family Nursing Practice I
NUR	626	Advanced Family Nursing Practice II
NUR	663	Advanced Pharmacology I
NUR	664	Advanced Pharmacology II
NUR	695	Internship: Advanced Family Nursing

TOTAL CREDITS29

Additional courses may be taken after consultation with the graduate faculty advisor for family nurse practitioners.

POLICIES

Students in both the M.S.N. and Post Master's Certificate programs are governed by policies stated in the Marshall University Graduate College Catalog. Policies specific to the nursing programs are as follows:

MSN General Academic Policies

1. All graduate academic policies apply to all M.S.N. and post master's coursework. Students are required to review and download the current Graduate Catalog and M.S.N. Handbook upon admission to the M.S.N. program.
2. The School of Nursing reserves the right to administratively withdraw any nursing student whose health, academic record, clinical performance, or behavior is judged unsatisfactory.
3. A student who earns a *D* in a required clinical/practicum course may not progress to the next sequential clinical course. The student must repeat the course the next time offered or within one year. He or she must earn a *B* or higher on the second attempt. Failure to earn a *B* or higher on the second attempt will result in dismissal from the program.
4. A student who earns a *D* in a required nonclinical/practicum course must repeat the course the next time offered or within one year. He or she must earn a *B* or higher on the second attempt. Failure to earn a *B* or higher on the second attempt will result in dismissal from the program.
5. A student is permitted to repeat only one nursing course in the process of completing the MSN program. Earning a second *D* in any course will result in dismissal from the program.
6. All grades of *C* or less are counted in computing averages, but no more than six hours of *C* and no grades below *C* may be applied toward a graduate degree or post-master's certificate. (From *Graduate Catalog*.)
7. A student who earns 9 credits of a *C* in nursing courses will be dismissed from the program.

(continued)

8. If a student earns an *F* in any course, he or she will be dismissed from the program.
9. Any student dismissed from the program may not reapply to the area of emphasis in which he or she was enrolled.
10. Students in the graduate program who fail to enroll for a semester without an approved leave of absence (LOA) are considered withdrawn from the program and are not eligible for future enrollment.
11. Students who do not follow the university procedure for withdrawal from a course will earn a grade of *F* for the course.
12. No more than twelve (12) credit hours may be accepted as transfer credit. For graduate certificate programs, transfer credits may not exceed 6 credit hours. The grades earned in the classes to be transferred must be a *B* or better. Graduate credits transferred from other institutions will not become a part of the Grade Point Average recorded on the student's Marshall University transcript and will simply meet credit hour requirements toward graduation. (From *Graduate Catalog*.)
13. All students must have a 3.00 GPA in their major to graduate and receive the MSN or post master's certificate.
14. A student must have an approved Plan of Study (POS) developed with his or her advisor prior to registering for any M.S.N. class. Any deviation from the student's POS must be approved by his or her advisor. Failure to comply with this policy can result in an administrative withdrawal from a course.

Other Policies

1. Each student must submit a satisfactory health record prior to registering for his/her first nursing course with a clinical component.
2. Each student is required to have an annual PPD screening test for Tuberculosis. Documentation of a onetime two step TB test is also required.
3. Each student must show evidence of the following prior to registering for any nursing course with a clinical component: (a) Current unencumbered professional nurse licensure in West Virginia and (b) Current certification in cardiopulmonary resuscitation.
4. Students are responsible for own transportation to and from all clinical assignments.
5. Students are required to be in professional attire for all clinical practicums and to wear a name pin. In addition, selected clinical agencies require a white lab coat.
6. Students are required to pass and submit a background check and drug screen.

For additional information, contact the School of Nursing.

For additional policies, see the *Graduate Nursing Student Handbook*.

SCHOOL OF PHYSICAL THERAPY Doctor of Physical Therapy (D.P.T.)

Program Description

The Mission of the Marshall University School of Physical Therapy is to provide quality contemporary physical therapy education; to support and empower graduates and educators to exemplify excellence in clinical practice, scholarship, mentorship, leadership, and professionalism; and to engage all stakeholders in employing evidence-based physical therapy that supports and reflects best practice.

The Doctor of Physical Therapy (DPT) program offered by the School of Physical Therapy at Marshall University is a full-time, three-year, nine-semester, 115-credit graduate program for students who wish to pursue a career as a physical therapist practitioner. Our inaugural class matriculated on May 21, 2012.

The curricular model of Marshall University's DPT program is a modified case-based model, designed in a "builds on, leads to" manner which is delivered in a full time, in-house format utilizing lecture, labs, small group discussion, case seminars, and clinical visits and internships, starting with education in the basic foundational sciences that inform the content of the field. Faculty teaching the foundational sciences facilitates discussion drawing on research, clinical experiences, and personal/professional activities to model professional behaviors, elucidates psychosocial and ethical issues, and presents a broad application of course content to practice settings. Through clinical cases intermingled within basic science didactic content, students are challenged to apply basic science information to solve clinical problems. Instruction in these basic science areas builds the foundation for the clinical coursework.

Within any given semester, we utilize team-taught, integrated course classes to encourage synthesis of material presented. Case Application Seminars and Experiences (CASE) courses provide students the opportunity to learn collaboratively in faculty-facilitated small groups. Most semesters, students attend laboratory sessions in local physical therapy/rehab clinics for hands-on experiences interspersed within the didactic coursework.

Early in the curriculum, students are introduced to the basic tools of investigation in PT (Evidence Based Practice course series). Starting with the clinical decision making process, they learn to utilize literature review and scientific method to support evidence based practice, and the process for utilizing and creating evidence to improve upon the body of knowledge that informs the profession. Basic clinical skills coursework forms the foundation for more advanced clinical courses in diagnosis and management.

Faculty emphasizes utilization of current, evidence-based practices that are built on the foundational sciences and are consistent with published research and clinical outcomes in the diagnosis and management process. Knowledge of the professional aspects of practice is integral to successful hands-on practice, and necessary to become a competent practitioner. Therefore, a series of professional practice courses inculcate a working knowledge of communications, educational methodology and process, culture, ethics, law, health care delivery systems, administration, and the political aspects that influence the field of physical therapy.

Clinical education exposure/experiences are integrated into the first two years of the curriculum through case-based courses and seminars, and through clinic visits to local physical therapy facilities spread within the didactic course work, with the first full time clinical rotation/internship (8 weeks) occurring early in the second year of the program. These rotations continue in the 3rd year with two full-time clinical internships, for 27 weeks in the last two semesters of the program, totaling 35 weeks of long-term clinical rotations/internship in the entire DPT program. This series of clinical experiences assures that the graduate has the opportunity to develop skills in a variety of practice settings, working within a team approach to patient management, under the direct supervision of a clinical instructor who is a licensed physical therapist.

Our 22600 sq ft space includes three classrooms/laboratories and eight seminar rooms for teaching purposes, a research laboratory (about 2000 sq ft), faculty and administrative offices, student locker rooms, restrooms and kitchen/lounge areas and specialized equipment necessary to teach the content taught in a physical therapy professional program. There is sufficient free parking to accommodate students, faculty, staff, patients and visitors.

Minimum Requirements for Admission

1. Baccalaureate degree from a regionally or nationally accredited college/university completed prior to the starting date in the DPT program.
2. *Prerequisite Courses:* Must complete all prerequisite courses prior to the summer term for which you are applying. For example, if you are applying for the class that starts in May 2016, all of your prerequisite courses must be completed by Summer 2016.

<i>Science</i>	<i>Behavioral/Social Science</i>	<i>English</i>
Biology (& lab)- 8 credits	Psychology- 6 credits	Composition/Writing- 6 credits
Chemistry (& lab)- 8 credits	(preferably abnormal	
Physics (& lab)- 8 credits	& developmental or life span)	
Human Anatomy*- 3 credits		
Human Physiology*- 3 credits		
Mathematics- 3 credits		
Statistics- 3 credits		

*All science prerequisite courses must be for science majors (a science course older than 10 years will not be accepted). Courses with a grade of C- or lower will not be accepted as prerequisites. Anatomy and physiology courses should preferably be completed with a grade of B or better. Note that students will be allowed to have one or two courses in progress at the time of interview (early January); however, the outstanding course(s) must be completed with the appropriate minimal grade, prior to commencing the DPT program in May of the year for which students are applying.

**Students must document 6 hours of anatomy and physiology regardless of how the courses are offered. Many universities offer a two semester integrated human anatomy and physiology course instead of three credits human anatomy and three credits human physiology. A qualified course shall cover all major human body systems. Functional anatomy with a main emphasis on the musculoskeletal system and exercise physiology are not accepted.

***If the statistics course is taken from the mathematics department, it can only meet the requirement of statistics prerequisite. (i.e. Another 3-credit course of mathematics is still needed.)

****Other courses that are writing intensive may be considered. However, "writing intensive" must be clearly designed as such in the course description or syllabus or school's registrar website.

3. Clinical Observation Hours: Complete at least 60 clinical observation hours, preferably from two different settings under the direct supervision of a licensed physical therapist by the time of application. Please follow the instructions listed on the PTCAS website (<http://www.ptcas.org/PTHours/>) to submit your hours for verification. PT observation hours need to be completed no later than October 1.
4. Grade Point Averages and GRE scores:
A minimum 3.0 for overall Undergraduate GPA
A minimum 3.0 for the GPA for prerequisite sciences

(Continued)

A minimum 3.0 for the GPA for all prerequisites combined

5. GPA calculation for repeated courses:
 - Prior to the 2017-2018 application cycle: The highest grade earned is used to calculate the Prerequisite Science GPA and All Prerequisite Combined GPA.
 - For the 2017-2018 application cycle (class start date: May 21, 2018) & afterwards:
 - If a student retakes the same science course at the same institution and earns a higher grade on the second attempt, we will use the higher grade to calculate GPAs.
 - In other situation (i.e. taking the same science course more than two times at the same institution; retaking the same or equivalent course at a different institution), if a science course is repeated, we will use all grades earned for that course to calculate GPAs.
6. Completion of the Graduate Record Examination (GRE) with submission of scores at the time that the application is submitted. Please contact ETS to determine testing dates and sites. (1-800-GRE-CALL; www.ets.org/gre). For submitting your score report, our program code is “Marshall U Sch Phy Therapy PTCAS (0323).” Your score report will be received and verified by PTCAS. The GRE needs to be completed no later than October 1. DO NOT have ETS send your score report directly to Marshall University.
7. Provide two references: One from a physical therapist and the other from either another physical therapist, or a faculty member or an employer. A reference request form is provided on the PTCAS website (www.ptcas.org).
8. **Provisional Admission:** A student who possesses a baccalaureate degree from an accepted, regionally accredited college/university and has submitted all other application materials, but still has 1-2 prerequisite courses in progress at the time of interview (early January) may be provisionally admitted. However, outstanding course(s) must be completed with the appropriate minimal grade prior to commencing the DPT program in May of the year for which the student is applying.
9. **Conditional Admission:** A student who does not already possess a baccalaureate degree from an accepted, regionally accredited institution, and/or has 1-2 prerequisite courses in progress at the time of interview (early January), but has submitted all other required application materials, may be conditionally admitted. However, the bachelor's degree must be earned, and outstanding course(s) must be completed with the appropriate minimal grade prior to commencing the DPT program in May of the year for which the student is applying.

***International applicants will be required to submit an official TOEFL score in addition to the other requirements described for consideration. TOEFL/IBT score must be consistent with the standards established by the Foreign Credentialing Commission on Physical Therapy (FCCPT) as acceptable for physical therapists desiring to enter practice in the U.S. from a foreign country. The minimum scores to be considered for admission must be a Total Score of 89 with the minimum section requirement of “Speaking” of 26. International applicants will have to complete their credential evaluation [WES International Credential Advantage Package (ICAP)] from the World Education Services (WES) to prove that their education is equivalent to the US undergraduate education and have the report sent to PTCAS.

How to Apply

The School of Physical Therapy at Marshall University is participating in the Physical Therapist Centralized Application Service, known as PTCAS. Applicants applying to the entry-level physical therapist education program for the 2013 entering class and afterward will apply online using the PTCAS application. To learn more about the PTCAS application process, visit www.ptcas.org.

Accreditation

Marshall University is accredited as an institution of higher learning by the the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools (Phone: 800-621-7440 / 312-263-0456; Fax: 312-263-7462; info@hlcommission.org; 230 South LaSalle Street, Suite 7-500, Chicago, Illinois 60604-1413) The program has received approval from the Marshall Board of Governors to offer the DPT program, and program approval from the North Central Higher Learning Commission.

The Doctor of Physical Therapy Program at Marshall University is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, VA 22314; phone: 703-706-3245; email: accreditation@apta.org; website: www.captionline.org.

Criminal Background Check Information

Special Note Regarding Eligibility for Certification for Licensure, Criminal Background Clearance

Students who are offered admission to the Marshall University School of Physical Therapy are required to have a criminal background check. Complete instructions on obtaining and forwarding these documents will be provided to students who are offered admission, prior to matriculation. Clinical rotation sites that require a criminal background check may deny a student's participation in the clinical rotation because of a felony or misdemeanor conviction or a record of child abuse.

Clinical sites may also deny participation in clinical experience for other reasons, such as failure of a required drug test, or inability to produce an appropriate health clearance. As participation in clinical experiences, rotations or fieldwork is a required part of the curriculum and a requirement for graduation, denial of participation by a clinical site may result in delay of graduation or the inability to graduate from the program. Regardless of whether or not a student graduates from Marshall, individuals who have been convicted of a felony or misdemeanor may be denied certification or licensure as a health professional. Information regarding individual eligibility may be obtained from the appropriate credentialing bodies or state licensure board.

Curricular Plan of Study

<i>Course</i>	<i>Credit Hours</i>
Year 1 Term 1-Summer (11 weeks)	
PT 700 Gross Anatomy for Physical Therapy	
PT 710 Introduction to Human Movement	
PT 750 Foundations of Physical Therapy Practice	
PT 761 Evidence-Based Practice I	
Total Summer I	12
Year 1 Term 2 Fall I (15 weeks)	
PT 701 Neuroanatomy	
PT 711 Human Movement I	
PT 720 Advanced Clinical Physiology	
PT 731 Clinical Skills I	
PT 741 Medical Pathology in Physical Therapy I	
PT 751 Professional Practice I	
PT 771 Clinical Application Seminar & Experiences (CASES) I	
Total Fall I.....	19
Year 1 Term 3 Spring I (15 weeks)	
PT 712 Human Movement II	
PT 732 Therapeutic Interventions	
PT 742 Medical Pathology in Physical Therapy II	
PT 744 Medical Pathaology in Physical Therapy IV	
PT 763 Evidence Based Practice II	
PT 772 Clinical Application Seminar & Experiences (CASES) II	
PT 777 Clinical Application Seminar and Experiences (CASES) VII	
PT 781 Musculoskeletal I	
Total Spring I.....	19
Year 2 Term 4 Summer II (10 weeks)	
PT 713 Human Movement III	
PT 747 Pharmacology in Rehabilitation	
PT 773 Clinical Application Seminar & Experiences (CASES) III	
PT 782 Musculoskeletal II	
Total Summer II	9
Year 2 Term 5 Fall II (8 weeks clinical; 7 weeks didactic)	
PT 702 Neuroevaluation	
PT 721 Applied Exercise Physiology	
PT 754 Health Care Delivery Systems	
PT 764 Evidence Based Practice III	
PT 774 Clinical Application Seminar & Experiences (CASES) IV	

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PT 789 Musculoskeletal III
 PT 791 Clinical Internship I

Total Fall II 12

Year 2 Term 6 Spring II (15 weeks)

PT 704 Neurorehabilitation
 PT 755 Service Learning Practicum
 PT 765 Evidence Based Practice IV
 PT 775 Clinical Application Seminar
 & Experiences (CASES) V
 PT 783 Cardio-Pulmonary Rehabilitation
 PT 786 Rehabilitation Considerations
 in Select Patient Populations I

Total Spring II..... 14

Year 3 Term 7 Summer III (11 weeks)

PT 756 Administration in Physical Therapy
 PT 766 Evidence Based Practice V
 PT 776 Clin Application Sem & Experiences (CASES) VI
 PT 784 Integumentary
 PT 787 Rehabilitation Considerations
 in Select Patient Populations II

Total Summer III..... 10

Year 3 Term 8 Fall III (6 weeks didactic; 12 weeks clinical)

PT 757 Advanced Training/Certifications
 PT 785 Health Promotion and Nutrition
 PT 788 Rehabilitation Considerations
 in Select Patient Populations III
 PT 792 Clinical Internship II

Total Fall III..... 11

Year 3 Term 9 Spring III (1 week didactic; 15 weeks clinical)

PT 767 Evidence Based Practice VI
 PT 793 Clinical Internship III

Total Spring III 9

PUBLIC HEALTH, M.P.H.

Program Description

The Master of Public Health degree provides education and training to equip students for a broad range of careers including work in public health practice, research and policy. Two concentrations are offered ,with a common core composed of training in not only fundamental public health subjects (including epidemiology, biostatistics, environmental health, sociobehavioral factors, and public health services), but also addressing critical cross-cutting competencies.

Students may elect one of two concentrations. Specialization in Global and Community Health (GCH} provides training focused on the critical need for community health professionals skilled in risk assessment, education, intervention, and program management - particularly in communities facing high disease burdens and limited resources. A second concentration in Research, Evaluation and Policy (REP} is designed to train health professionals with advanced training in research methods, biostatistics, analysis, and health policy to equip graduates to help produce systemic improvements in care delivery and value.

Admission

Students may be admitted to study for either fall or spring semester; however, spring matriculation for study in Research, Evaluation and Policy is made only in exceptional circumstances. Limited credit (6 hours maximum) may be granted to students transferring from CEPH-accredited programs.

Applicants must follow the admissions process at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. Specific additional program requirements include:

- Admitted students must hold a bachelor's degree from an accredited college or university with a minimum undergraduate grade-point average of 3.0 on a 4.0 scale. Waivers to the requirement may be made in exceptional circumstances, such as when prior satisfactory graduate school performance has been demonstrated.
- Applicants must submit scores for either the Graduate Record Examination (GRE), or from an alternative doctoral level health professions examination {MCAT, PCAT} administered within five years. Applicants holding either doctoral level health practice degree, or J.D. are exempt from the standardized exam requirement.
- Submission of three {3} letters of recommendation. At least two must from previous faculty if the applicant has engaged in full-time post-secondary study in the previous five years.
- Resume of work history or curriculum vitae, to describe both post-secondary work and study.
- Personal statement not to exceed two pages in length.

Applications are evaluated on a competitive basis, and individual interviews may be utilized in the admissions process.

Degree Requirements

The Master of Public Health requires 44 hours of coursework. First-year students gain a strong foundation of a broad core curriculum and are prepared for rotations and employment experiences in just two semesters.

Practicum training is complemented by a second year capstone composed of a comprehensive exam coupled with either a manuscript or a research thesis. The program may be completed in 4 semesters. In addition, three- and four-year study plans permit coordinated dual degree study.

Students choose from concentrations in either Global and Community Health (GCH) or Research, evaluation and Policy (REP).

Students must maintain a Grade Point Average of 3.0 or better throughout the program.

Year One

Fall

PH 692	Seminar
PH 601	Introduction to Public Health
PH 602	Public Health Biology
PH 611	Epidemiology
PH 621	Statistical Methods I
PH 671	Community Health (GCH)
PH 615	Health Systems Research (REP)

Total for semester 13 hrs.

Spring

PH 692	Seminar
PH 641	Social Behavior Aspects of Public Health
PH 631	Environmental Health
PH 686	Health Informatics and Technology
PH 693	Public Health Law and Ethics
PH 616	Health Communications (GCH)
PH 622	Statistical Methods II (REP)

Total for semester 13 hrs.

Year Two

Fall:

PH 692	Seminar
PH 655	Introduction to Health Policy
PH 661	Chronic Disease (GCH)
PH 672	Global Health (GCH)

PH 616 Clinical Trials (REP)
 PH 617 Methods in Applied Computer StudyI

Total for semester 9 hrs.

Spring

PH 692 Seminar
 PH 651 Public Health Services
 PH 656 Topics in Health Policy (REP)
 PH 662 Control of Infectious Disease (GCH)
 PH 694 Practicum
 PH 695 Capstone

Total for semester 9 hrs.

Total Hours Required for Graduation 44 hrs.

SOCIAL WORK, M.S.W.

Program Description

M.S.W. Foundation Curriculum: The foundation curriculum promotes a generalist perspective in which the simultaneous impact of many systemic levels (individuals, families, groups, organizations, and communities) on clients' lives is critically analyzed and recognized. The foundation builds upon a liberal arts base that fosters an understanding of society as a complex organization of diverse people and ideas. Social problems are understood as occurring within the nexus of culture, conflict, development, ecology, and systems and as such, efforts to help or intervene must include consideration of these forces. Students will be able to critically identify and assess social problems, specifically attending to 1) how such problems are maintained, 2) how they impact the quality of people's lives, 3) cultural sensitivity and appreciation of marginalized people, and 4) how to actively promote social and economic justice. In the foundation year, the focus is on the development of critical thinking skills in all the areas mentioned.

M.S.W. Advanced Curriculum -Advanced Social Work Practice: The advanced practice curriculum seeks to develop the utilization and application of critical thinking, relative to behavioral health, on all levels - in reading professional writing and research, in students' practice, in the classroom, and in the students' own thinking. Consistently monitoring practice ethically, evaluating theoretical principles and epistemologies, and utilizing technological advances become basic practice patterns. Specific skill sets developed include: 1) Creating, organizing and integrating ideas and action on engaging diverse client systems effectively in change; 2) Assessing, conceptualizing and analyzing theoretical, practice and research problems from multiple perspectives and utilize critical thinking skills to formulate impressions based upon the data; 3) Analyzing, synthesizing and evaluating the evidence available to guide advanced social work practice; 4) Synthesizing, formulating and implementing a plan of action for social work practice that addresses complex issues and problems, builds consensus and incorporates multiple-level forces on client systems; 5) Analyzing and evaluating data of client progress and outcomes and assess implications and consequences of this progress and outcomes; 6) Synthesizing, creating, and organizing ideas from theory, research and practice for social justice; 7) Demonstrating the ability to integrate culturally competent skills into all aspects of social work practice; 8) Demonstrating the knowledge of the roles of behavioral health providers working in primary care settings, theories and models of care, and cross-cultural issues; and 9) Demonstrating skills in engagement, assessment, intervention planning and implementation, and practice evaluation in the primary and behavioral health care setting.

M.S.W. Practicum Education: All students admitted to the 60 credit-hour program are required to satisfactorily complete 900 clock hours in approved practicum sites. If employed in a human services agency meeting the department's criteria as a placement site, the student may apply to undertake the practicum at her/his place of employment. This may be accomplished when the agency is willing to shift the student's work role and supervision in such a manner as necessary to meet the school's educational objectives for practicum instruction.

M.S. W. Electives: The Marshall University Department of Social Work provides electives as enrichment to the specialized learning in the advanced year. Social work positions call for skills and knowledge that are broader than any narrowly defined specialization. For example, behavioral health care workers are asked to know psychopathology, substance abuse, managed care, AIDS, and a range of other substantive areas. Many school social workers share the need for the same content. In addition, it is noted that social workers frequently change jobs, often to another field of practice. Social work education seeks to teach students to think critically, analyze systematically, and know where to find information and resources within the context of social work history, development and values. It is this type of education that best prepares students to function in a rapidly changing society.

In this curriculum paradigm, electives are considered enrichment. Some of this enrichment is in the form of very specific course content that aligns with a specific focus area or specialization. For example, the enrichment may take the form of a complementary course such as a student focused on children and families taking a management course to prepare for career possibilities or the student interested in community and international practice, taking a course in family intervention to understand the complexities of family practice. Or, the enrichment may take the form of exploration as in the case of the student taking an aging or child welfare course to better understand those fields of practice and to prepare for various job prospects. Finally, the enrichment may include a course of general interest such as a women's issues course that crosses numerous focus areas, but may not correspond specifically to the direct focus of the student.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Students also must provide two recommendations. The letters must be original, must be signed and be sent directly to Graduate Admissions. These may be e-mailed from an identifiable e-mail account of the person providing the reference. Reference letters sent via e-mail need to have the signature of the person providing the reference (signed and scanned). These may be sent to www.services@marshall.edu and cc'd to Leslie Lucas.

Applicants are encouraged to submit at least one academic recommendation. If the applicant has not enrolled in classes within the past 5 years, this requirement may be waived and an additional work reference substituted. Evaluations should be submitted from persons who have been directly responsible for assessing and supervising your human service related work/volunteer experience and academic performance. Avoid personal references (coworkers, advisors, friends, clergy, personal therapists, etc.). The Marshall University Department of Social Work MSW program requires two recommendation forms, however letters accompanying the forms are welcomed and strongly encouraged. It is highly recommended that applicants who wish to be considered for the 30-hour Specialist/Advanced Standing program should submit their field evaluations if available, or one of their two letters of recommendation should be from their Director of Field Education, on-site Practicum Supervisor, or Practicum/Practice Instructor if the field evaluation is not accessible. The school reserves the right to request additional supportive material from persons acquainted with the applicant's academic and/or practice capabilities.

Program Requirements

The student and advisor will develop a Plan of Study or blueprint for graduation requirements. The Plan of Study must be on file in the Graduate College office before the student registers for the 12th semester hour.

Foundation Level for Non-Advanced Standing

The M.S.W. program consists of a foundation-level curriculum to include the following:

SWK	501	Foundations of Generalist Practice I (3 credit hours)
SWK	511	Foundations of Human Behavior in the Social Environment (3 credit hours)
SWK	521	Foundations of Policy (3 credit hours)
SWK	531	Foundations of Generalist Practice II (3 credit hours)
SWK	541	Foundations of Research (3 credit hours)
SWK	551	Foundation Field Practicum (6 credit hours)

Advanced Standing in the Program

An applicant for admission to the Master of Social Work program who holds a baccalaureate degree from an undergraduate social work program accredited by the Council of Social Work Education may be admitted with advanced standing.

SWK	613	Advanced Human Behavior and Social Environment (3 credit hours)
SWK	Elective	(Advanced Behavioral Health) (3 credit hours)
SWK	633	Advanced Clinical Social Work Practice in Behavioral Health Care with Individuals and Families (3 credit hours)
SWK	634	Advanced Clinical Social Work Practice in Behavioral Health Care with Groups, Communities and Organizations (3 credit hours)
SWK	622	Integrated Health Policy and Services (3 credit hours)
SWK	642	Advanced Social Work Research I (3 credit hours)
SWK	643	Advanced Social Work Research II (3 credit hours)
SWK	653	Advanced Field Practicum (9 credit hours)
SWK	Elective	with advanced behavioral health focus (3 credit hours)
SWK	615	Psychopathology (3 credit hours)

(continued)

All regular 2-year students must complete 60 credits in order to graduate from the program. All students enrolled in the regular 60 credit program must complete two separate (two semesters each) academic yearlong field placements. Students who enter the program with advanced standing complete only one academic (two semesters) year long field placement. All Non-Advanced and Advanced Standing students will be required to take behavioral health elective courses (see following section).

Behavioral Health Elective Courses

These electives contextualize student learning into two platforms of practice including Behavioral Health Services for Military Families and Behavioral Health Services for Underserved Populations. Behavioral Health students will deepen their understanding of issues facing military veterans, their families, and underserved populations by working in field placements where behavioral health services focused on these populations takes place. A full range of electives is offered to supplement the required sequence of courses, thus permitting students an opportunity to deepen and enrich their knowledge of issues faced by military veterans and underserved populations.

1. Behavioral Health Services for Military Families

- SWK 650 Understanding Military Culture
- SWK 653 Military Mental Health and the Impact of Trauma
- SWK 655 Comorbidity of Mental and Physical Disorders

2. Behavioral Health Services for Underserved Populations

- SWK 670 Advanced Theories and Practice with Children
- SWK 673 Family and Community Violence in Rural and Underserved Areas

3. Primary and Behavioral Health Integration Electives

- SWK 630 Intersections of Mental Health, Substance Abuse and Trauma
- SWK 631 Integrated Health Care: Models and Practice
- SWK 633 Homelessness: Implications for Behavioral Healthcare
- SWK 634 Drug Dependency
- SWK 635 Older Adults
- SWK 636 Contemporary Global Issues
- SWK 656 Substance Abuse Assessment and Intervention
- SWK 657 Cultural Competence in Substance Abuse Services

College of Information Technology and Engineering

Dr. Wael Zatar, Dean

www.marshall.edu/cite

COMPUTER SCIENCE, M.S.

Program Description

The Master of Science in Computer Science (MSCS) degree is designed to provide students with the knowledge, skill, and professional practices needed to develop complex software systems. The program also prepares students who desire to pursue further graduate work leading to a Ph.D. degree.

Admission Requirements

Applicants should follow the admissions process as stated in the *Graduate Catalog* or the graduate admissions website. A four-year bachelor's degree in Computer Science, Information Technology, Information Systems, or related area is required. Undergraduate coursework should comprise at least one course each from any of the following seven (7) areas prior to admission, all with a minimum grade of C:

- Discrete Structures
- Software Engineering
- Probability and Statistics
- Linear Algebra
- Programming Fundamentals
- Data Structures and Algorithms
- Operating Systems
- Internetworking
- Cybersecurity
- Database Systems
- Automata and Formal Languages
- Computer Architecture
- Programming Languages

Foreign nationals must score in the IELTS Band 6.5 on the TOEFL, and must have met all other admission criteria prior to registering for the first semester of courses.

Applicants must submit official transcripts of all college-level courses. Whether a student meets the above prerequisite course requirements will be determined by the division chair or designee based on the information provided in the admission application and transcripts.

Degree Requirements

The MSCS degree requires 30 credit hours (CR) of graduate work. At least 18 CR must come from 600-level courses. The 30 CR is comprised of the following components:

- Two required 600-level CS courses (6 CR):
 - CS 620 Applied Algorithms
 - CS 660 Big Data Analytics.
- 12 CR from any 500- or 600-level CS courses
- 12 CR from one of the following options:
 - *Thesis option.* 6 CR from any 600-level CS elective courses and completion of 6 CR of research (CS 681) and a thesis. Students must summarize their thesis work in the form of a formal, written document and deliver an oral presentation. Thesis work is typically conducted over two semesters.
 - *Project option.* 9 CR from any 600-level CS elective courses and completion of a 3 CR of comprehensive project (CS 690) and a report. The comprehensive project option involves collecting research literature on a topic of interest in consultation with academic advisor, critically examining the literature, and summarizing the research in the form of a formal technical report. This option may also involve developing software systems. Students must deliver an oral presentation of their findings. Student selects a topic for the report in consultation with academic advisor prior to the beginning of the last semester of study. Project work requires effort equivalent to a 3 CR course and is typically completed during the last semester of study.

Plan of Study

Students are required to complete a Plan of Study form in consultation with their academic advisors before the students can begin their program of study. This is usually done the week before the first day of classes of first semester.

Core Courses

CS	620	Applied Algorithms
CS	660	Big Data Systems

500-level Elective Courses

Any of the following courses may be used as 500-level electives:

CS	502	Computer Architecture
CS	504	High Performance Computing
CS	505	Computing for Bioinformatics
CS	510	Database Systems
CS	540	Digital Image Processing
CS	550	Information Retrieval
CS	552	Natural Language Processing

600-level Elective Courses

Any of the following courses may be used as 600-level electives:

CS	605	Software Specifications
CS	610	Software Design
CS	615	Software Testing
CS	625	AI Principles and Methods
CS	630	Machine Learning
CS	645	Advanced Topics in Bioinformatics
CS 650-653		Special Topics
CS	670	Visual Analytics
CS 685-688		Independent Study
CS	690	Comprehensive Project
CS	681	Thesis

ENGINEERING, M.S.

Majors

Engineering Management

Environmental Engineering

Transportation and Infrastructure Engineering.

Program Description

The M.S. in Engineering (M.S.E.) program is an interdisciplinary engineering program designed to meet the specific needs of engineers employed in industry, government, and consulting, as well as those desiring a traditional research-based graduate degree. The program offers a broad core curriculum with opportunities for concentrated study in three majors: Engineering Management, Environmental Engineering, and Transportation and Infrastructure Engineering.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission. Each applicant for admission to the M.S. in Engineering degree program must have an undergraduate engineering degree from either an accredited ABET curriculum or an internationally recognized program and meet one of the following (A, B, or C) admission requirement options:

- A. Pass the PE exam, or
- B. Have an undergraduate cumulative GPA of 3.00 or greater, or
- C. Have an undergraduate cumulative GPA of 2.50 or greater. and satisfy at least two of the following:
 - (1) Pass the FE exam;
 - (2) Verbal GRE score of at least 145;

- (3) quantitative GRE score at least 150; and/or
- (4) analytical writing GRE score at least 3.0.

Additionally, to be considered for admission, international students must have an iBT TOEFL score of at least 85. or a Paper-Based TOEFL score of at least 527.

Students who do not meet admission requirement options A, B, or C are welcome to apply, and their applications will be considered for admission on a case-by-case basis. The program admission recommendation will be decided by the M.S.E. degree program coordinator based on a combination of GRE scores and level of performance in undergraduate engineering coursework.

Applicants who do not meet the above criteria but who do have an undergraduate engineering degree are welcome to apply as non-degree seeking students and take courses toward an M.S.E. degree. If a non-degree seeking student has at least a minimum cumulative graduate GPA of 3.30 in his or her first 9 credit hours of CITE M.S.E. courses, that student may re-apply to the university to be considered for admission to the M.S.E. degree program.

Eligibility to take the PE exam is based primarily on completion of an ABET-accredited undergraduate engineering degree in most states. Completion of a M.S.E. graduate degree at an institution with an ABET-accredited undergraduate degree does not fulfill that requirement to take the PE exam.

Degree Requirements

Each degree candidate is required to complete at least 30-33 graduate credit hours, depending on the option chosen below (project, thesis, or coursework only), with a cumulative Grade Point Average of 3.0 for the courses included in the student's Plan of Study. At least one-half of the minimum required hours for the degree must be earned in classes numbered 600 or above.

Each degree-seeking student must file an approved Plan of Study, developed with a faculty advisor, before the student registers for the 12th credit hour. The Academic Regulations portion of the Graduate Catalog may be consulted for additional information.

A student may only earn the M.S.E. degree once. Therefore, students wishing to complete two of the three M.S.E. majors (*i.e.*, double major) must complete all requirements for both majors before the degree is awarded. A maximum of 12 credit hours may be counted toward both majors, as approved by the student's academic advisor in each major. An option must be selected for each major and the two options are permitted to be different. However, each major must have its own comprehensive assessment (*i.e.*, comprehensive project, thesis, or comprehensive examination). For example, a single thesis and defense cannot satisfy the requirements for both majors.

Students may choose to complete either the project option, the thesis option, or the coursework only option after consultation with their academic advisors.

Project Option. The comprehensive project involves the application of coursework completed as part of the degree to a practical problem. Students will work with their advisors to identify an appropriate project and scope. Students must prepare a formal written report and deliver an oral presentation to a committee. Students register for TE 699, Comprehensive Project (3 hrs.) during the semester in which their project will be completed and presented, but preliminary work on the project may commence before that semester.

Thesis Option. The thesis option involves the completion of 6 hours of research (ENGR 682) under the direction of an advisor on an approved project. Students must summarize their work in the form of a formal, written document and successfully defend the thesis before a committee. Thesis work is typically conducted over two semesters.

Coursework Only Option. Students can complete 33 hours of coursework and then complete a comprehensive examination within the last two semesters of graduation to fulfill the requirements of their degree program. Examinations will be administered once per semester for all students.

MAJOR: Engineering Management

Project Option (30 hours)

Required courses

EM 620	Management of Technical Human Resources and Organizations	3 hrs.
EM 660	Project Management	3 hrs.
EM 668	Operations Management	3 hrs.
EM 670	Seminar in Engineering Management	3 hrs.
EM 675	Engineering Economics (or TM equivalent)	3 hrs.
EM 694	Engineering Law	3 hrs.

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ENGR	610	Applied Statistics	3 hrs.
TE	699	Comprehensive Project	

Elective courses

See approved Engineering Management electives below 6 hrs.

Thesis Option (30 hours)

Required courses

EM	620	Management of Technical Human Resources and Organizations	3 hrs.
EM	660	Project Management	3 hrs.
EM	668	Operations Management	3 hrs.
EM	670	Seminar in Engineering Management	3 hrs.
EM	675	Engineering Economics (or TM equivalent)	3 hrs.
EM	694	Engineering Law	3 hrs.
ENGR	610	Applied Statistics	3 hrs.
ENGR	682	Research	6 hrs.

Elective course

See approved Engineering Management electives below 3 hrs.

Coursework Only Option (33 hours)

Required courses

EM	620	Management of Technical Human Resources and Organizations	3 hrs.
EM	660	Project Management	3 hrs.
EM	668	Operations Management	3 hrs.
EM	670	Seminar in Engineering Management	3 hrs.
EM	675	Engineering Economics (or TM equivalent)	3 hrs.
EM	694	Engineering Law	3 hrs.
ENGR	610	Applied Statistics	3 hrs.

Elective courses

See approved Engineering Management electives below 12 hrs.

Approved Elective Courses for the Engineering Management Major

Any EM (Engineering Management) course.

Any TM (Technology Management) course.

Any College of Business course approved in advance by the advisor.

Any engineering course approved in advance by the advisor.

MAJOR: Environmental Engineering

Each Environmental Engineering major must have completed the Foundation Courses listed below (and their associated prerequisites), or their equivalents as approved by his or her advisor, before being fully admitted. Until this requirement is satisfied, the student can only receive Provisional admission to the program. All other admission requirements must still be satisfied.

Foundation courses

ENGR	318	Fluid Mechanics
CE	331	Hydraulic Engineering
CE	432	Water/Wastewater Treatment

Project Option (30 hours)

Required courses

One of ENGR 610, ENGR 620, or ME 601			3 hrs.
ENVE	615	Environmental Chemistry	3 hrs.
TE	699	Comprehensive Project	3 hrs.

Three courses—one per category—from among the following six categories	9 hrs.
(1) Project Management: EM 660	
(2) Water/Wastewater: ENVE 616 or ENVE 617	
(3) Solid/Hazardous Waste: ENVE 620 or ENVE 625	
(4) Air Pollution: ENVE 611, ENVE 612, ENVE 680, or ES 604	
(5) Hydraulics/Hydrology: ENVE 670, ENVE 671, or ENVE 672	
(6) Env. Remediation/ Risk/Mgmt.: ENVE 682, ES 514, ES 620	
ES 514 Environmental Risk Assessment	
ES 550 Environmental Law	
TE 699 Comprehensive Project	3 hrs.
ENGR 610 Applied Statistics	3 hrs.
<i>One of the following three courses:</i>	
ES 620 Environmental Management Systems	
ES 640 Groundwater Principles	
ES 646 Dynamics of Ecosystems	
<i>Elective courses</i>	
See approved Environmental Engineering electives that follow	6 hrs.

Thesis Option (30 hours)

Required courses

One of ENGR 610, ENGR 620, or ME 601	3 hrs.
ENVE 615 Environmental Chemistry	3 hrs.
ENGR 682 Research	6 hrs.

Three courses—one per category—from among the following six categories 9 hrs.

- (1) Project Management: EM 660
- (2) Water/Wastewater: ENVE 616 or ENVE 617
- (3) Solid/Hazardous Waste: ENVE 620 or ENVE 625
- (4) Air Pollution: ENVE 611, ENVE 612, ENVE 680, or ES 604
- (5) Hydraulics/Hydrology: ENVE 670, ENVE 671, or ENVE 672
- (6) Env. Remediation/ Risk/Mgmt.: ENVE 682, ES 514, ES 620

Elective course

See approved Environmental Engineering electives that follow 3 hrs.

Coursework Only Option (33 hours)

Required courses

One of ENGR 610, ENGR 620, or ME 601	3 hrs.
ENVE 615 Environmental Chemistry	3 hrs.

Three courses—one per category—from among the following six categories 9 hrs.

- (1) Project Management: EM 660
- (2) Water/Wastewater: ENVE 616 or ENVE 617
- (3) Solid/Hazardous Waste: ENVE 620 or ENVE 625
- (4) Air Pollution: ENVE 611, ENVE 612, ENVE 680, or ES 604
- (5) Hydraulics/Hydrology: ENVE 670, ENVE 671, or ENVE 672
- (6) Env. Remediation/ Risk/Mgmt.: ENVE 682, ES 514, ES 620

Elective courses

See approved Environmental Engineering electives that follow 18 hrs.

Approved Elective Courses for the Environmental Engineering Major

- Any ENVE course;
- Any course listed above not already taken;
- ES 550, Environmental Law;
- ES 630, Environmental Site Assessment;
- ES 640, Groundwater Principles and Monitoring;
- Other courses approved in advance by the student's advisor.

MAJOR: Transportation and Infrastructure Engineering

Each Transportation and Infrastructure Engineering major must have completed the Foundation Courses listed below (and their associated prerequisites), or their equivalents as approved by his or her advisor, before being fully admitted. Until this requirement is satisfied, the student can only receive Provisional admission to the program. All other admission requirements must still be satisfied.

Foundation courses

CE	312	Structural Analysis	
CE	342	Transportation Engineering	
CE	413	Reinforced Concrete	or CE 414 Steel Design

Students pursuing the Project Option or the Thesis Option must choose either Transportation Engineering or Structural Engineering as their primary focus. The other discipline will be the student's secondary focus. Three courses must be completed in the primary focus and two courses in the secondary focus for the Project and Thesis options. The Coursework Only Option requires three courses in both disciplines.

Project Option (30 hours)

ENGR	610	Applied Statistics or other Advisor-Approved MTH course	3 hrs.
Three (3) Courses in Primary Focus (Structural Engineering or Transportation Engineering			9 hrs.
Two (2) Courses in Secondary Focus (Structural Engineering or Transportation Engineering			6 hrs.
Three (3) Elective Courses			9 hrs.
TE	699	Comprehensive Project	3 hrs.

Thesis Option (30 hours)

ENGR	610	Applied Statistics or other Advisor-Approved MTH course	3 hrs.
Three (3) Courses in Primary Focus (Structural Engineering or Transportation Engineering			9 hrs.
Two (2) Courses in Secondary Focus (Structural Engineering or Transportation Engineering			6 hrs.
Two (2) Elective Courses			6 hrs.
ENGR	682	Research	6 hrs.

Coursework-Only Option (33 hours)

ENGR	610	Applied Statistics or other Advisor-Approved MTH course	3 hrs.
EM	660	Project Management	3 hrs.
Three (3) Courses in Structural Engineering			9 hrs.
Three (3) Courses in Transportation Engineering			9 hrs.
Three (3) Elective Courses			9 hrs.

Structural Engineering Courses

CE	612	Structural Steel Design and Behavior	3 hrs.
CE	614	Advanced Reinforced Concrete Structure Design and Behavior	3 hrs.
ENGR	570	Finite Element Analysis	3 hrs.
CE	616	Pre-stressed Concrete Design	3 hrs.
CE	618	Bridge Engineering	3 hrs.

Transportation Engineering Courses

CE	534	Geometric Design of Highways	3 hrs.
CE	538	Pavement Design	3 hrs.
CE	634	Traffic Engineering	3 hrs.
CE	635	Evaluation of Transportation Systems	3 hrs.
CE	636	Transportation Planning	3 hrs.
CE	637	Highway Safety Engineering	3 hrs.

Approved Elective Courses for the Transportation and Infrastructure Engineering Major

- Any Transportation Engineering or Structural Engineering course not already taken.
- Any ENVE (Environmental Engineering) course approved in advance by the student's advisor.
- Any EM (Engineering Management) course approved in advance by the student's advisor.
- Other courses approved in advance by the student's advisor.

ENVIRONMENTAL SCIENCE, M.S.

Minor in Environmental Science

Program Description

The environmental science program gives the student the broad multi-disciplinary subject matter and analytical tools necessary to be successful in such professions as consulting, industrial environmental management and environmental protection. Students from diverse science backgrounds apply their knowledge and skills to environmental problems, such as air pollution and control; water pollution and treatment; groundwater protection, contamination and remediation; solid and hazardous waste management.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Each applicant must satisfy at least ONE of the following criteria:

- Score at the mean or above on the verbal GRE
- Score at the mean or above on the quantitative GRE
- Score at the mean or above on the analytical GRE
- Score at the mean or above on the Miller Analogies Test
- Have an undergraduate GPA of 2.50 or above
- Have passed the Fundamentals of Engineering exam and/or the Professional Engineering exam

In addition to the general requirements all students entering the graduate Environmental Science program must have completed prior to admission the following courses OR their equivalent:

Chemistry 211 and Math 130 with a grade of C or better, AND a minimum total of FIVE (5) courses/ competencies, relevant to environmental science, from the following: Chemistry (200 level or above); Physics (200 level or above); Biology; Geology; Geography; Statistics; Soil Science; Law; Health and Economics; 10 years relevant work experience.

Degree Requirements

Students must complete 36 graduate credit hours at the graduate level, including at least 24 credit hours at Marshall University. The degree consists of 12 credit hours of core courses; 12 credit hours of required courses; and 12 credit hours of electives.

Core Courses

EM	660	Project Management
ENGR	610	Applied Statistics
TE	698	Comprehensive Project Formulation (or ES 585, Introduction to Environmental Science)
TE	699	Comprehensive Project - after completion of 27 hours
ES	680	Thesis, may be taken instead of TE 698 and TE 699.

Additional Degree Requirements for Program

Required Courses

ES	514	Environmental Risk Assessment
ENVE	615	Environmental Chemistry
ES	550	Environmental Law I (or ES 662 or ES 655)
ES	620	Environmental Management Systems (or ES 640 or ES 646)

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To fulfill the Core requirement, 6 credit hours must be satisfied by the TE 698/TE 699 sequence (to complete a comprehensive project) OR six hours of ES 680 (to complete a thesis). Comprehensive projects and the resulting write-up tend to be based on the application of the Environmental Science degree to professional projects, whereas a thesis is written as an output of a research project

Electives

On completion of the MS Environmental Science degree program the student should have the requisite scope of knowledge and competency in specific environmental subject matter. Students are required to take 12 credit hours of elective courses and use them to satisfy proficiency courses: TWO Environmental Science program electives; ONE division elective (an approved course in the division); ONE CITE elective (an approved course in CITE). The required and elective courses should be outlined in the Plan of Study. The Plan of Study should be developed in cooperation with and signed by the student's advisor and should be completed prior to registration for the 12th credit hour..

Graduate Minor in Environmental Science

The Graduate Minor in Environmental Science can be completed through 9 hours of coursework:

- ES 514 Risk Assessment OR
ES 610 Environmental Sampling Practice OR
ES 630 Site Assessment
- ENVE 615 Environmental Chemistry OR
ES 646 Dynamics of Ecosystems OR
ES 654 Environmental Microbiology
- ES 550 Environmental Law OR
ES 662 Environmental Policy OR
ES 655 Environmental Ethics

INFORMATION SYSTEMS, M.S.

Program Description

The Information Systems program prepares participants to be effective users, designers, and developers of information systems, people who can add value to processes and products in organizations. The program also helps participants improve their professional writing, presentation, and teamwork abilities. Specific objectives expected of graduates include:

- The ability to describe a situation as a system, specifying components, boundaries, and interfaces
- Communication skills for effectively leading teams, collaborating with managers in defining needs and opportunities, and assisting colleagues
- Knowledge of the basic hardware and software components of computer systems and their configurations
- The ability to develop specifications for a software system in terms of functions, modules, and interfaces
- The ability to gather and use information needed by information systems professionals
- Mastery of the technical and human skills needed to successfully deploy information technologies in various organizational settings.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Each applicant for admission to the M. S. in Information Systems program must satisfy at least TWO of the following criteria:

- Score at the mean or above on the verbal GRE;
- Score at the mean or above on the quantitative GRE;
- Score at the mean or above on the analytical writing portion of the GRE;
- Score at the mean or above on the Miller Analogies Test;
- Have an undergraduate GPA of 2.75 or above;

Applicants with a wide variety of backgrounds are welcome.

In addition to the admission requirements stated above, an applicant wishing to major in Information Systems must have the following credentials and abilities:

- Ability to write structured programs in a high-level language and familiarity with computer systems
- Basic mathematical ability. College algebra with a grade of *B* would minimally meet this requirement
- Ability to use computer software for word processing, spreadsheet analysis, telecommunications, and data management
- Ability to write a coherent, grammatically correct report

Prospective students without the skills outlined above should take the following courses or their equivalents before entering the degree program:

- Computer Systems and Programming: IS 510 or equivalent
- Mathematical Maturity: College algebra
- Communication Skills: This need will normally be addressed by requirements within the program. In some cases, additional work may be required.

Degree Requirements

Students must complete 36 graduate credit hours, including at least 24 credit hours at Marshall University. The degree consists of 27 credit hours of required courses and 9 hours of approved elective courses.

Required courses:

IS	600	Management Information Systems
IS	605	Systems Analysis Techniques
IS	610	Systems Design
IS	621	Information Structures 1
IS	622	Information Structures 2
IS	623	Database Management
EM	660	Project Management
TE	698	Comprehensive Project Formulation
TE	699	Comprehensive Project – after completion of min. 27 hours

Electives:

Three or more elective courses approved by the student's advisor complete the program. In addition to Information Systems courses, these may include courses offered by other majors and by other institutions.

MECHANICAL ENGINEERING, M.S.M.E.

Program Description

The Master of Science in Mechanical Engineering (M.S.M.E.) degree is designed to provide students with the knowledge, skill, and professional practices needed to develop and design mechanical engineering related systems. The program also prepares students who desire to pursue further graduate work leading to a Ph.D. degree.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website: www.marshall.edu/graduate/programs/how-to-apply-for-admission. Each applicant for admission to the M.S. in Mechanical Engineering degree program must have an undergraduate engineering degree from either an accredited ABET curriculum or an internationally recognized program and meet one of the following (A, B, or C) admission requirement options:

- A. Pass the PE exam, or
- B. Have an undergraduate cumulative GPA of 3.00 or greater, or
- C. Have an undergraduate cumulative GPA of 2.50 or greater, and satisfy at least two of the following:
 - (1) Pass the FE exam,
 - (2) verbal GRE score at least 145,
 - (3) quantitative GRE score at least 150, and/or
 - (4) analytical writing GRE score at least 3.0.

Additionally, to be considered for admission, international students must have an iBT TOEFL score of at least 85, or a Paper-Based TOEFL score of at least 527.

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Students who do not meet admission requirement options A, B, or C are welcome to apply, and their applications will be considered for admission on a case-by-case basis. The program admission recommendation will be decided by the M.S.M.E. degree program coordinator based on a combination of GRE scores and level of performance in undergraduate engineering coursework.

Applicants who do not meet the above criteria but have an undergraduate engineering degree are welcome to apply as non-degree seeking students and take classes toward the M.S.M.E. degree. If the student has a minimum cumulative graduate GPA of 3.30 in his or her first 9 credit hours of CITE M.S.M.E. courses, that student may re-apply to the university to be considered for admission to the M.S.M.E. degree program.

Eligibility to take the PE exam is based primarily on completion of an ABET-accredited undergraduate engineering degree in most states. Completion of a M.S.M.E. graduate degree at an institution with an ABET-accredited undergraduate degree does not fulfill that requirement to take the PE exam.

Degree Requirements

Each degree candidate is required to complete at least 30-33 graduate credit hours, depending on the option chosen below (project, thesis, or coursework only), with a cumulative Grade Point Average of 3.0 for the courses included in the student's Plan of Study. At least one-half of the minimum required hours for the degree must be earned in classes numbered 600 or above.

Each degree-seeking student must file an approved "Plan of Study," developed with a faculty advisor, before the student registers for the 12th credit hour. The Academic Regulations portion of the *Graduate Catalog* may be consulted for additional information. The Plan of Study should define a Focus Area for the individual student that is related to the student's technical and professional development interests. Focus areas include sustainability, materials and manufacturing, bio-mechanical engineering, thermo/fluids, and mechanics/design. At least three of the elective courses (9 CR) must be within the student's Focus Area at the 600-level.

Students may choose to complete either the project option, the thesis option, or the coursework-only option after consultation with their academic advisor.

Project Option (30 hours). The comprehensive project involves the application of coursework completed as part of the degree to a practical problem. Students will work with their advisors to identify an appropriate project and scope. Students must prepare a formal written report and deliver an oral presentation to a committee. Students register for ENGR 699, Comprehensive Project (3 HR) during the semester in which their project will be completed and presented, but preliminary work on the project may commence before that semester.

ENGR 570 Finite Element Analysis
ME 601 Advanced Engineering Analysis I
ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval)
ME 604 Research Methods
Five (5) Elective Courses (15 hrs.)
ENGR 699 Comprehensive Project

Thesis Option (30 hours). The thesis option involves the completion of 6 HR of research [ENGR 681] under the direction of an advisor on an approved project. The student must prepare a formal thesis proposal (including a statement of work, extensive literature search, and proposed timeline) in consultation with his or her advisor and present the proposal to the graduate thesis committee, which is formed in consultation with the advisor. The thesis proposal must be defended and approved by the thesis committee prior to the final semester of study (typically completed during first semester of ENGR 682). Students must then summarize their research work in the form of a formal, written thesis and successfully defend it before their thesis committee in order to fulfill the requirements for the degree (typically completed during second semester of ENGR 682). Thesis work is typically conducted over two semesters.

ENGR 570 Finite Element Analysis
ME 601 Advanced Engineering Analysis I
ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval)
ME 604 Research Methods
Four (4) Elective Courses (12 hrs.)
ENGR 682 Research

Coursework-Only Option (33 hours). Students can complete 33 hours of coursework and then complete a comprehensive examination within the last two semesters of graduation to fulfill the requirements of their degree. Examinations will be administered once per semester for all students.

ENGR 570 Finite Element Analysis
ME 601 Advanced Engineering Analysis I

Approved Elective Courses

Any ME (Mechanical Engineering) course approved in advance by the student's advisor
Any CE (Civil Engineering) course approved in advance by the student's advisor
Any EM (Engineering Management) course approved in advance by the student's advisor
Any ENGR (Engineering) course approved in advance by the student's advisor

SAFETY, M.S.

Areas of Emphasis

Mine Safety

Occupational Safety and Health

Minor in Safety

Program Description

No human endeavor or undertaking can be done without involving the field of safety technology. Safety professionals work in a variety of situations alongside management to ensure the health and safety of all employees. The graduate curriculum in Safety offers two areas of emphasis: Mine Safety and Occupational Safety and Health. The Master of Science degree has a 36 semester credit-hour requirement. A thesis may be submitted which would require 32 credit hours of graduate coursework with no more than 6 credit-hours to be earned by the thesis. A final (written) comprehensive examination is administered to all candidates, thesis and non-thesis, by a committee of three members of the graduate faculty in the College of Information Technology and Engineering (CITE), including the student's advisor. Comprehensive examinations will be administered during the spring and fall semesters.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition:

Each applicant for admission must have an undergraduate degree from an accredited college or university, and must satisfy at least ONE of the following criteria:

- Score at the mean or above on the verbal GRE
- Score at the mean or above on the quantitative GRE
- Score at the mean or above on the analytical GRE
- Score at the mean or above on the Miller Analogies Test
- Have an undergraduate GPA of 2.50 or above
- Have passed the Fundamentals of Engineering exam and/or the Professional Engineering exam

In addition to the general requirements all students entering the graduate Safety program must have completed prior to admission the following courses OR their equivalent:

- For the Area of Emphasis in Occupational Safety and Health:
MTH 130, PHY 101 and 101L, and CHM 203

Degree Requirements

Area of Emphasis in Occupational Safety and Health

Core Courses

SFT	599	Occupational Safety Program Management
SFT	610	Philosophical and Psychological Concept
SFT	630	Current Literature and Research in Occupational Safety

Required Courses

SFT	540	Industrial Fire Protection
SFT	554	Industrial Hygiene I

(continued)

SFT	597	Occupational Safety Program Development
SFT	645	Safety Engineering & Equipment Design
SFT	660	Human Factors in Accident Prevention (OR)
SFT	560	Fundamentals of Ergonomics
ES	550	Environmental Law I

Electives:

9 hours chosen with advisor to give the student 18 hours of 600-level courses

Total hours including core, required, and elective courses36

Area of Emphasis in Mine Safety

The Mine Safety graduate program is offered in cooperation with the National Mine Safety and Health Academy (MSHA), Beckley, WV. The program is designed for underground and surface mining and is applicable to all aspects of the metallic and non-metallic mining industry. Typically students are MSHA employees and have five or more years experience in the mining industry; a technical background is required. A limited number of non-MSHA employees are permitted into the program; preference will be given to those with mining experience. The Division Chair of Applied Science Technology grants permission for admission to this area of emphasis. Only students admitted to Mine Safety will be eligible to take courses. Please contact the Division Chair for further information prior to applying for admission to this program.

Minor in Safety

Graduate students from other majors may obtain a graduate Minor in Safety by completing any three Safety Technology courses at the 500-level or 600-level for a total of nine hours of graduate work, with written permission in advance from the student's academic advisor and the Department Chair prior to the student taking the courses.

TECHNOLOGY MANAGEMENT, M.S.

Areas of Emphasis

Environmental Management

Information Security

Information Technology

Manufacturing Systems

Pharmacy (see TM Program Coordinator)

Transportation Systems and Technology

Graduate Certificate in Information Security

Graduate Certificate in Bioinformatics

Graduate Certificate in Technology Management

Program Description

The M.S. in Technology Management degree program is designed primarily for working professionals with both technical and non-technical backgrounds who want a better understanding of technological change and its relevance to competitiveness and business strategy. Program coursework has a practical emphasis, with real-world projects designed to develop skills that can be put to use on the job immediately. Courses are currently available in Huntington and South Charleston with several courses offered online or virtually. Program benefits:

- Learn how to evaluate and use technology to meet changing customer needs and markets
- Learn how to weigh the costs/benefits of technology decisions
- Understand the effects of technological change on organizations and how to help people adapt to change
- Learn about technology life cycles and how to evaluate emerging technologies
- Explore common problems of management and organizations-and their relationships to technology
- Understand the interrelationships of quality, productivity, and technology
- Network with other professionals

Courses are offered using a variety of delivery methodologies to accommodate working and remote students. Most courses are available live on one of the Marshall campuses. Many also use an Internet-based learning management system so students may choose to attend live or via the Internet. Some classes are 100% online.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

1. General Admissions Requirements

Each applicant for admission must have an undergraduate degree from an accredited college or university (there is no stipulation concerning the undergraduate major) and must satisfy at least ONE of the following criteria

- Score at the mean or above on the verbal GRE
- Score at the mean or above on the quantitative GRE
- Score at the mean or above on the analytical GRE
- Score at the mean or above on the GMAT
- Have an undergraduate GPA of 2.50 or above
- Have previously completed a master's degree from an accredited college or university.
- Have 10 or more years of documented relevant professional work experience

2. Program Requirements

In addition to the general requirements all students must complete the following:

- Submit a written summary (2 typewritten pages maximum) of education and professional experiences, and career goals related to the TM program including the Area of Emphasis the applicant is interested in pursuing.
- Complete an interview with the TM program coordinator or designee, with part of the interview consisting of discussion of the written summary.

Degree Requirements

Degree requirements consist of seven core courses (21 semester hours), four area-of-emphasis courses (12 semester hours), and a capstone project (3 semester hours), for a total of 36 semester hours. You must have the Technology Management advisor's approval to enroll in Technology Management degree program courses.

Plan of Study

A Plan of Study approved by the student's advisor must be on file before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.

Core Courses

TM	610	Technology and Innovation Management
TM	612	Economic and Financial Analysis for Technology Management
TM	620	Technology Planning
TM	630	Quality and Productivity Methods
EM	620	Management of Technical Human Resources and Organizations
EM	660	Project Management

Plus one of the following:

TM	615	Information Technology Strategies
EM	694	Engineering Law

Each student selects an area of emphasis, consisting of four courses. Currently, the following emphases are available:

Environmental Management:

Environmental Regulations
Environmental Risk Assessment
Environmental Management Systems
One course selected from among:

Hazardous Waste Management, Environmental Site Assessment, or Geographic Information Systems

Information Security:

Information Security
Communication and Network Technologies
Computer Systems Security
One additional 3 credit hour elective, chosen from TM or IS courses, with permission of the student's advisor

(continued)

Information Technology:

Four approved courses from the following list:

- Computing and Information Systems Technologies
- Communication and Network Technologies
- Multimedia Production and Electronic Information Dissemination
- Geographic Information Systems
- Health Informatics
- Software Engineering
- Information Security
- Computer Systems Security

Other courses may be taken with permission of the student's advisor.

Manufacturing Systems:

Applied Computer Integrated Manufacturing

Modern Manufacturing Concepts

Two courses selected from:

- Applied statistics
- Operations Research I
- Operations Management

Other courses with permission of the advisor

Transportation Systems and Technologies:

This area of emphasis is offered in cooperation with the Nick J. Rahall II Appalachian Transportation Institute.

Intelligent Transport Systems - Three courses, selected with Technology Management Advisor approval.

Possible choices include: Traffic Engineering, Safety in Transportation, Human Factors in Accident Prevention, Traffic Safety Management, Urban and Regional Planning, Engineering Law, Operations Research I, Operations Research II, Transportation Systems, Geographic Information Systems. Some of these courses have prerequisites; students taking the courses must meet prerequisites.

The technology management capstone project (TM 699) will be work related, oriented toward the area of emphasis, and directed by an academic advisor.

Graduate Certificate in Information Security

Evidence of information security coursework is required for many federal and Department of Defense (DoD) funded projects. This certificate will meet the government requirements for certification and continuing education for several security certifications.

Admission Requirements

Students may pursue the graduate certificate while enrolled in the Technology Management M.S. program OR as a certificate-only student. Students already enrolled in the M.S. degree program should submit to Graduate Admissions a Secondary Program Request form: www.marshall.edu/graduate/secondary-program-request-form.

Applicants interested in the certificate-only program should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the Certificate in Information Security. The admissions requirements for the certificate program are the same as for the Technology Management M.S. program.

Curriculum

IS	631	Information Security
IS	656	Communications and Network Technologies
IS	646	Computer Systems Security
IS	647	IT Disaster Planning & Recovery
TM	615	IT Strategies

Credit Hours: 15 – All required

Graduate Certificate Program in Bioinformatics

The Marshall University bioinformatics certificate is designed to develop a working understanding of a variety of techniques and methods for analyzing vast amounts of biological data. The source of information may be associated with recent genomic research, but may also include data sets related to other complex biological problems involving such topics as structure modeling, database mining, and visualization.

The certificate is designed to complement existing degrees and to suit the needs of students and professionals who want to specialize in the fast-expanding field of bioinformatics. The certificate curriculum is interdisciplinary and includes courses from the College of Science, the College of Information Technology and Engineering, and the Joan C. Edwards School of Medicine. Through completion of the certificate, student will have acquired the necessary skills to analyze and interpret the large data sets using various bioinformatics tools.

Students who should apply for the certificate program would be biology, mathematics, chemistry, physics, and medical/biomedical students or medical doctors who desire to acquire skills required to understand bioinformatics methods and technology; computer science students who wish to understand biological concepts that can be analyzed using their programming skills; or health care professionals (medical, pharmaceutical, and agricultural industries) who desire to acquire bioinformatics knowledge relevant to their fields of expertise.

Students will earn the certificate by completing 15 credit hours, including 9 credit hours from 3 core courses, 3 credit hours from a first elective course, and another 3 credit hours from a second elective.

Admissions Requirements

1. Both senior-level undergraduate students with overall GPAs of at least 2.75 and graduate students may enroll in the certificate program.
2. Both undergraduate and graduate students must satisfy the following prerequisite requirement: Successful completion (grade of C or better) of MTH 140 or MTH 229, and one of MTH 225, MTH 326, or MTH 345.

Curriculum

Required courses:

CS	505	Computing for Bioinformatics
BSC	550	Molecular Biology
CS	645	Advanced Topics in Bioinformatics

Elective I (choose one from the following):

BSC	543	Microbial Genetics
CS	510	Database Systems.

Elective II (choose one from the following):

BSC	617	Statistical Techniques for Biomedical Sciences
MTH	518	Biostatistics
CS	540	Digital Image Processing
CS	630	Machine Learning

Total Certificate requirements: 15 credit hours

Graduate Certificate in Technology Management

Completion of the seven core courses will qualify a student for a certificate in Technology Management, if he/she elects not to complete the Technology Management degree.

Admission Requirements

An applicant interested in the certificate program should apply for admission to Marshall University as a Certificate/Professional Development student and indicate the Certificate in Technology Management on the application. The admission requirements for the certificate program are the same as for the M.S. in Technology Management degree.

Curriculum

TM	610	Technology and Innovation Management
TM	612	Economic and Financial Analysis for Technology Management
TM	620	Technology Planning
TM	630	Quality and Productivity Methods
EM	620	Management of Technical Human Resources and Organizations
EM	660	Project Management

Plus one of the following:

TM	615	Information Technology Strategies
EM	694	Engineering Law

COMMUNICATION STUDIES, M.A.

Program Description

The M.A. degree in Communication Studies provides an opportunity for students to develop individual programs of theory, research, and application among the areas of interpersonal, organizational, and public communication. The program is designed for students who seek careers as communication professionals or who intend to pursue further graduate study in the field.

Admission Requirements

Applicants should follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website at *www.marshall.edu/graduate/admissions/how-to-apply-for-admission*.

Applicants also:

- must submit GRE scores. GRE scores on the verbal, quantitative and writing sample sections will be evaluated in conjunction with other application materials.
- must have a minimum 2.5 GPA on a 4.0 scale for all previously completed undergraduate university work. Students with less than a 3.0 GPA on a 4.0 scale for all previously completed undergraduate university work must attain a 900 score on the verbal and quantitative sections of the GRE (or the equivalent on the revised GRE) and a score of 4 on the GRE writing sample.

Assistantships and Financial Support

The Department of Communication Studies has funds available in the form of assistantships to provide financial support for graduate students. For complete information on graduate assistantships please see *www.marshall.edu/graduate/graduate-assistantships-2/graduate-assistantship-overview*.

For complete information on other financial support opportunities please see *www.marshall.edu/graduate*.

Program Requirements

A Plan of Study approved by the department/program and the graduate dean must be filed in the Graduate College office before the student registers for the 12th semester hour. Students prepare a Plan of Study in conjunction with a committee of three graduate faculty members. At least one member of the committee must have full graduate faculty status.

The Plan of Study must include CMM 601 and 606. A total of 36 credit hours is required for graduation. Students who write a thesis may earn six of those credit hours for the thesis. A minor or cognate outside the department may be approved by a student's committee.

A written comprehensive exam, prepared and evaluated by the student's committee, is required. A candidate who writes a thesis is also required to pass an oral examination on the thesis.

ENGLISH, M.A.

Area of Emphasis

Teaching English to Speakers of Other Languages (TESOL)

Program Description

The English M.A. at Marshall is designed to meet the increasingly diverse needs of today's graduate students. Students are encouraged to approach their studies from the perspective that best serves their academic purposes and/or career plans, be it Literary Studies, Composition/Rhetoric, Creative Writing and/or TESOL/Linguistics. To this end, our program offers a great deal of flexibility at all levels.

Program Goals

Upon completion of the program students will be able to:

- articulate core issues in Literary Studies, Composition/Rhetoric, Creative Writing, and/or TESOL/Linguistics from diverse perspectives;

- critique the major figures, works, and ideas in one or more of the above areas;
- apply the research methods and approaches to inquiry used in Literary Studies, Composition/Rhetoric, Creative Writing, and/or TESOL/Linguistics;
- articulate recent developments in these fields as influenced by other disciplines;
- elucidate major critical and cultural theories in Literary Studies, Composition/Rhetoric, Creative Writing, and/or TESOL/Linguistics, and assess sources on those theories in relation to the field;
- prepare a capstone project that demonstrates advanced knowledge and applied learning in Literary Studies, Composition/Rhetoric, Creative Writing, and/or TESOL/Linguistics.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. All admission materials must be sent to the Graduate Admissions Office.

In addition, to be admitted to the English department, an applicant must have :

- an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate university work (otherwise strong candidates may be fully admitted with a 2.75 GPA);
- a letter of interest/ personal statement identifying the applicant's reasons for pursuing an M.A. and how the degree will contribute to the applicant's broader plans (1-2 pages);
- a writing sample of 8-12 pages (scholarly essay, creative writing, or language study), prefaced by a brief explanation of why this work has been selected;
- at least three letters of recommendation, preferably from college instructors;
- current GRE scores.

International students and applicants who have earned a degree from a non-English institution must provide proof of English proficiency as follows: minimum of 80 on TOEFL IBT (or 550 paper based); IELTS 6.5.

Conditional Admission

The English M.A. program may admit applicants conditionally for one term, on a limited basis, at the discretion of the program.

Provisional Admission

The English M.A. program may admit applicants provisionally, on a limited basis, at the discretion of the program.

Program Requirements

To earn the master's degree in English the candidate must:

- complete 36 hours of coursework:
 - All students (with the exception of those completing the TESOL Area of Emphasis) must take ENG 630 in their first fall semester.
 - Teaching Assistants must take ENG 560 in their first fall semester and ENG 640 in their first spring semester.
 - Students are encouraged to select courses that best serve their academic purposes or career plans.
 - Students may take up to six graduate hours for credit outside the English Department as part of their coursework. In order to count toward credit for graduation, these courses must be relevant to the degree and be approved by the Department Chair and the Director of Graduate Programs.
- complete a capstone project from one of the following options:
 - Thesis (6 credit hours of ENG 681)
 - Portfolio (ENG 682 plus a 600-level course of the student's choosing)
 - Comprehensive Exams (ENG 683 plus a 600-level course of the student's choosing)
- maintain a 3.0 Grade Point Average
- earn six credit hours in a language other than English. Requirement may be fulfilled by:
 - documenting previous undergraduate coursework;
 - taking undergraduate courses while enrolled in the M.A. program (however, undergraduate courses do not count toward the M.A. degree)
 - demonstrating language ability to the satisfaction of the English Department.

Plan of Study

Before registering for the 12th credit hour, students are required to file a Plan of Study with the Director of Graduate Studies and the Graduate College. The Plan of Study is a student's blueprint for graduation.

Good Standing

In addition to the requirements in the Graduate College's standards for Good Standing, a student pursuing a M.A. in English will:

- 1) earn no more than two grades of C or lower in any graduate course.

M.A. IN ENGLISH WITH AREA OF EMPHASIS IN TESOL (TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES)

This area of emphasis in the M.A. program prepares students to teach English to adult speakers of other languages. The core curriculum explores both language pedagogy and applied linguistic theory. Upon completion of the degree, students will (1) be familiar with current methodologies in language teaching, (2) be able to use research findings within applied linguistics to make informed pedagogical decisions for local contexts, and (3) be able to engage in reflective teaching and observation practices.

Course Requirements

Prerequisite:

ENG 575 Introduction to Linguistics

Required 3-credit hour courses:

ENG 578 Introduction to Sociolinguistics

ENG 615 TESOL Methodss

ENG 618 TESOL Language Assessment

ENG 622 Second Language Learning

ENG 626 Systemic Functional Grammar

ENG 670 Observation Practicum TESOL

Choose 1 from:

ENG 681 Thesis

ENG 682 Portfolio

ENG 683 Comprehensive Exams

Choose 3 from:

ENG 508 Advanced Expository Writing

ENG 560 Composition and Writing Center Theory

ENG 617 TESOL Curriculum Development and Materials Design

ENG 627 Text Analysis

ENG 633 Research Methods and Applied Linguistics

ENG 634 Teaching English for Academic Purposes

ENG 638 Language and Context

ENG 640 Composition Pedagogy

ENG 671 Teaching Practicum TESOL

Choose 1 Pure Elective (any Marshall course offered at the graduate level)

TOTAL NUMBER OF CREDIT HOURS: 33

GEOGRAPHY, M.A., M.S.

Minor in Geography

Graduate Certificate in Geospatial Information Science-Basic

Graduate Certificate in Geospatial Information Science-Advanced

Accelerated Master's Degree in Geography

Program Description

Geography is the systematic study of the spatial aspects of human activity, the natural world, and human-environment interaction. The discipline of geography occupies a unique position as a bridge between the social sciences (Human Geography), natural sciences (Physical Geography), and STEM fields (GIScience). From this interdisciplinary perspective, geography helps us understand and address numerous contemporary challenges ranging from economic development, urban planning, and ethnic conflict to climate change, environmental sustainability, and natural resource management. As a result, geography is a rapidly expanding discipline with diverse career opportunities across the environmental sciences, social sciences, and technological fields in both the public and private sectors. Both the U.S. Department of Labor and the Bureau of Labor Statistics predict that demand for trained geographers will grow much faster than average over the next decade.

The Geography Department prepares students to succeed as professionals in today's job market through an innovative curriculum focusing on building critical thinking, technical, and practical skills across a range of human geography, physical geography, and geospatial information science (GIScience) courses. The curriculum includes a mixture of classroom and lab instruction, hands-on projects, and professional internships experiences that actively engage students in the learning process and provide the skills necessary for lifelong learning. The department maintains state-of-the-art facilities, including technology-enhanced classrooms, a physical geography lab, and a GIScience computer lab, supporting students as they utilize the latest software and hardware. The department provides a supportive learning environment where students work closely with faculty and peers while enjoying numerous opportunities to participate in campus, state, and national professional activities.

Geography alumni have successfully applied their knowledge and practical skills in a variety of career paths in both the public and private sectors, including urban and regional planning, economic development, environment planning, natural resource and energy management, weather forecasting, emergency response and homeland security, GIS analysis, and education. Other alumni have continued with geography studies at the doctoral level.

Students wishing to earn a master's degree in geography have the option of selecting either a Master of Arts (M.A.) or Master of Science (M.S.) degree. Both the M.S. and M.A. degree options prepare the graduate for professional employment or advanced work at the doctoral level. Because M.S. students are required to complete a thesis, the M.S. option is the best choice for students wishing to engage in geographical research projects or in preparation for entrance into a doctoral program.

For more information, please see the departmental website at www.marshall.edu/geography or call (304) 696-4364.

Admission Requirements

M.A. applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

M.S. applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. In addition, M.S. applicants must:

- Submit GRE (Graduate Record Examination) scores with the graduate application;
- Have a minimum undergraduate GPA of 2.9 or minimum GRE scores (for those taking the GRE prior to August 2011 the scores must be: Verbal plus Quantitative greater than or equal to 900 and Writing greater than or equal to 3.5; for those taking the GRE after that date, the scores must be Verbal plus Quantitative greater than or equal to 290 and Writing greater than or equal to 3.5).

M.S. applicants demonstrating potential but not meeting these criteria may be admitted to the M.S. program with permission from the faculty.

Graduate Assistantships

Applications for department research or teaching assistantships are available from the department website at www.marshall.edu/geography. For more information about graduate assistantships at Marshall University, please see www.marshall.edu/graduate/graduate-assistantships-2/graduate-assistantship-overview.

For more information about other financial support, please see www.marshall.edu/graduate/costs-and-aid/how-to-finance-your-graduate-education.

Degree Requirements

Candidates for the master's degree must meet the general requirements for the Graduate College and either complete a thesis with a minimum of 33 total credits (M.S.) or comprehensive exams with a minimum of 30 total credits (M.A.).

Required Courses (M.A.)

GEO	615	Geographic Thought and Methods
GEO	616	Geographical Research
GEO	526	Principles of GIS (requirement waived if taken at the undergraduate level)

(continued)

GEO 679 Applied Projects

Statistics – 3 credit hours; choose from: EDF 517, SOC 606, CJ 656, MGT 500, PSC 604; requirement waived if statistics passed with a grade of C or better at the undergraduate level.

Of the 30 credit hours required for the M.A., at least 15 must be at the 600 level. Of the 30 credit hours, at least 24 must be GEO courses. Some electives from other departments may be taken to complement GEO courses, with permission of the graduate advisor.

Required Courses (M.S.)

GEO 615 Geographic Thought and Methods

GEO 616 Geographical Research

GEO 526 Principles of GIS (requirement waived if taken at the undergraduate level)

GEO 681 Thesis

Statistics – 3 credit hours; choose from: EDF 517, SOC 606, CJ 656, MGT 500, PSC 604; requirement waived if statistics passed with a grade of C or better at the undergraduate level

Of the 33 credit hours required for the M.S., at least 17 must be at the 600 level. Of the 33 credit hours, at least 27 must be GEO courses. Some electives from other departments may be taken to complement GEO courses, with permission of the graduate advisor.

Plan of Study

A *Plan of Study* approved by the student's advisor must be submitted for approval to the Graduate College Dean before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.

Minor in Geography

Students who minor in Geography should choose a minimum of six hours of appropriate courses from one of the specialties below in consultation with their major faculty advisor and a Geography faculty advisor.

Regional Geography:

GEO 623, Regions of North America, is required. Choose additional coursework from GEO 502, 503, 504, 507, 508, 509, 512, 520 (regional topic), 610-614, 617-619.

Physical Geography:

Choose from GEO 520 (physical topic), 522, 525, 530, 531, 617-619, 620

Human Geography:

Choose from GEO 501, 505, 506, 510, 511, 518, 519, 520 (human topic), 607, 617, 619

Planning:

Choose from GEO 514, 515, 516, 520 (planning topic), 617-619

Geographic Information Systems/Remote Sensing:

Choose from GEO 526, 529, 530, 531, 617-619, 631

Graduate Certificate in Geospatial Information Science-Basic

Admission Requirements

Students may pursue the graduate certificate while enrolled in the any master's program OR as a certificate-only student.

- Students already enrolled in the master's degree program should submit to Graduate Admissions a Secondary Program Request form at www.marshall.edu/graduate/secondary-program-request-form.
- Applicants interested in the certificate-only program should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the Certificate in Geospatial Information Science-Basic.

Program

A graduate certificate in Geospatial Information Science-Basic consists of a minimum of 12 graduate hours in courses designated as GIScience Courses, including regularly offered courses as well as special topics courses. Students must take courses from at least two different departments for a graduate GIScience certificate. Students must have a B (3.0) average in their GIScience courses and no grade below a C (2.0) in their GIScience courses to earn the certificate. The program is designed to:

- offer GIS study in a variety of disciplines with a variety of applications;
- teach students GIS techniques;

- teach students to apply GIS to solve scientific research problems;
- encourage students to gain experience in the GIS field by means of internships;
- integrate GIS applications with computer science concepts;
- prepare students for GIS employment.

GIScience required course:

GEO 526 Principles of GIS (requirement waived if GEO 426 or its equivalent taken as an undergraduate)

GIScience electives:

BSC/PS 510 Remote Sensing with GIS Applications
 BSC/PS 511 Digital Image Processing and GIS Modeling
 GEO 529 Intermediate GIS – Vector Analysis
 GEO 530 Intermediate GIS – Raster Analysis
 GEO 531 Principles of Remote Sensing and Photogrammetry
 GEO 532 Enterprise GIS
 GEO 533 GPS and Mobile Geospatial Technologies
 GEO 631 Advanced GIS Projects
 GEO 690 Internship (Must be GIScience approved in advance)
 IS 645 Geographic Information Systems
 PLS 533 GIS and Remote Sensing in Natural Resource Management

Graduate Certificate in Geospatial Information Science-Advanced

Admission Requirements

Students may pursue the graduate certificate while enrolled in a master's program OR as a certificate-only student.

- Applicants interested in the certificate-only program should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the Certificate in Geospatial Information Science - Advanced.
- Students already enrolled in a master's degree program should submit to Graduate Admissions a Secondary Program Request form at www.marshall.edu/graduate/secondary-program-request-form.

Applicants to the Graduate GIScience Certificate-Advanced program must have completed the Certificate in Geospatial Information Science-Basic before entry into the program. Students transferring from other institutions or Marshall graduates with the equivalent of the Basic certificate may enroll for the Advanced certificate.

GIScience credits can count toward a master's degree in several departments such as Geography, Physical Science, Environmental Sciences, Technology Management, and Information Technology. Please see an advisor in the appropriate department.

Program

Geospatial Information Science is a research field that utilizes specialized computer hardware, software, and procedures for presentation and analysis of all types of natural and social science data referenced (mapped) to the earth's surface. Students who complete the requirements for the Advanced certificate should be able to:

- perform advanced GIScience techniques using vector, raster, and remote sensing data;
- apply GIScience to display, support, and analyze research questions in the social or natural sciences;
- collect and create GIScience data using various technologies and software;
- recognize and apply computer science concepts such as data collection, representation, queries, and storage; and
- enter GIScience employment or continue GIScience work at the doctoral level.

An Advanced graduate certificate in GIScience consists of a minimum of 12 hours in courses designated as GIScience courses beyond the requirement for the GIScience Certificate-Basic. Students must have a B (3.0) average in all their GIScience courses and no grade below a C (2.0) in their GIScience courses to earn the certificate.

Required Courses

- At least one advanced analysis course: GEO 529 GIS Vector Analysis (3 hrs.) or GEO 530 GIS Raster Analysis (3 hrs.). This requirement is waived if a student completed one of these courses as part of the Certificate in Geospatial Information Science – Basic, an undergraduate equivalent of one of these courses, or an equivalent advanced analysis course from another institution.

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- At least one remote sensing course: GEO 531 Principles of Remote Sensing and Photogrammetry (3 hours), BSC/PS 510 Remote Sensing with GIS Applications (4 hours), BSC 511/PS 511 Digital Image Processing and GIS Modeling (4 hrs.), PLS 533 GIS and Remote Sensing for Natural Resource Management (3 hrs.), or a Special Topics remote sensing course. This requirement is waived if a student completed one of these courses as part of the Certificate in Geospatial Information Science – Basic, an undergraduate equivalent of one of these courses, or an equivalent Remote Sensing course from another institution.
- At least one applications course or internship (minimum three credit hours): GEO 631 Advanced GIS Projects, GEO 690 Internship (must be GIScience approved in advance), IS 645 Geographic Information Systems.

GIScience electives

BSC 510/PS 510 Remote Sensing with GIS Applications (4 credit hours)

BSC 511/PS 511 Digital Image Processing and GIS Modeling (4 hrs.)

GEO 529 Intermediate GIS – Vector Analysis (3 hrs.)

GEO 530 Intermediate GIS – Raster Analysis (3 hrs.)

GEO 531 Principles of Remote Sensing and Photogrammetry (3 hrs.)

GEO 532 Enterprise GIS (3 hrs.)

GEO 533 GPS and Mobile Geospatial Technologies (3 hrs.)

GEO 631 Advanced GIS Projects (3 hrs.)

GEO 690 Internship (1-6 hrs.; must be GIScience approved in advance to qualify)

IS 645 Geographic Information Systems (3 hrs.)

PLS 533 GIS and Remote Sensing for Natural Resource Management

Special Topics courses as approved in advance by the GIScience Curriculum Committee

Independent Study courses as approved in advance by the GIScience Curriculum Committee

Accelerated Master's Degree in Geography

An Accelerated Master's Degree is available for qualified undergraduate majors. See the Accelerated Master's Degree section in this catalog for details.

HISTORY, M.A.

Minor in History

Graduate Certificate in Public History

Program Description: M.A.

Established in 1938, the history graduate program is one of the oldest at Marshall University. Since the program began, more than 300 Master of Arts degrees in history have been awarded. Although many students have concentrated on U. S. and European history, the department also offers courses in Asian, Middle Eastern, Latin American, African American, and Women's history. In all fields of study students receive personal attention and direction that is often not available in larger graduate programs. It is recommended that students earn credit hours in a wide distribution of historical areas and periods from a diversity of instructors. Students may pursue either the thesis option or non-thesis option, but are encouraged to write a Master's thesis.

Admission Requirements

Deadlines:

The department has established two deadlines for the submission of applications to the program.

October 1st (for a spring semester start) and March 1st (for a fall semester start) are the deadlines for the submission of all application materials. The graduate committee will review applications and make its decisions shortly after these dates.

Applicants should follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

All materials should be submitted to the Graduate Admissions office.

Applicants must also submit to the Graduate Admissions office:

- two letters of recommendation;
- a writing sample drawn from work in a college course;
- satisfactory scores from the Graduate Record Examination (GRE) General Test.

Program Requirements

Students who have not completed an undergraduate major in history must have at least 15 hours of undergraduate courses in history, including 12 hours in the World and American history surveys. Students with deficiencies may be accepted provisionally and may be asked to take undergraduate courses suggested by the Director of Graduate Studies before full admission to the program.

Plan of Study

Students must submit to the department's Director of Graduate Studies a Plan of Study in the semester prior to registering for the 12th semester hour. The Plan of Study is a student's blueprint for graduation.

Students must earn a quality point average of at least 3.0 (*B*) on all graduate work applicable to the degree. A student who receives a second grade of *C* or below at any time while pursuing the Master of Arts degree in History will be withdrawn from the program. In addition, M.A. students in History must earn at least a 3.0 (*B*) grade point average in all History courses as a requirement for graduation.

Students must complete a minimum of 36 semester hours of graduate coursework. At least fifty percent of these hours must be completed at the 600 level. All students are required to complete History 600, Seminar in Historical Methods.

Thesis Option

Students who choose the thesis option must complete HST 681 for three to six credit hours.

Good Standing

In addition to the requirements listed in the Graduate College's standards for Good Standing, a student pursuing a M.A. in History will:

- 1) Maintain a GPA of at least 3.0 (*B*) on all graduate work applicable to the degree, and
- 2) earn no more than one grade of *C* or below while pursuing the degree.

Minor in History

A minor in History is earned by taking at least 6 credit hours in courses at the 500- or 600- level in History as approved by the student's advisor and the Graduate Program Director in the Department of History.

Graduate Certificate in Public History

This is an interdisciplinary program housed in Marshall University's History department. The program will combine practical coursework with field experiences and draws upon the faculty and resources of five graduate programs to prepare the student for career opportunities in museums, historic homes, libraries, archives, state and national parks and for local, state and federal governmental agencies.

Admission Requirements

- The admissions requirements are the same as for the History Master's degree.
- Prospective certificate-only students should apply for admission to Marshall University as a Certificate/Professional Development student and select the Public History Certificate on the application form.
- Applicants should follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.
- Students already enrolled in the History master's program who wish to earn the certificate simultaneously can apply easily by submitting a Secondary Program Request form.

All materials should be submitted to the Graduate Admissions office.

Program Requirements

To earn a Certificate in Public History, students must complete 18 credit hours of relevant coursework. Nine credit hours are the required courses HST 537, HST 640 and HST 680. At least six of the remaining nine credit hours must come from the following list: HST 524, HST 538, HST 635. The remaining three credit hours may come from HST 524, HST 538, HST 635, ANT 567, GEO 506, JMC 575, MKT 511 or SOC 615. Certain Special Topics in the Graduate Humanities program may also be used. Students should check with the certificate administrator when selecting their courses.

HUMANITIES, M.A.

Graduate Certificate in Appalachian Studies

Graduate Certificate in Women's Studies

Program Description

The Master of Arts in Humanities stresses an interdisciplinary approach, embracing a variety of fields, while allowing conventional disciplinary studies as an integral part of the program. Students consult with faculty advisors to determine individual plans of study. After completing a prescribed core of humanities courses, the student elects one of four areas of concentration (Arts and Society; Cultural Studies; Historical Studies; Literary Studies). Although the student's plan may encompass courses from more than one area of concentration it will have strong intellectual coherence. The program enhances the student's ability to deal critically and flexibly with intellectual, social, political, historical, literary, or artistic issues with a broad humanistic perspective. The Humanities Program strongly encourages students not concerned with pursuing the degree (such as teachers using classes for certification and those who want to take courses for their own continuing education) to enroll as non-degree students.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition applicants must have:

- a score in the 60th percentile or higher on the verbal section of the Graduate Record Examination (GRE) General Test or an equivalent score on the Miller Analogies Test (MAT);
- an undergraduate major in the humanities broadly defined;
- an overall undergraduate grade point average of 3.0 on a scale of 4, or a score in or above the 40th percentile in the GRE subject test of Literature in English.

Applicants who do not meet all of the above admissions requirements may be admitted provisionally. A provisionally admitted student must earn a grade of *B* or above in their first twelve hours of coursework in the humanities, the twelve hours to include the course in Expository Writing for Research (Humanities 604) and one other core course (HUMN 600, 601, 602, 603, or 605).

Program Requirements

Degree students have the options of a thesis or final project. Students electing the thesis complete a total of 36 hours, six of which are the thesis (HUMN 680 and 681). Students electing the project option complete a total of 39 hours, three of which are the project (HUMN 680).

With both options, students must pass a comprehensive examination. All individual plans of study are organized according to the following general structure:

- I. Humanities Core (12 hours):
 - HUMN 600 Introduction to Study in Humanities
 - HUMN 604 Expository Writing for Research
 - Two others from the following:*
 - HUMN 601 Literary Theory and Criticism
 - HUMN 602 Historical Studies
 - HUMN 603 History and Theory of the Arts
 - HUMN 605 Western Traditions and Contemporary Cultures
- II. Concentration (minimum of 15 hours);
- III. Program Electives (3-12 hours);
- IV. Independent Research Project (3 hours) or Thesis (6 hours).

Plan of Study

Before registration for the 12th graduate credit hour, all graduate students must complete an official Plan of Study form to be approved by the Graduate Director and/or Department Chair and submitted to the Graduate College Office.

Within a concentration, a student may select courses to develop personal interests. Note: Not all courses are offered at every teaching site. Students should understand that some plans of study may require travel to other teaching sites in West Virginia.

No more than twelve hours may be taken at the 500 level. A student nearing the completion of a plan of study may request an independent study course on a topic unavailable through regular courses. In such a case, the student will

work under the direct supervision of a faculty member. The student's advisor and the program director must approve the independent study.

Degree students are expected to maintain a 3.0 Grade Point Average in their courses. After a minimum of 24 hours of course credits and consultation with the advisor, a student is eligible to sit for the examination which is related to the core and to the individual plan of study. *Note:* Students may not enroll in Humanities 680 until they have passed the comprehensive examination.

For further information on the degree program (sample plans of study, comprehensive examination, and independent research options), students should consult the Humanities Program Guide, available from the program director in South Charleston. Because degree students in Humanities have individualized plans of study, they are cautioned to contact the program director when applying for graduate study and to meet regularly with their advisors.

Note: Some courses in Art and Design, Classics, Communication Studies, English, History, Journalism and Mass Communications, and Philosophy also may be appropriate for the plan of study in Humanities.

GRADUATE CERTIFICATES

Graduate Certificate in Appalachian Studies

The Humanities program is home for the Graduate Certificate in Appalachian Studies, a non-degree program of 18 hours composed of foundation courses (CULS 611 and 612), electives to meet specific educational goals, and a capstone research experience (HUMN 680).

For additional information, contact the Humanities Program.

Admission

Students may pursue the graduate certificate in Appalachian Studies while enrolled in the Humanities M.A. program OR as a certificate-only student. Students already enrolled in the M.A. degree program should submit to Graduate Admissions a Secondary Program Request form: www.marshall.edu/graduate/secondary-program-request-form.

Applicants interested in the certificate-only program should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the Certificate in Appalachian Studies. Applicants must have a bachelor's degree from a regionally accredited institution.

Graduate Certificate in Women's Studies

Scholarly work on women and gender has influenced all levels of academic discourse. For example, one of the most important dimensions of globalization has been the heightened awareness of the importance of women in societal development.

Applicants must have a bachelor's degree from a regionally accredited institution.

For additional information, contact the Humanities Program.

LATIN, M.A.

Graduate Certificate in Latin

Program Description

The Latin M.A. is a 33-hour degree that consists of twenty-one hours of advanced Latin on the 500 and 600 levels, six hours of related courses taught in English, and six thesis hours.

The program fills significant needs in West Virginia and surrounding states. It will allow current Latin teachers to expand their knowledge base and to strengthen their own programs. It will also contribute to the training new teachers of Latin on the middle and secondary school levels, and will prepare students to enter Ph.D. programs in Classical Philology.

The M.A. in Latin is not designed to replace the M.A.T. in Latin, nor does it guarantee licensing or certification to teach Latin in West Virginia. It will, however, allow teachers certified in other disciplines to add Latin as a content area, and it will provide additional graduate hours for persons that hold professional teaching certification in Latin.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Applicants must also have:

- GRE (Graduate Record Examination) scores sent to Graduate Admissions
- three letters of recommendation sent to Graduate Admissions

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- appropriate prerequisites for upper-level Latin courses, which minimally consist of the completion of at least six semesters of Latin, at least two of which were taken at the 300 level or above.

Program Requirements

The M.A. degree will consist of twenty-one hours of advanced Latin on the 500 and 600 levels, of which LAT 640 and 660 are required, six hours of related courses taught in English, of which CL 620 is required, and six thesis hours. NOTE: at least 16 hours must be at the 600 level.

- From the Latin courses, students will be required to take:
LAT 640 Advanced Latin Prose Composition
LAT 660 Special Author in Latin Literature
and will select 15 hours from the other courses.
- From the courses taught in English, students will be required to take:
CL 620 Theoretical Approaches to Latin Literature
and will select 3 hours from the other courses.

Thesis

All students will be required to write an M.A. thesis of approximately 50-70 pages. Topics will be literary, and grounded in cultural contexts and literary critical techniques. They can focus on one author, or on themes or subjects found in more than one author. The research and writing of the thesis will extend over two semesters. In the first, students, working with an advisor, will develop and begin preliminary research on an author. In the second, they will continue their research and complete the actual writing. Students will be encouraged to present their research at national or regional conferences.

Plan of Study

Before registration for the 12th graduate credit hour, all graduate students must complete an official Plan of Study form to be approved by the Graduate Director and/or Department Chair and submitted to the Graduate College Office.

Courses that may be used to fulfill the advanced Latin requirement are:

LAT 503	Roman Comedy
LAT 504	Roman Elegy: Propertius and Tibullus.
LAT 505	Readings in Vergil
LAT 506:	Horace: Odes and Epodes
LAT 507	Livy's History of Rome
LAT 509	Roman Satire: Horace, Martial and Juvenal
LAT 510	Tacitus
LAT 580-583	Special Topics in Latin Literature.
LAT 585-588	Independent Study.
LAT 680-683	Special Topics in Latin Literature.
LAT 685-688	Independent Study in Latin Literature

Other required courses:

LAT 640	Advanced Latin Prose Composition.
LAT 660-665	Special Author in Latin Literature
CL 620	Theoretical Approaches to Latin Literature.
LAT 681	Thesis.

Courses that may be used to fulfill the related courses requirement are:

ART 508	Art of the Ancient World
CL 535	Greek Civilization
CL 536	Roman Civilization
CL 560	Ancient Goddess Religions
CL 570	Transformations of Myth
CL 580-583	Special Topics in Greek and Roman Literature
CL 585-588	Independent Study

GRADUATE CERTIFICATE IN LATIN

The Graduate Certificate in Latin provides a convenient way for individuals to add a consistent study of the Latin language and literature to their undergraduate and graduate credentials. Currently, all credits can be used toward teacher certification and toward the M.A.T. at Marshall.

Admission Requirements

Students already enrolled in the Latin M.A. program should submit to Graduate Admissions a Secondary Program Request form www.marshall.edu/graduate/secondary-program-request-form.

Prospective certificate-only students should apply for admission to Marshall University as a Professional Development student and select on the application form the Certificate in Latin.

Program Requirements

The program requires 15 hours, 12 of which consist of 500-level Latin courses, and 3 of which consist of CL 536, Roman Civilization.

PHILOSOPHY MINOR

The minor in philosophy consists of any two 500-level courses in Philosophy.

POLITICAL SCIENCE, M.A.

Program Description

The Department of Political Science is committed to those items enumerated in the mission statements of Marshall University and its College of Liberal Arts. First and foremost, the Department of Political Science strives to prepare future leaders by providing undergraduate and graduate students with a quality liberal arts political science education. This education includes critical thinking skills, problem solving skills, research skills, language/communication skills, and development of students' intellectual capabilities. The Department of Political Science is committed to (1) applied and basic research; (2) leadership and public service to the community; and (3) developing insight into multicultural and global issues.

Admission Requirements

Applicants should follow the admissions process outlined in the Graduate Catalog or at the Graduate College website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. Although applicants will be considered according to university application deadlines, the program strongly recommends that students plan to start in the Fall semester if they wish to complete the degree within four semesters.

To apply, students must submit the following items directly to Graduate Admissions:

- An application for admission (and pay the appropriate application fee);
- Official bachelor's degree transcript; applicants must have completed 12 hours of undergraduate social science coursework and have an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale;
- Graduate Record Examination (GRE) General Test or GRE Revised General Test, no older than five years at time of application (requirement may be waived if applicant has an undergraduate Grade Point Average (GPA) of 3.3 or higher on a 4.0 scale, and/or holds an advanced post-graduate degree from a regionally accredited college/university);
- TOEFL scores (if relevant);
- A personal statement (1-2 page essay discussing the applicant's interest in political science and how the M.A. degree will benefit him or her);
- Two letters of recommendation that discuss the applicant's abilities (college instructors strongly preferred).

Conditional Admission

The Political Science program may admit applicants conditionally, for one term, pending receipt of final official undergraduate transcripts (and GRE scores if their current undergraduate GPA is above 3.3)

Provisional Admission

The Political Science program may admit applicants provisionally, for one term, who have an undergraduate GPA between 2.50 and 2.99 on a 4.0 scale.

Degree Requirements

Students must complete 36 hours of credit, which includes nine thesis hours.

Required Core Curriculum and Suggested Sequence (15 Hrs.)

PSC	600	Research Design (3 hrs.) - First Semester
PSC	604	Data Analysis (3 hrs.) - Second Semester
PSC	680	Master's Thesis Workshop (3 hrs.) - Third Semester
PSC	681	Thesis (6 hrs.) - Fourth Semester

Electives (21 Hrs.)

These electives must be selected with approval of the Director of Graduate Studies and may be a mixture of any 5XX and 6XX political science courses.

A minimum of six elective hours must be seminars from the following list: PSC 606, 609, 611, 612, 614, 622, 629, 648, 650-1, 652, 660, 675 (may count for a maximum of three hours toward this requirement), and others with the approval of the Director of Graduate Studies.

A maximum of six elective hours from graduate courses taken outside of the political science department may be counted toward the degree with the approval of the Director of Graduate Studies.

Thesis

The written thesis (and subsequent oral defense) serves as the culminating project for the M.A. degree in Political Science.

In cooperation with the Director of Graduate Studies, a student should form a thesis committee. The thesis committee assists in selecting and developing the research problem and evaluates the student's work on that problem. The student should also determine the graduate faculty member of the department who will serve as chair of the student's thesis committee.

Students will develop a written thesis prospectus, approved by their thesis committee, in PSC 680. The remaining thesis credit hours (PSC 681) will usually be taken in the subsequent semester. In addition to writing the thesis, all students must pass an oral defense.

Advising

Each new graduate student must meet with the Director of Graduate Studies before his or her first semester as a graduate student. Continued advising throughout a student's tenure at Marshall University is strongly encouraged.

Plan of Study

A Plan of Study approved by the Director of Graduate Studies and the Graduate Dean must be filed in the Graduate College office before the student registers for the 12th semester hour.

Two-C Rule

A student who earns more than two grades of C or lower in any graduate courses may be withdrawn from the program.

Accelerated Master's Degree

An Accelerated Master's Degree is available for qualified undergraduate political science majors. See the Accelerated Master's Degree section in this catalog for details.

PSYCHOLOGY, M.A.

General

Areas of Emphasis

Clinical Psychology

School Psychology

Graduate Certificates

Clinical Psychology (post master's)

Behavioral Statistics

Program Description

The general psychology M.A. program requires a minimum of 36 graduate credit hours, though students may complete significantly more, depending upon their objectives. A common “core” of 24 credits (see below) is required of all students. The remaining hours are selected in consultation with an advisor to help meet students’ academic and professional goals.

NOTE: For both educational and ethical reasons, it is important that students obtain education and training that is consistent with their career goals. For example, students who intend to work in applied fields of psychology (e.g., clinical, counseling, school, industrial/organizational) should pursue and complete programs of study that prepare them with the skills, knowledge and supervised experience needed to develop competence in that field; this process is consistent with the APA ethical requirement that psychologists restrict their professional work to areas in which they have developed and maintained competence.

Prospective students in the general M.A. program should recognize that the general M.A. program is NOT in itself a clinical training program; students who plan to do clinical work should apply for and complete the entire Clinical Psychology sequence (described in a separate section below), which is designed to prepare graduates for entry-level clinical positions.

Admission Requirements

Applicants are required to submit the completed application form with all requested supplemental materials, official transcripts from degree-granting institutions, official transcripts of all previous graduate coursework, official report of the Graduate Record Examination (GRE) General Test (scores may not be more than five (5) years old), and three letters of recommendation. Completed applications along with all supporting materials must be received by the program’s deadline (see next section) to be considered for admission. It should be noted that the application process is competitive. It is recommended that scores on the GRE Verbal section not be lower than 146 and scores on the Quantitative section not be lower than 140. Likewise, it is recommended that applications have a minimum combined total on those two sections of 297 (revised scoring beginning in Fall 2011). Undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate university work. Completion of the following prerequisite courses is required for admission to any M.A. psychology program: Elementary or Introductory Statistics, Experimental Psychology or Research Methods; Abnormal Psychology; Learning, Social Psychology and Developmental Psychology. These prerequisite courses must have been passed at the undergraduate level with a grade no lower than a *B*.

Admission Priority Deadlines

Applications for admission to the General Psychology Master’s, School Psychology Emphasis, and Behavioral Statistics Certificate programs are due by the following dates::

Domestic Applicants		International Applicants	
TERM	DUE DATE	TERM	DUE DATE
Fall	August 1	Fall	June 15
Spring	December 1	Spring	October 15
Summer	May 1	Summer	March 15

Priority Deadline for the Clinical Emphasis and Post Master’s Certificate is January 31st for Fall Term.

Application Process

All applicants should follow the admissions process described in the Graduate Catalog. Application materials and current program information can be obtained by contacting the Marshall University Psychology Department, the Marshall University Graduate College Admissions office website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission, or by consulting the Psychology Department website at www.marshall.edu/psych. (Submit all materials to the Graduate Admissions Office.)

CONDITIONAL ADMISSION: Students may be admitted to the general psychology master’s program with “Conditional” status if they are missing certain official documentation supporting their application. Examples of such official documentation include a final transcript from their college or university documenting the successful completion of the bachelor’s degree. This may occur when a student applies to the general psychology master’s program while completing the final semester or quarter of their undergraduate program. Another typical situation includes official documentation of GRE scores. Other situations may also occur requiring an applicant to be admitted with “Conditional” status. Once the missing documentation is received by the graduate admissions office the applicant’s status may be changed from “Conditional” to “Full” status.

Provisional Admission

Students may be admitted to the general psychology master’s program with “Provisional” status if either the GRE admission criterion OR the GPA criterion is met. (Students who do not meet **either** criterion are not eligible for admission to

the program.) Provisionally admitted students will be fully admitted to the program when they have completed 12 hours of classes (which must include PSY 517 and 506) from the core courses listed below with no grade being below a *B*. A student who earns a *C* or lower in any of the listed core classes during the period of provisional status will not be permitted to take further graduate hours within the psychology department. **Students who meet the undergraduate GPA and GRE test score requirements but who are missing no more than two of the required undergraduate prerequisite classes listed above may also be granted provisional admission status.** They will then be able to take some graduate classes with the approval of their advisors while completing the undergraduate prerequisites. However, they may only enroll in graduate classes for which they have taken the prerequisite as an undergraduate. For example, a student who has not had elementary statistics cannot enroll in Intermediate Statistics (PSY 517); a student without an undergraduate social psychology course cannot take Advanced Social Psychology, etc. Students granted provisional admission status because of missing course prerequisites will be fully admitted to the program upon successful completion of the missing prerequisites and of any graduate courses taken during the provisional period. Students will *not* be provisionally admitted to the area of emphasis in clinical psychology or the post master's certificate in clinical psychology.

Students granted provisional admission status must take:

PSY 517 Statistics

PSY 506 Psychometrics

And two of the following:

PSY 674 Biological Bases of Behavior

PSY 672 Cognitive Psychology

PSY 606 Advanced Social Psychology OR

PSY 503 Applied Social Psychology

PSY 615 Advanced Developmental Psychology OR

PSY 617 Applied Developmental Psychology

No student may take more than 18 hours in the psychology department without receiving full admission to the department.

Provisional students will be assigned an advisor who must approve all course registrations. Provisional students will have a departmental hold placed on their registration to assure advisor approval and compliance with this policy. This hold will be permanently removed upon full admittance.

Program Requirements

General Requirements

The general psychology M.A. program requires a minimum of 36 graduate credit hours, though students may complete significantly more, depending upon their objectives. A common "core" of 24 credits (see below) is required of all students. The remaining hours are selected in consultation with an advisor to help meet students' academic and professional goals. The Clinical Psychology area of emphasis (see below) requires a minimum of 26 specified credits beyond the core of 24 credits for a total of 50 credits.

2-C Rule

Master's-level coursework and doctoral coursework are viewed separately in terms of this policy. In essence, a student may only receive one (1) grade of *C* per degree program (M.A., post-M.A. within Psy.D.) In the event of the second *C* the student will be dismissed from the program.

Having one (1) grade of *C* or lower in any particular program (*i.e.*, General M.A., clinical certificate, Clinical M.A., or Psy.D.) will not disqualify the student completing the degree program successfully. After receiving the first *C* grade the student must meet with his/her advisor and the professor of that particular course in order to identify and address issues/behaviors of concern. A form will be signed by the student, professor, and advisor. If the student is enrolled in one of the designated clinical courses listed in the subsequent section, the course must be repeated but the grade of *C* or lower will still stand on the record as a first obtained *C*. In other words, the grade cannot be replaced. If the student completes the remaining master's-level coursework without a second graduate of *C* or lower, s/he will begin the post-M.A. coursework with a "clean slate."

NOTE: For the purposes of clarification, if a student is enrolled in a terminal master's program, all coursework required for completion of the degree is considered master's-level coursework. Students who are admitted to the Psy.D. program but have not completed an M.A. or M.S. in psychology prior to admission will have all coursework completed within the first 56 hours considered as master's-level coursework. Students who enter the Psy.D. program with a completed master's degree will have the coursework used to complete the master's degree at the prior institution considered as master's level coursework.

Consequences of a second C in terminal master's in psychology programs or certificate programs: If a student receives a second grade of *C* or lower prior to completing the master's-level coursework, s/he will be dismissed from the master's program. If a student has completed a master's program in psychology and has a grade of *C* or lower in required psychology coursework, and then applies for admission to the Clinical Emphasis certificate program, the grade of *C* or lower earned in

the master's program will count as the first C. As noted previously, if the C was earned in designated clinical coursework, the course must be re-taken.

Consequences of a second C in the Psy.D. program: If the student is enrolled in the Psy.D. program and receives a second grade of C or lower in master's-level coursework (see definition above), s/he will be dismissed from both the psychology master's and Psy.D. program and will not be allowed to complete the master's degree. If the student completes the master's-level coursework without an additional grade of C or lower, and that student is enrolled in the Psy.D. program, s/he will be allowed to move on to the post-M.A. portion of the Psy.D. program with a "clean slate." The post-M.A. portion of the Psy.D. program is defined as all hours taken after the 56th hour that are required for the completion of the Psy.D. program.

Once admitted to the post-M.A. portion of the program, a student who earns a grade of C or lower will be required to meet with his/her advisor and the professor of the course in which the grade was earned to discuss issues of concern. If the course is one of the designated clinical courses listed in the subsequent section, the student will be required to repeat the course. A second grade of C or lower in the post-M.A. portion of the program will result in dismissal from the doctoral program without the awarding of the Psy.D. degree.

Ethics and Student Behavior

Students in all programs are expected to behave in accordance with the APA Ethical Principles and Code of Conduct. Consequences for violations may include suspension or dismissal from the student's program of study. When students in the clinical area of emphasis (M.A. program) exhibit behavior indicating inability or limited capacity to successfully perform clinical roles and functions, they may be suspended or dismissed from their program of study.

Plan of Study

Before registration for the 12th graduate credit hour, all graduate students must complete an official Plan of Study form to be approved by the Graduate Director and/or Department Chair and submitted for approval to the Graduate College Office.

Comprehensive Evaluation

A written comprehensive examination is required of all students in the M.A. program. Details about the exam are available from advisors and the program coordinator. In addition, students in the Clinical Psychology certificate program must, as part of their clinical internship, complete a comprehensive evaluation based on identified clinical competencies.

Thesis Option

Students have the option of completing a research thesis. The department has established a set of criteria and procedures for doing a thesis; these are available from advisors. These may be good choices for students intending to continue their education in research-oriented Ph.D. programs. This issue should be carefully discussed with the advisor. Up to 6 credits of PSY 681 (Thesis) may be included as "additional coursework" discussed below.

Curriculum

Core Requirements

PSY	517	Intermediate Behavioral Statistics (NOTE: if PSY 417 or its equivalent was completed with a B or better as an undergraduate, an additional statistics course must be substituted, in consultation with the student's advisor.)
PSY	674	Biological Bases of Behavior
PSY	672	Cognitive and Emotional Bases of Behavior
PSY	606	Advanced Social Psychology OR
PSY	503	Applied Social Psychology (NOTE: if either course or its equivalent was completed with a B or better as an undergraduate, the student must take the other course at the graduate level.)
PSY	615	Advanced Developmental Psychology OR
PSY	617	Applied Developmental Psychology
PSY	506	Psychometrics (NOTE: If PSY 406 or its equivalent was completed with a B or better as an undergraduate, an acceptable alternative must be substituted, in consultation with the student's advisor.)
PSY	605	Ethical and Legal Issues in Psychology
PSY	692	M.A. Research Seminar

Total: 24 credits

Additional Coursework

The general psychology M.A. program requires a minimum of 12 additional credit hours beyond the required core. These are to be selected in consultation with the advisor. With the advisor's approval, courses from other departments that are

consistent with the student's academic and career goals may be included in the required 12 additional credits. Students may, and often do, take more than 36 credit hours as part of their degree programs; in preparing their plans of study, students should carefully discuss their academic and career goals with their advisors and other faculty members.

Area of Emphasis in Clinical Psychology

The Clinical Psychology area of emphasis consists of 26 credit hours of clinical coursework and supervised clinical experience beyond the required department core. (Note: These 26 credits will meet the requirements for 12 additional credits as noted above in Additional Coursework.) It is designed to prepare graduates for master's degree level clinical roles within professional psychology. It is open to individuals who have received a bachelor's degree from a regionally accredited college / university OR who already hold a master's or doctoral degree in a non-clinical area of psychology and whose courses meeting the required core courses were completed more than seven (7) years prior to admission, as these courses will no longer be considered for transfer. Any student who is fully admitted to the Psychology M.A. program may apply for admission to the clinical psychology area of emphasis (please see *NOTE under "Application Process.") More information and application materials are available from advisors and from the Clinical area coordinator.

Required Courses

Those courses marked with * are restricted to students in the clinical track. It is important to note that students in the clinical area of emphasis *must* complete the entire track to receive any letters of support or other indication from individual faculty members, the department or the university that the student has achieved appropriate competence in the skills or knowledge bases associated with master's level clinical training, and such students must complete the entire sequence for the Clinical Psychology Area of Emphasis to appear on their transcripts.

Area of Emphasis Requirements beyond the Core:

PSY	731	Psychotherapy I*
PSY	732	Psychotherapy II*
PSY	608	Diagnosis and Treatment Planning*
PSY	633	Individual Psychotherapy and Interviewing*
PSY	610	Assessment of Adults*
PSY	611	Assessment of Children*
PSY	620	Adult Assessment Practicum*
PSY	621	Child Assessment Practicum*
PSY	634	Group Therapy*
PSY	670	Clinical Practicum*
PSY	680	Clinical Internship*

Electives:

PSY	619	Psychotherapy with Children (3 cr.) *
PSY	630	Adult Diagnosis and Therapy (3 cr.)*
PSY	635	Child and Family Diagnosis and Therapy (3 cr.)*
PSY	671	Clinical Practicum II (3 cr.)*

Area of Emphasis in School Psychology

The School Psychology area of emphasis consists of 36 hours. It is designed to prepare students for entry into the School Psychology Education Specialist (Ed.S.) program. Any student who is fully admitted to the Psychology M.A. School Psychology area of emphasis may apply to the Ed.S. program in School Psychology in the spring semester of his/her first year.

The following courses are required for the School Psychology area of emphasis. Most of these courses are offered on the South Charleston campus.

Curriculum: M.A. in Psychology with an area of emphasis in School Psychology

Core Requirements

PSY	674	Biological Bases of Behavior OR
SPSY	674	Biological Bases of School Psychology
PSY	623	Experimental Design
PSY	672	Cognitive and Emotional Bases of Behavior OR
SPSY	675	Cognitive and Emotional Bases of School Psychology
PSY	526	Cross-Cultural Psychology

PSY	615	Advanced Developmental Psychology OR
SPSY	616	Typical & Atypical Child Development
PSY	605	Ethical, Legal, and Professional Issues in Psychology
PSY	506	Psychometrics OR
SPSY	621	Data-Based Decision Making I
PSY	692	Research Seminar

Area of Emphasis Requirements

SPSY	601	Professional Competence I: Schools
SPSY	617	Indirect Service Delivery I: School Consultation
SPSY	618	Direct Service Delivery I: Instruction Methods and Behavior Modification
SPSY	619	Direct Service Delivery I: Individual and Group Counseling OR
PSY	619	Psychotherapy with Children

Total: 36 credits

Clinical Psychology Post-Master's Certificate

The Clinical Psychology post-master's certificate consists of 26 credit hours of clinical coursework and supervised clinical experience to prepare graduates for master's degree level clinical roles within professional psychology. It is designed specifically for individuals who already hold a master's or doctoral degree in a non-clinical area of psychology and whose courses meeting the required core courses were completed less than seven (7) years prior to admission. Similarly, any student who is fully admitted to the General Psychology M.A. program seeking clinical training who will graduate prior to starting the clinical training program must apply for admission to the Clinical Psychology Post-Master's Certificate. For those who will not graduate with a General Psychology MA degree prior to starting the clinical training program should apply to the Area of Emphasis in Clinical Psychology.

More information and application materials are available from advisors and from the Clinical area coordinator.

Required Courses

The courses required for the Clinical Psychology certificate are the same as those for the Area of Emphasis in Clinical Psychology. The difference is that those admitted to the Post Master's Certificate will have met the required core areas for the degree within the past seven (7) years and as part of a prior degree (e.g., general psychology master's degree or non-clinical doctoral degree). Those marked with * are restricted to students in the clinical certificate program. It is important to note that students in the clinical area of emphasis must complete the entire track to receive any letters of support or other indication from individual faculty members, the department or the university that the student has achieved appropriate competence in the skills or knowledge bases associated with master's level clinical training, and such students must complete the entire sequence for the Clinical Psychology Area of Emphasis to appear on their transcripts..

Curriculum

Required:

PSY	608	Diagnosis and Treatment Planning*
PSY	633	Individual Psychotherapy and Interviewing*
PSY	610	Assessment of Adults*
PSY	611	Assessment of Children*
PSY	620	Adult Assessment Practicum*
PSY	621	Child Assessment Practicum*
PSY	634	Group Therapy*
PSY	731	Psychotherapy*
PSY	732	Psychotherapy II*
PSY	670	Clinical Practicum*
PSY	680	Clinical Internship*

Electives:

PSY	619	Psychotherapy with Children (3 cr.) *
PSY	630	Adult Diagnosis and Therapy (3 cr.)*
PSY	635	Child and Family Diagnosis and Therapy (3 cr.)*
PSY	671	Clinical Practicum II (3 cr.)*

Admissions Priority Deadlines

Applications for admission to the Area of Emphasis in Clinical Psychology master's program are due by January 31st and will be given priority over those completed after this date. These will be acted on before April 15th of each year. Slots in the Clinical Psychology Area of Emphasis program are limited. The most qualified applicants will be accepted until the slots have been filled. Grade Point Averages (undergraduate and graduate), GRE scores, and faculty recommendations will be considered.

Two-C Rule and Student Behavior

The following two statements are applicable to all psychology graduate programs:

1. **2-C Rule:** Psychology students cannot be admitted to, or continue in, a graduate program in psychology if they earn more than one grade of C or lower in any graduate course in psychology or any course included in the plan of study. Such students will not be permitted to continue taking courses or to work on a thesis. Please see the complete description of the 2-C Rule on the second page of the M.A. in Psychology section.
2. **Ethics and Student Behavior:** Students in all programs are expected to behave in accordance with the APA Ethical Principles and Code of Conduct. Consequences for violations may include suspension or dismissal from the student's program of study. When students in the clinical area of emphasis (M.A. program) or the Psy.D. program exhibit behavior indicating inability or limited capacity to successfully perform clinical roles and functions, they may be suspended or dismissed from their program of study.

Graduate Certificate in Behavioral Statistics

Psychology and behavioral research are based, in part, upon the assumption of an orderly analysis of empirical data. Within psychology, behavioral statistics offer the foundation for discovery and advancement of the profession and provide the support for the demonstrability of treatment programs and other forms of psychological intervention.

The Graduate Certificate in Behavioral Statistics offers a comprehensive array of statistical tools and analyses that will enable those who complete the certificate both private and public sector opportunity. The certificate represents a balance between the large sample parametric statistics of experimental design [ANOVA] and regression and the areas of non-parametric and small or single subject design.

Certificate holders will be able to create, design, and implement real-world statistical paradigms.

Employers will benefit from the breadth of the program in the graduates' ability to apply behavioral statistical paradigms to their knowledge base.

Admissions

Applicants interested in the certificate-only program should apply for admission to Marshall University as a Certificate/Professional Development student and select on the application form the Certificate in Behavioral Statistics. The Admissions requirements for the certificate program are the same as for the M.A. program in Psychology.

All credits earned in the Graduate Certificate Program in Behavioral Statistics may be applied to a master's degree. For example, PSY 517 is a current requirement for the master's degree in Psychology. Other credits earned in the behavioral statistics program may be applied in part to the elective hours required for the M.A. degree in Psychology.

Requirements: 12 hours

PSY 517, Intermediate Behavioral Statistics	3 hours
PSY 623, Experimental Design.....	3 hours
PSY 624, Multivariate Analysis.....	3 hours
And one of the following:	
PSY 651, Advanced Nonparametric Statistics	3 hours
PSY 654, Single Subject Analysis	3 hours

Minor in Psychology

A minor in psychology is earned by successfully completing at least 6 credit hours at the 500- or 600- level in Psychology as approved by the student's advisor and the Psychology Department Chair.

Accelerated Master's Degree in Psychology

Undergraduates accepted to an Accelerated Master's Degree program can begin taking master's level classes while still in the B.A. program. These graduate credits can be used for both the undergraduate and graduate level coursework and will help facilitate an easy and fast transition into the master's or doctoral program if a student is accepted. In order to be accepted into the accelerated master's program, please see your advisor to see if you qualify for one of these positions.

Eligibility Requirements for Accelerated Master's Degree Program

- must have completed at least 90 hours toward the bachelor's degree;
- must have at least a 3.30 overall undergraduate GPA;
- must have at least a 3.30 GPA in the major;
- must have completed an introductory statistics course
- must have completed an experimental psychology course
- must have completed at least nine hours of psychology at the 300-400 level.
- must meet the admission requirements of the chosen master's degree program.

For admission to the AMD in psychology, students must meet the requirements established by the Graduate College (GCAMD). In addition, applicants must have completed an Introductory Statistics course and an experimental psychology course and at least nine hours of psychology at the 300-400 level. Students admitted to the AMD program are being admitted to the general psychology MA program. Admission to the M.A. program with an emphasis in clinical psychology or school psychology requires a separate application and additional requirements must be met as outlined in the graduate catalog.

AMD Credits: 12 credits that must be approved in the plan of study.

How to apply:

1. During the junior or senior year, eligible students should meet with their Undergraduate Advisor and the Director of Graduate Studies of their chosen Master's degree program to develop an AMD plan of study. This form is available from the Graduate College office or www.marshall.edu/graduate-council.files/2012/11/AMDPlanofStudy.pdf. Any changes to the AMD plan of study must be approved by the Undergraduate Advisor and Director of Graduate Studies in writing to the Dean of the Graduate College.
2. The student's acceptance into the AMD program is subject to the approval of the plan of study by the Dean of the Graduate College.
3. Students accepted into the AMD program should apply for admission to the chosen master's degree program for the first semester after the bachelor's degree is awarded. Applications should be submitted during the last semester of the senior year.

Students must maintain a minimum GPA of 3.0 for all graduate credit toward their master's degree program.

Withdrawal from the AMD

A student may withdraw at any time from the AMD by informing the Undergraduate Advisor, the Director of Graduate Studies and the Dean of the Graduate College in writing. A student's status will then revert to the standard undergraduate degree program. Any graduate hours earned must be approved for use in fulfillment of bachelor's degree requirements by the student's undergraduate dean.

From Undergraduate to Graduate Student

Beginning with the semester after the student has earned the bachelor's degree and has been accepted into a master's degree program, the student is enrolled in the Graduate College and is assessed tuition and fees at the graduate rate. All rules regarding graduate education will apply to the student once admitted into the master's degree program.

DOCTOR OF PSYCHOLOGY, PSY.D.

Clinical Psychology (Psy.D.) Program Mission

The primary mission of the Clinical Psychology (Psy.D.) Program at Marshall University is to train doctoral-level psychologists who are highly skilled generalists. Training within the program will foster an appreciation for the importance of critical inquiry at all levels of clinical practice. There is a specific emphasis on developing a sensitivity to the needs of rural and underserved people. The Psy.D. program is accredited by the American Psychological Association.

Model and Goals

The philosophy of the program follows a practitioner-scholar model of education and training; consequently, graduates of the program are trained as practitioners of clinical psychology as an empirically informed field. Education and training within the program emphasize the importance of critical inquiry at all levels of clinical practice, including treatment planning for individual clients, assessment of program outcomes, and the design and execution of rigorous research. The program is dedicated to educating students for professional practice careers. The program faculty has set forth several pertinent goals and objectives to be obtained by students during their time in the program. These goals and objectives are founded on the core competencies of clinical education and training stated by the National Council of Schools in Professional Psychology (NCSPP).

The program exposes students to the following primary clinical orientations: integrative, behavioral, cognitive behavioral, and psychodynamic. In the context of this exposure, we encourage each student to develop an orientation that is best suited to his or her style and situation. We endeavor to support students in their development, whether they prefer to remain eclectic or choose to invest in a particular theoretical orientation. The fact that the faculty represents a variety of orientations fits well with this model. Although the perspectives of clinical faculty vary, they share a common mission to provide education and training that is solidly grounded empirically. We also emphasize that multiple systemic and individual factors must be considered in developing a cooperative relationship between client and therapist that will ultimately lead to more positive life experiences for the client. There is a sharp focus on the impacts of community and culture from a biopsychosocial model of influence on human development. As such, the generalist orientation of the program serves as a model to students that the field of clinical psychology is as diverse as the human population it serves.

Education and Training Goals and Objectives

1. The primary goal of the program is to provide high quality graduate education and training in clinical psychology with an emphasis on the role of empirical knowledge as it pertains to clinical practice. As such, students will develop the specific competencies that are the foundation of the education and training model developed by NCSPP.

Objective 1.1: Relationship competence: Students are expected to develop the ability to form productive partnerships with clients, peers, supervisors, faculty, and community members.

Objective 1.2: Assessment competence: Students are expected to develop competency in clinical assessment as evidenced by knowledge of basic psychometric theory and sound test administration and interpretation skills. In addition, students should be able to demonstrate the use of sound assessment methodologies that allow them to describe their client, to plan a course of intervention, and to assess intervention outcomes.

Objective 1.3: Intervention competence: Students are expected to demonstrate the ability to form a coherent, theoretically based, empirically-supported treatment plan that is refined during the course of intervention.

Objective 1.4: Research and evaluation competence: Students must demonstrate the ability to conceptualize as appropriate a logical research question, frame it in terms of an operational definition, and develop a sound method for addressing the question. Students must be able to execute the plan and analyze the quantitative and/or qualitative data in a rigorous and systematic manner.

Objective 1.5: Consultation and education competence: A rural behavioral health practitioner may often find that the most important function s/he can serve is as a consultant within existing systems. Students will demonstrate competence in distinguishing various types of consultation from direct intervention.

Objective 1.6: Management and supervision competence: Students will become knowledgeable in the areas of organization and supervision of psychological services. Students will demonstrate this knowledge in their ability to provide formal and information supervision to less experienced students. They will also demonstrate this knowledge in their ability to function professionally in at least two different agency settings.

Objective 1.7: Legal and Ethical competence: Students are expected to understand and abide by the APA Code of Ethics in all professional and academic settings.

Objective 1.8: Cultural/Diversity competence: Students will understand the significant impact cultural differences have on clinical practice and be able to articulate those impacts in reference to specific clinical cases. Students will be able to identify cultural differences in an academic sense and demonstrate through program planning and service delivery that the differences are appreciated.

2. The second goal is to ensure that the clinical training of students is thoroughly grounded in the broad scientific areas of psychology.

Objective 2.1: Students will demonstrate knowledge in the following broad areas of scientific psychology: biological aspects of behavior; cognitive and affective aspects of behavior; social aspects of behavior; history and systems of psychology; psychological measurement; research methodology; and techniques of data analysis;

Objective 2.2: Students will demonstrate knowledge in the following scientific, methodological, and theoretical areas of psychology: individual differences in behavior, human development, dysfunctional behavior and analysis, and professional standards of ethics.

3. Rural areas are characterized by unique needs that are not often met by service delivery models and therapeutic modalities developed primarily in urban settings. Therefore, a third goal is to promote an understanding regarding the impact of rural culture on clinical practice.

Objective 3.1: Students will develop an understanding of the diverse forces at work in rural areas that can and do impact various aspects of human development and community functioning.

Objective 3.2: Students will be able to articulate alternative service delivery models that may improve access and use of behavioral health services in rural areas.

Objective 3.3: Students will be encouraged to seek internships in settings that serve rural populations.

4. Finally, the program seeks to nurture in students the spirit of lifelong learning. In the service of this goal, the faculty strives to create an atmosphere of inquiry in which students are encouraged to utilize a variety of means to answer complex questions related to human nature.

Objective 4.1: Faculty and students will regularly engage in formal and informal discussions of current literature and pertinent research issues.

Objective 4.2: Faculty and students will be encouraged to regularly attend conferences and workshops that promote critical thinking regarding issues pertinent to the broad field of psychology.

Program Goals and Objectives

1. The primary program goal is to enhance the scope and quality of services available in rural areas by increasing the likelihood that doctoral students graduating the program will choose to work in rural and underserved regions, particularly those regions in West Virginia.

Objective 1.1: As research has shown that students who are native to rural areas and who train there are more likely to return to those areas to practice, the department has determined that a minimum of 50% of the slots be reserved within the program for residents of West Virginia and the surrounding region. The department anticipates offering the remaining slots to individuals from a broad range of geographic regions and all interested individuals are strongly encouraged to apply.

Objective 1.2: Quality practicum placements are cultivated in rural settings to allow students to be trained in alternative service delivery models.

2. The second program goal is to promote an understanding of the impact(s) of rural culture, particularly Appalachian culture, on human behavior and behavioral health needs.

Objective 2.1: Faculty and students are encouraged to develop research projects that permit the examination of the impact of rural/Appalachian culture.

Objective 2.2: Faculty and students are encouraged to present their work in conferences and workshops that address issues pertinent to rural populations.

Applying to the Psy.D. Program

Prerequisite Coursework. Applicants must have completed a minimum of 18 undergraduate semester hours of psychology, including statistics, experimental psychology or research methods, and abnormal psychology in order to be considered for admission. Please note that some courses may have undergraduate prerequisite coursework attached to them. While these undergraduate courses are not required for admission, they must be taken prior to a student's enrollment in those courses with such prerequisites.

Application Deadline and Materials. Students are admitted to the Psy.D. program once per year for classes starting in the Fall semester. Applicants are required to submit the completed application form with all requested supplemental materials, official transcripts from degree-granting institutions, official transcripts of all previous graduate coursework, official report of the Graduate Record Examination (GRE) General Test (scores may not be more than five (5) years old), and three letters of recommendation. Completed applications along with all supporting materials must be received by the December 1 deadline to be considered for admission the following fall. It should be noted that the application process is competitive. It is recommended that scores on the Verbal section not be lower than 150 (revised scoring beginning in Fall 2011) or 450 (previous scoring system prior to Fall 2011) and scores on the Quantitative section not be lower than 141 (Revised scoring beginning in Fall 2011) or 450 (previous scoring system prior to Fall 2011). Likewise, it is recommended that applications have a minimum combined total on those two sections of 297 (revised scoring beginning in Fall 2011) or 1,000 (previous scoring system prior to Fall 2011). Grade point averages for successful candidates typically range from 3.2 to 3.6. Application materials and current program information can be obtained by contacting the Marshall University Psychology Department, the Marshall University Graduate College Admissions office, or by consulting the Psychology Department website at www.marshall.edu/psych.

Applicant review process. Applicants are divided into two groups as follows:

1. **Post-B.A.:** This track is designed for students who either possess no graduate degree or whose graduate degree is in an area other than psychology. Students who have completed some graduate work towards a master's degree in psychology but will not have completed the degree prior to admission to the Psy.D. program would also be a part of this track. Students accepted into this track are expected to enroll as full-time students throughout the program. A student accepted through this track may earn a master's degree in general psychology as he or she makes successful progress toward the Psy.D.
2. **Advanced Standing:** A student who already has a master's degree in psychology can apply for advanced standing in the Psy.D. program. In order to apply for advanced standing, a student must have completed a master's degree in psychology from a regionally accredited institution. Students who are admitted with advanced standing must select to enter in either a full-time track or a part-time track by the end of their first semester of enrollment. These tracks are described as follows:

(continued)

Full-time track: Students who apply for advanced standing and the full-time track must be able to document coursework and practicum equivalencies equal to approximately 36 hours of coursework required in the Psy.D. program at Marshall University. Review of equivalencies is described in the next section. Students in the full-time track must commit to a minimum of 9 hours of coursework and practica per semester during the entire time of their enrollment. They must also commit to taking summer coursework as needed. As such, these students can anticipate completing the program in approximately four years. This would assume 5-6 semesters of coursework and a full year for the pre-doctoral internship. Students admitted to the full-time track can apply to change to the part-time track if their circumstances warrant such a change. Although students with extenuating circumstances may drop below full-time for a given semester without changing tracks, they should recognize that this change may impact the time it will take to complete the program. Students in this track desiring to attend part time for more than one semester may be required to switch formally to the part-time track.

Part-time track: Students who apply for advanced standing and the part-time track are not required to document equivalencies at any particular level, although they must still possess a master's degree in psychology from an accredited institution. Students in the part-time track may enroll either full-time or part-time in any given semester with the exception of the residency year, described in the next section. During the residency year, full-time enrollment is required. Students in this track should anticipate completing the program in no fewer than 5 years and no more than 7 years from the date of enrollment.

Vertical Team Practica: Practica in the program are arranged according to vertical teams. Each team is lead by a clinical faculty member who is a licensed psychologist. Teams are organized around a particular orientation to clinical conceptualization and treatment planning. Teams include students at all levels of training and allow newer students to be exposed to practica in which they may be placed as they progress through the program. Vertical team arrangements also allow more experienced students to become mentors to more junior students.

Comprehensive Evaluation Process: All students admitted to the program must complete the portfolio evaluation review as part of the comprehensive evaluation process. In addition, students who are admitted without a master's degree will take a written comprehensive prior to being awarded the master's degree.

Doctoral Research Project: All students are required to complete a doctoral research project prior to receiving their Psy.D. degree. Details of the doctoral research process are discussed in the Psy.D. Student Handbook.

Internship Requirement: All students are required to complete a one year, full time (or two year, half time) internship in clinical psychology at an approved internship training site. There are a very limited number of local approved sites and students should anticipate the possibility of relocation during this portion of the training period. Please contact the Psy.D. program coordinator for additional information concerning this requirement.

Residency Requirement: All students are required to enroll as full time students for a one year "residency" period. For most students, this will be the 4th year, when students focus on their doctoral research and their rural practicum placements.

Rural Practicum Placement: A key component of our program is training in and supervised delivery of psychological services in rural settings. All students will spend at least one academic year (two sequential full semesters) placed in an approved rural training site. This placement will require driving to the site and may require an overnight stay each week. More information about this part of the program is available from the Psy.D. Program Director and/or the Practicum Coordinator.

Scheduling of Coursework: Courses are offered during Fall, Spring and Summer terms, with most courses offered no more than once per year. Students must plan to take courses during each term to make appropriate progress through the curriculum.

Other information about program (e.g. comprehensive exams, specific procedures for requesting evaluation of prior graduate coursework, graduate assistantships and other student funding opportunities; the doctoral program fee charged to students each semester of enrollment) is available from the psychology department; please contact the Psy.D. Program Coordinator.

Accreditation

Marshall University's Psy.D. is fully accredited by the American Psychological Association. In addition, Marshall University is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools (30 North LaSalle Street, Suite 2400, Chicago, IL 60602-2504). The Psy.D. program has also been recognized as a designated program by the National Register/Association of State and Provincial Boards of Professional Psychology. The Psy.D. program is also a member of the Association of Psychology Postdoctoral and Internship Centers (APPIC).

Course Requirements

Following are the courses required for the Psy.D. program. A curriculum by year can be found by visiting the website at www.marshall.edu/psych.

I. Foundational Psychotherapy

PSY 633 Individual Interviewing & Psychotherapy

II. Foundational Assessment

- PSY 706 Integrated Assessment I
- PSY 707 Integrated Assessment I Practicum
- PSY 708 Integrated Assessment II
- PSY 709 Integrated Assessment II Practicum

Optional:

- PSY 710 Advanced Assessment

III. Biological Bases of Behavior

- PSY 674 Biological Bases of Behavior
- PSY 618 Psychopharmacology
- PSY 750 Behavioral Health Psychology

IV. Cognitive and Affective Aspects of Behavior

- PSY 672 Cognitive and Emotional Bases of Behavior

V. History and Systems of Behavior

- PSY 560 History and Systems of Psychology

VI. Research Methodology and Data Analysis

- PSY 723 Clinical Research Methods
- PSY 799 Doctoral Research (6 or more cr.)

Choose one of the following:

- PSY 717 Advanced Quantitative Methods
- EDF 625 Qualitative Research in Education

VII. Human Development and Individual Differences

- PSY 615 Advanced Developmental Psychology
- PSY 712 Geropsychology
- PSY 764 Human Sexuality and Dysfunction

VIII. Psychopathology

- PSY 608 Differential Diagnosis and Treatment Planning

IX. Professional Standards and Ethics

- PSY 605 Ethics, Legal, and Professional Issues

X. Social Aspects of Behavior

- PSY 606 Advanced Social Psychology

Note: PSY 606 carries a prerequisite of having taken an undergraduate course in Social Psychology.

This prerequisite must be fulfilled before taking PSY 606 as a program requirement.

XI. Cultural and Individual Diversity

- PSY 752 Rural/Community Psychology I
- PSY 726 Cross-Cultural Psychology

XII. Advanced Psychotherapy

- PSY 635 Child and Family Therapy
- PSY 731 Psychotherapy I
- PSY 732 Psychotherapy II
- PSY 733 Psychotherapy III
- PSY 755 Rural/Community Psychology II
- PSY 634 Group Therapy

(continued)

XIII. Consultation and Supervision

PSY 753 Supervision in Clinical Psychology

XIV. Clinical Practica

PSY 670 Practicum I
PSY 671 Practicum II
PSY 769 Practicum in Clinical Psychology
PSY 713 Advanced Assessment Practicum
PSY 714 Advanced Assessment Practicum
PSY 770 Advanced Practicum in Clinical Psychology
PSY 771 Advanced Practicum in Clinical Psychology
PSY 772 Rural Practicum I
PSY 773 Rural Practicum II

XV. Internship

PSY 780-783 Pre-Doctoral Internship (3-9 cr.)

XVI. Clinical Seminar

PSY 790-796 Clinical Seminars (3 cr. each/2 required)

XVII. Teaching Experience (Optional)

PSY 600 Teaching Seminar

The following two statements are applicable to all psychology graduate programs:

1. **2-C Rule:** Psychology students cannot be admitted to, or continue in, a graduate program in psychology if they earn more than one grade of "C" or lower in any graduate course in psychology or any course included in the plan of study. Such students will not be permitted to continue taking courses or to work on a doctoral research project. Please see the complete description of the 2-C Rule on the second page of the M.A. in Psychology section.
2. **Ethics and Student Behavior:** Students in all programs are expected to behave in accordance with the APA Ethical Principles and Code of Conduct. Consequences for violations may include suspension or dismissal from the student's program of study. When students in the clinical area of emphasis (M.A. program) or the Psy.D. program exhibit behavior indicating inability or limited capacity to successfully perform clinical roles and functions, they may be suspended or dismissed from their program of study.

Education/Training Outcomes for the Psy.D. Program

In keeping with APA Accreditation Guidelines, the following information is provided to permit students considering application to the Psy.D. program to make an informed decision.

Timeframe for Program Completion. The Psy.D. Program is designed to be a five year, full-time program. On average, students attending the program full time complete the program in that time frame. Those attending half-time include only those students who have completed a master's degree prior to entry. For these students, average length of completion time is approximately 5.5 years.

Tuition and fees. Because tuition and fees are subject to change on an annual basis, students are encouraged to contact the Bursar's Office at 1-800-438-5389 or the website at www.marshall.edu/bursar to obtain current program costs.

Internship acceptance rates. For the academic year 2012-2013, eleven students applied for internship placement with acceptance figures as follows:

Percent obtaining internships: 100%
Percent obtaining paid internships: 100%
Percent obtaining internships at APPIC sites: 90%
Percent obtaining internships at APA sites 64%

Attrition. At present, the overall attrition rate is 6%.

Licensure outcomes. The program claims a licensure rate of 86%.

PUBLIC ADMINISTRATION, M.P.A.

The master's degree in Public Administration will provide graduate training in academic, research and service to prepare students for leadership positions in public service, both in the non-profit and public sectors of society. The graduate curriculum consists of a 36 semester credit hour requirement, including a core of courses required for all students and a specialty area of emphasis. The core consists of 18 semester credit hours designed to train students to lead agencies in areas of budgetary development and management; data collection and analysis; personnel training, and policy development and implementation. All students are required to complete a six credit hour practicum in their specialty area and to submit a portfolio for review at the end of the practicum.

Admission Requirements

Applicants should follow the admissions process outlined in the Graduate Catalog or at the Graduate College website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition, applicants must have:

- Standardized test scores (GRE, GMAT, or MAT) from exams completed no more than five years prior to the application submission to the program. Recommended minimum scores are: GRE, combined 800 on Verbal and Quantitative, or 286 on current combined score; GMAT, 500; OR MAT, 392. Please note that the MAT can be taken, by appointment, on the South Charleston campus. Standardized test scores are waived for applicants with a graduate degree from an accredited university.
- A current resume or curriculum vitae.
- A personal statement describing the applicant's interest in the program and goals from program completion.
- For non-native English speakers, minimum TOEFL scores of 550 (paper-based exam), 213 (computer-based exam), and 79 (Internet-based exam) are required. TOEFL exam must be completed no more than two years prior to the application submission for the program. Graduates of English speaking universities will have TOEFL requirements waived. Minimum undergraduate GPA scores and standardized test scores will be waived for applicants who have previously earned degrees above the baccalaureate level from accredited institutions.

Program Description

The M.P.A. will consist of a core curriculum to include the following:

MGT	620	Human Resource Management
MGT	672	Organizational Behavior
PSC	533	Public Administration and Policy Development
PSC	553	Governmental Budgetary Administration
PSC	604	Data Analysis
PSC	616	Public Administration Scope and Practice

The program will require students who are not in the professional workforce (pre-service) to complete a six-hour practicum. This can be accomplished through agency placements for internships. Students who are in the professional workforce (in service) will complete a project report analyzing public administration as practiced in their place of employment.

The program will offer concentrations of twelve credit hours in general administration policy, non-profit management, and urban governance.

The M.P.A. program, then, will be composed of the following:

Core Curriculum	18 hours
Concentration	12 hours
Practicum or Project Report.....	6 hours
TOTAL.....	36 hours

Concentrations

Menu of Courses

General Administration Policy

ACC	510	Survey of Accounting
ECN	550	Public Finance
FIN	554	Insurance Planning and Risk Management
LS	632	Human Relations in the Public Sector
LS	645	Community Collaborative Planning and Management
LS	615	Leadership in the Public Sector

(continued)

MGT	680	Entrepreneurship
PSC	550	Administrative Law
PSC	552	Public Personnel Administration
PSC	618	Seminar in Public Administration
PSC	660	Seminar in Policy Administration
PSC	518	Personnel Psychology
PSY	520	Industrial/Organizational Psychology
SOC	523	Sociology of Class, Power and Conflict
SOC	533	Sociology of Work

Non-Profit Management

ECN	550	Public Finance
FIN	554	Insurance Planning and Risk Management
GEO	511	Medical Geography
GEO	516	Environmental Issues in Planning ¹
LS	632	Human Relations in the Public Sector
LS	645	Community Collaborative Planning and Management
LS	615	Leadership in the Public Sector
PSC	532	Nonprofit Management
PSC	542	Politics and Welfare
PSC	561	Urban Problems and Public Policy
PSC	660	Seminar in Policy Administration
PSY	520	Industrial/Organizational Psychology
SOC	501	Population and Human Ecology
SOC	523	Social Class, Power and Conflict
SOC	525	Race and Ethnicity
SOC	528	Medical Sociology
SOC	640	Problems and Prospects for an Aging Society

Urban Governance

ECN	515	Regional Economics
ECN	560	Economic Development
FIN	554	Urban Insurance Planning and Risk Management
GEO	510	Urban Geography
GEO	514	Principles and Methods of Planning
GEO	515	Urban Land Use Planning ¹
GEO	516	Environmental Issues in Planning ¹
GEO	526	Principles of GIS
GEO	529	Intermediate GIS - Vector Analysis ²
GEO	530	Intermediate GIS - Raster Analysis ²
GEO	531	Principles of Remote Sensing and Programming
LS	615	Leadership in the Public Sector
LS	645	Community Collaborative Planning and Management
PSC	561	Urban Problems and Public Policy
PSC	621	Urban Administration
PSY	520	Industrial/Organizational Psychology
SOC	501	Population and Human Ecology
SOC	523	Social Class, Power and Conflict
SOC	533	Sociology of Work
SOC	542	Urban Sociology

¹GEO 514, Principles and Methods of Planning, is a prerequisite for this course.

²GEO 526, Principles of GIS, is a prerequisite for this course.

SOCIOLOGY, M.A.
Area of Emphasis
Anthropology
Minor in Anthropology
Minor in Sociology
Accelerated Master's Degree in Sociology

Program Orientation

The Department of Sociology and Anthropology at Marshall University offers a supportive environment for students who wish to pursue advanced training in sociology or anthropology as well as those for whom the Master's level is the final degree. The curriculum is designed to provide our students with a wide range of options in pursuit of their academic and professional goals and interests, while also providing solid training in core foundational aspects of the two disciplines. Students learn both qualitative and quantitative research methods and are exposed to a variety of subfields and theoretical perspectives. Faculty core strengths include: theory, social movements and social change, inequality, stratification, deviance, cultural diversity, social interaction and group processes, world systems/globalization, social institutions (religion, family, work and occupations, health care, politics and the economy), criminology, gerontology, qualitative and quantitative research methods, and advanced statistical analysis.

Admission Requirements

Interested students may seek admission to the program for full-time or part-time studies, with preferred entrance in the fall semester of each year. To receive full consideration all application materials must be received by the Graduate Admissions Office by April 15 for the Fall semester and by November 15 for the Spring semester. Students should plan to take the GRE as early in the year as possible. Applicants should follow the admission process outlined in the Graduate Catalog or at the Graduate College website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition to the materials described in the Catalog and on the Web site, applicants for regular admission to the Master of Arts in Sociology must submit to the Graduate Admissions Office:

- A personal statement describing interests in the program and future plans;
- Standardized test scores (GRE);
- International students must provide evidence of English language proficiency such as the TOEFL;
- Evidence of a minimum of 12 credit hours of undergraduate sociology coursework;
- Undergraduate grade point average (GPA), overall and in sociology;
- A writing sample: a copy of one paper (10-25 pages) from an undergraduate course, preferably a sociology or anthropology course; and
- Two letters of recommendation from persons familiar with the applicant's academic or professional competence.

Admission to the program is offered to a limited number of qualified students demonstrating academic excellence and professional promise. Applicants who have submitted a complete application, who fulfill the requirements stated above, and who have achieved a combined GRE score of 651, or the equivalent measure of the new GREs implemented fall 2011, will be considered for Full Admission. Students who do not fulfill all requirements stated above (including the minimum GRE score) may be considered for admission on a provisional or conditional basis. (See definitions of Provisional and Conditional admission in this catalog).

Requirements

In addition to regular courses and seminars, students are expected to contribute to their professional growth through interaction with the faculty and other graduate students as well as from independent study and reading. A student must earn at least a 3.0 GPA in all Sociology and Anthropology classes as a requirement for graduation. A student who receives a second grade of C or below while pursuing the MA in Sociology must review her/his academic plans with the department's Director of Graduate Programs; this review may result in the student being dismissed from the program.

The Sociology Master of Arts degree requires the completion of 33 hours of coursework plus SOC 681 thesis hours for the Thesis Option, or completion of 36 hours of coursework plus SOC 679 for the Non-Thesis Option. The curriculum is structured around a set of core requirements and a set of disciplinary focus areas that together provide a strong foundation in sociological theory, research methods and data analysis. At least half of the minimum required hours for the student's master's degree must be earned in classes numbered 600 or above. Students, in consultation with their advisor, must complete an official "Plan of Study" during their first semester or before completion of 12 credit hours. The Plan of Study must be approved by the Director of Graduate Programs in the department before submission for approval to the Office of the Graduate College. All students must successfully pass comprehensive exams to demonstrate broad comprehension and synthesis of sociology (and, in case the Anthropology Area of Emphasis is chosen, also anthropology); the comprehensive

exam will be in conjunction with the defense of the thesis for students choosing that option or will be an examination in an appropriate form after the approval of a problem report.

Core Requirements

All students are required to complete 15 hours of core courses:

SOC	600	Classical Sociological Theory
SOC	601	Contemporary Sociological Theory
SOC	605	Qualitative Research Methods and Analysis
SOC	606	Quantitative Research Methods and Analysis
SOC	609	Professional Development

SOC 605 and SOC 606 is a two-course research methods sequence that should be completed by all students during the first academic year in the graduate program if possible (or within the first 12 graduate credit hours for part-time students). Exceptions are made for students who must take prerequisite courses before enrolling in this sequence.

Electives (18 hours for thesis option and 21 hours for non-thesis option; for the specific requirements for the Anthropology Area of Emphasis see following section)

The department offers a variety of electives which are bundled in four disciplinary focus areas and an area of emphasis in anthropology. Graduate level courses from other departments may be taken with approval from the Director of Graduate Studies and the course instructor.

To guarantee breadth of education, courses from more than one focus area have to be taken. Note that some classes contribute to more than one focus area; a student can count such classes in more than one focus area for this requirement, but must of course still meet the requirement for the total number of credit hours.

To guarantee depth, students also have to take more courses of a particular focus area, declare a minor, or opt for the area of emphasis in anthropology as described below:

Breadth:

Non-thesis option: One course from each focus area 1 thru 4 (12 hrs.)

Thesis option: Thesis related to one focus, one course from each of the three remaining focus areas (9 hrs.)

Depth:

Additional courses from one focus area or a Minor (9 hrs.)

Focus area 1: Organizations and Institutions

SOC	508	The Family
SOC	533	Sociology of Work
SOC	550	Sociology of Religion
SOC	564	Complex Organizations
SOC	580	Special Topic (dependent on content)
SOC	668	Seminar (dependent on content)

Focus area 2: Stratification and diversity

SOC	523	Social Class, Power and Conflict
SOC	525	Race and Ethnicity
SOC	532	Sociology of Appalachia
SOC	555	Sociology of Sex and Gender
SOC	655	Feminist Social Theory
SOC	580	Special Topic (dependent on content)
SOC	668	Seminar (dependent on content)

Focus area 3: Demography, health, and human environments

SOC	501	Population and Human Ecology
SOC	528	Medical Sociology
SOC	532	Sociology of Appalachia
SOC	540	Introduction to Sociology of Aging
SOC	542	Urban Sociology
SOC	552	Sociology of Death and Dying

- SOC 640 Problems and Prospects for an Aging Society
- SOC 580 Special Topic (dependent on content)
- SOC 668 Seminar (dependent on content)

Focus area 4: Social problems and collective behavior

- SOC 513 Social Movements and Social Change
- SOC 520 Criminology
- SOC 535 Juvenile Delinquency
- SOC 560 The Holocaust and Genocide
- SOC 602 Contemporary Social Change
- SOC 620 Criminology
- SOC 640 Problems and Prospects for an Aging Society
- SOC 580 Special Topic (dependent on content)
- SOC 668 Seminar (dependent on content)

Anthropology Area of Emphasis (12 credit hours)

The requirements for the Area of Emphasis include:

- ANT 600 Ethnographic Methods
- ANT 567 Culture through Ethnography OR
- ANT 591 Theory in Ethnology

An additional two classes (6 credit hours) of courses at the 500- or 600-level in Anthropology as approved by the student's advisor and the Graduate Program Director in the Department of Sociology and Anthropology and included in the Plan of Study mentioned above.

Students who opt for the Anthropology Area of Emphasis have to choose courses from two out of the four sociology focus areas if they write a thesis or from three out of the four sociology focus areas if they write a problem report to comply with the breadth requirements discussed above.

Anthropology Minor

A minor in anthropology is earned by taking at least 6 credit hours in courses at the 500- or 600- level in Anthropology as approved by the student's advisor and the Graduate Program Director in the Department of Sociology and Anthropology.

Sociology Minor

A minor in sociology is earned by taking at least 6 credit hours in courses at the 500- or 600- level in Sociology as approved by the student's advisor and the Graduate Program Director in the Department of Sociology and Anthropology.

Accelerated Master's Degree in Sociology

An Accelerated Master's Degree is available for qualified undergraduate sociology majors. See the Accelerated Master's Degree section in this catalog for details.

BIOLOGICAL SCIENCES, M.S., M.A.

Areas of Emphasis

Organismal, Evolutionary, and Ecological Biology

Watershed Resource Science

Certificate Program

Bioinformatics

Program Description

The Department of Biological Sciences at Marshall University offers Master of Science (M.S.) and Master of Arts (M.A.) degrees with a major in Biological Sciences. Students may complete the requirements for a M.S. under a faculty mentor in areas ranging from cellular and molecular to evolutionary and population biology. In addition, two areas of emphasis and a certificate program are available.

The Master of Science (M.S.) degree in Biological Sciences is preparation for further study or employment requiring biology research experience and requires a thesis. An M.S. student must be mentored by a faculty member, so applicants are encouraged (but not required) to contact potential faculty advisors about research projects and graduate assistantships prior to application for admission. Information about faculty may be accessed through the Biological Sciences website (www.marshall.edu/biology).

The Master of Arts (M.A.) degree does not require a thesis and allows students to strengthen their education in Biological Sciences through the completion of advanced coursework.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. Application deadlines are April 15 and November 15 for Fall and Spring admissions, respectively.

Applicants should send these materials directly to the Graduate Admissions Office:

- three letters of recommendation from academic or professional references;
- a written statement of educational and professional goals (250-500 words);
- Graduate Record Exam (GRE) scores. Applicants must specify that official test scores are to be sent directly to Marshall University.

Applicant must also have:

- A combination undergraduate GPA of 2.75 on a 4.0 scale for all previously completed undergraduate university work and 1100 GRE score (composite verbal and quantitative test scores, equivalent to an approximate combined score of 302 on the revised GRE test) and an undergraduate GPA in biology courses of 3.0 or higher on a 4.0 scale for all previously completed undergraduate university work.

Graduate Assistantships

Students interested in applying for teaching assistantships must submit a completed Application for Graduate Assistantship by April 15 or November 15 for the Fall or Spring semester, respectively. The Application for Graduate Assistantship Form is available from the Department of Biological Sciences, One John Marshall Drive, Huntington, WV 25755.

Requirement for All Degrees

A Plan of Study approved by the student's advisor must be submitted for approval to the Graduate College Dean before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements. Students must also have a thesis committee (M.S.) or advising committee (M.A.) consisting of no fewer than three faculty (including the student's advisor) assembled by the end of their first year. Students must meet with their committees at least once within their first year and at least once per semester (excluding the defense) in subsequent years.

M.S. Degree Requirements

- Students must complete at least 32 hours of graduate coursework, including the thesis. The maximum amount of credit that may be earned for the thesis (BSC 681) is 12 hours.
- Candidates for the M.S. degree must register for and participate in six hours of Graduate Seminar (BSC 660 and 661 during their first year and BSC 662 in at least two subsequent semesters) during each of the semesters in which they are actively enrolled in the graduate program and complete at least 18 hours in graded BSC electives at the graduate level (which may include BSC 660, 661, 662, and 681).
- Not more than 6 hours of seminar (BSC 660, 661, 662) may be used to complete the 32-hour requirement.
- Not more than 4 semester hours credit in Independent Study (BSC 585-588) or Special Problems (BSC 650-652) may be used to complete the 32 hour requirement, and these may only be applied beyond the 18 hours in BSC graduate credits.
- Students may elect to take 6 hours of graduate work in a minor field.
- Successful completion of the program in Biological Sciences requires a GPA of 3.0 or higher, and no more than 6 credit hours of “C” grades may be applied to the total hours for graduation. Upon completion of course requirements and the thesis, M.S. candidates must pass a comprehensive oral examination.

M.A. Degree Requirements

- Students who select the M.A. option must complete a minimum of 36 hours of graduate coursework.
- M.A. candidates do not conduct thesis research. The Graduate Seminar, BSC electives, Independent Study/Special Problems, GPA, “C” grades, and comprehensive oral exam requirements are as stated for the M.S. degree.

Area of Emphasis in Organismal, Evolutionary, and Ecological Biology

Organismal, Evolutionary, and Ecological Biology as an area of emphasis in Biological Sciences will provide participating students with a broad background in biology at the level of the individual organism and above. The anatomy, structure, and function of individual species are stressed, as is the comparative natural history and evolutionary relationships of groups of related organisms. Lastly, the roles of organisms in a broader context is studied via the analysis of ecological relationships. The intent of this area of emphasis is to serve students engaged in natural history studies, students engaged in the assessment of environmental impacts on species and communities, and those focusing on the detailed anatomy, structure, and function of individual organisms both recent and fossil. Students choosing this major will be well-prepared to pursue careers or further education in the environmental sciences, environmental mitigation, resource management, and ecological impact assessment. Others choosing this area of emphasis will be prepared for the study of evolutionary biology, biomechanics, and the natural history of groups of organisms ranging from today's plants to fossil reptiles and mammals.

Degree Requirements for Area of Emphasis

BSC	660	Introductory Graduate Seminar
BSC	661	Seminar I
BSC	662	Seminar II
BSC	681	Thesis, up to 12 hrs.

(If only 9 hours of thesis are taken, select an additional course(s) from the list below.

Additional Courses from which to select (at least 14 hours for M.S. and 18 hours for M.A.)

BSC	501	Ichthyology
BSC	505	Economic Botany
BSC	506	Herpetology
BSC	508	Ornithology
BSC	509	Mammalogy
BSC	513	Principles of Organic Evolution
BSC	516	Plant Taxonomy
BSC	517	Biostatistics
BSC	524	Animal Parasitology
BSC	525	Biosystematics
BSC	526	Medical Entomology
BSC	530	Plant Ecology
BSC	560	Conservation Forest Soil Wildlife

(continued)

- BSC 610 Advanced Vertebrate Morphology
- BSC 620 Taxonomy of Vascular Plants

Additional electives not listed above may be included in a student's program of study if determined by the advisor to be appropriate to this area of emphasis.

Area of Emphasis in Watershed Resource Science

Watershed Resource Science as an area of emphasis in Biological Sciences will provide participating students with a systematic and integrated approach to the study of water resources as well as the analysis and implementation of the most effective way to assess their quality and manage their use and conservation. In this program, the integration of course offerings in assessment, informatics, and management into traditional and integrated science curricula provides students with the knowledge base necessary to effectively and innovatively assess and manage water resources.

Admissions Requirements for Watershed Resource Science Area of Emphasis

- Must be admitted to the BSC master's degree program;
- Must have a bachelor's degree which includes a minimum of 6 courses from the following disciplines: two courses in mathematics (must include 1 semester of calculus and one semester of statistics); two courses in physical science (physics, chemistry, geology, etc.); and two courses in life science (biology, agronomy, microbiology, etc.).

Degree Requirements for Watershed Resource Science Area of Emphasis

- The curriculum of this program is made up of a research component, a core of required courses, and specialization in either environmental assessment, environmental management, or environmental informatics.
- Students choosing the M.S. option must complete 32 hours of coursework including up to six hours of thesis.
- Students choosing a non-thesis option will receive an M.A. degree and must complete 36 hours of credit.
- The M.A. degree also requires completion of a minimum of three hours of independent study credit.
- A minimum of sixteen hours for M.S. and eighteen hours for M.A. degrees must be completed in coursework at the 600 level.
- A successful graduate must complete the research core, which may be a thesis (M.S.) or independent study (M.A.) project, the core of required courses, and courses in a specialization chosen in collaboration with a faculty advisor.

Graduate Certificate Program in Bioinformatics

The Marshall University bioinformatics certificate is designed to develop a working understanding of a variety of techniques and methods for analyzing vast amounts of biological data. The source of information may be associated with recent genomic research, but may also include data sets related to other complex biological problems involving such topics as structure modeling, database mining, and visualization.

The certificate is designed to complement existing degrees and to suit the needs of students and professionals who want to specialize in the fast-expanding field of bioinformatics. The certificate curriculum is interdisciplinary and includes courses from the College of Science, the College of Information Technology and Engineering, and the Joan C. Edwards School of Medicine. Through completion of the certificate, student will have acquired the necessary skills to analyze and interpret the large data sets using various bioinformatics tools.

Students who should apply for the certificate program would be biology, mathematics, chemistry, physics, and medical/biomedical students or medical doctors who desire to acquire skills required to understand bioinformatics methods and technology; computer science students who wish to understand biological concepts that can be analyzed using their programming skills; or health care professionals (medical, pharmaceutical, and agricultural industries) who desire to acquire bioinformatics knowledge relevant to their fields of expertise.

Students will earn the certificate by completing 15 credit hours, including 9 credit hours from 3 core courses, 3 credit hours from a first elective course, and another 3 credit hours from a second elective.

Admissions Requirements

1. Both senior-level undergraduate students with overall GPAs of at least 2.75 and graduate students may enroll in the certificate program.
2. Both undergraduate and graduate students must satisfy the following prerequisite requirement: Successful completion (grade of C or better) of MTH 140 or MTH 229, and one of MTH 225, MTH 326, or MTH 345.

Curriculum

Required courses:

CS	505	Computing for Bioinformatics
BSC	550	Molecular Biology
CS	645	Advanced Topics in Bioinformatics

Elective I (choose one from the following):

BSC	543	Microbial Genetics
CS	510	Database Systems.

Elective II (choose one from the following):

BSC	617	Statistical Techniques for Biomedical Sciences
MTH	518	Biostatistics
CS	540	Digital Image Processing
CS	630	Machine Learning

Total Certificate requirements: 15 credit hours

CHEMISTRY, M.S.

Program Description

The Master's Degree in Chemistry is a two-year program intended primarily for individuals interested in advanced training in chemistry and related disciplines in preparation for doctoral programs or for careers in industry, government, or postsecondary school education. Students are expected to be well grounded in one or more of the program's five areas of specialization: Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. The Department of Chemistry currently offers both a thesis and non-thesis option for the Chemistry M.S. degree.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition, applicants must:

- hold an undergraduate degree in Chemistry;
- have GRE (Graduate Record Exam) scores sent to Graduate Admissions.

Program Requirements

General Requirements

Students are required to complete 32 and 36 hours of graduate credit (see below) for the thesis and non-thesis options, respectively. No more than six hours of Special Topics courses may be counted in the minimum hours required by either route; any exceptions require specific departmental approval.

Students following the thesis option will receive up to 12 hours credit for 682 and one hour each for 631 and 632. The remaining 18 hours of graduate credit will come from courses in the various areas of chemistry, chosen in consultation with one's advisor. It is required that at least three of the five areas be represented in the Plan of Study (see below), and it is recommended that all courses pertaining to the area of one's research be included.

Plan of Study: A newly admitted student will take placement examinations the week before the beginning of the first term of study and then should meet with his or her advisor before registering for classes. The student and advisor will develop a Plan of Study or blueprint for graduation requirements. The Plan of Study must be on file in the Graduate College office before the student registers for the 12th semester hour. Programs will be adjusted to reflect major interests and prior training of the student.

Non-Thesis Option

The non-thesis option is a seldom-utilized alternative route available for students currently employed full-time and requires department authorization. Basic requirements are the same as the thesis option; however, it requires 36 hours of graduate credit and a problem report followed by a public lecture. This program organization ensures that all students develop research, writing and public speaking skills regardless of their area of concentration. Due to limitations in course offerings, this option may require more than two years to complete.

Thesis Option

The preferred route requires a thesis with 32 hours of graduate credit, two public lectures, and an oral thesis defense. The Master of Science thesis demonstrates that you are capable of pursuing a program of original and independent research, that you can formulate and carry out a research project, and that you can report on the project in a proper scientific manner. The thesis option prepares students for technical careers in industry, or for further study toward a more advanced degree. This option requires advanced coursework in chemistry, biochemistry, or environmental chemistry and research, with the latter culminating in an M.S. thesis.

Shortly after entering the program students select a faculty advisor based on their research interests and agree on a research problem. Under the guidance of their faculty advisor students carry out the research program, select a graduate research committee and write and defend the thesis in a final oral examination.

The defense of the thesis will take place when the student, the research advisor, and the graduate research committee agree that a defensible copy of the thesis is complete. The thesis examination is graded on a pass/ provisional pass/fail basis. To pass the examination, there can be no more than one unsatisfactory grade from the committee members. A student who fails may submit another thesis or a revised version upon approval of the student's committee. A student may only be re-examined once. A student earning a provisional pass will generally be required to make minor revisions or corrections to the thesis

CRIMINAL JUSTICE, M.S. Minor in Criminal Justice Accelerated Master's Degree in Criminal Justice

Program Description

The Master of Science degree in Criminal Justice provides students with advanced theoretical, legal, and methodological training for research, teaching, and management careers in criminal justice. The program serves to educate criminal justice professionals and prepare students for further advanced graduate work, legal studies, and scholarship. The Criminal Justice and Criminology program is committed to:

- providing students with the conceptual and research skills needed to undertake advanced analyses of the criminal justice system;
- serving criminal justice professionals and others who are interested in pursuing professional careers in management and administration;
- furnishing law enforcement, corrections and court practitioners with knowledge of justice administration, theoretical perspectives of human behavior, policy analysis and criminal justice theory; and
- preparing social scientists to pursue careers in university and research settings.

Admission Requirements

Deadlines: Applications to the program are due by July 1 for the fall semester and by November 1 for the spring semester. However, students are strongly encouraged to apply early. Applications submitted after the due dates will be considered, but no later than three weeks from the start of classes for the fall semester and four weeks for the spring semester. Application for admission does not guarantee acceptance into the program.

Applicants should follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission. (Submit all materials to the Graduate Admissions Office.)

Applicants must also have:

- a baccalaureate degree from a regionally accredited college or university (preference will be given to applicants with undergraduate majors in criminal justice or closely related social science discipline);
- an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate university work;
- GRE scores (will be evaluated in combination with the undergraduate GPA);
- a score of 550 or higher on the TOEFL (for international students only);
- a C or better in an undergraduate research methods course or equivalent (documentation of course content may be required);
- two letters of recommendation (college instructors strongly preferred); and
- a personal statement (1-2 page essay regarding the student's interest in criminal justice and how the M.S. in Criminal Justice degree will benefit him or her).

Students may be considered for provisional admission or conditional enrollment. Please see www.marshall.edu/graduate/admissions/types-of-admission. All prospective students are strongly encouraged to contact the Criminal Justice

Graduate Director before applying to the Master of Science in Criminal Justice program to discuss the application process and requirements.

Assistantships and Financial Support

The Criminal Justice and Criminology department has funds available in the form of assistantships to provide financial support for graduate students. For complete information on graduate assistantships, please see www.marshall.edu/graduate/graduate-assistantships-2/graduate-assistantship-overview. For complete information on other financial support opportunities, please see www.marshall.edu/graduate under the “Costs and Aid” tab.

Program Requirements

General Requirements

The Master of Science degree in Criminal Justice requires the completion of 30 credits of coursework. In total, students take 15 credits of core courses, 12 credits of electives, and can choose the thesis (3 credits) or non-thesis (3 credits) option. The curriculum is structured around a set of core requirements that provide a broad foundation in criminological theory, research and statistics, criminal law as well as aspects of criminal justice policy and practice.

Core Requirements

All students are required to complete 15 credits of core courses:

- CJ 601 Seminar in Criminal Justice
- CJ 604 Advanced Theory in Criminal Justice
- CJ 621 Advanced Criminal Law and Procedure
- CJ 655 Research Methods in Criminal Justice
- CJ 656 Applied Statistics in Criminal Justice

The research methods and statistics sequence must be completed by all students during the first academic year in the graduate program (within the first 12 graduate credits for part-time students). Exceptions are made for students who must take prerequisite courses before enrolling in this sequence.

Electives

Students can choose from a variety of electives. A total of 12 hours of electives are required. Courses outside of the discipline in related fields may be taken with approval from the Graduate Director.

Non-Thesis Option (3 credits)

For students who work in the field or anticipate a career in the criminal justice system. The requirements are:

- Complete the core courses and register for CJ 699: Capstone Experience (3 credits).
- Design and execute an applied research project related to a current issue or problem faced by a criminal justice organization.
- Demonstrate written abilities and oral presentation skills, which is part of the student's comprehensive assessment.
- Pass the capstone project with a *B* or higher.

Thesis Option (3 credits)

This option is for students planning to continue graduate studies in a doctoral program. The requirements are:

- Complete the core courses and register for CJ 679: Problem Report (3 credits), which can count as an elective.
- Form a thesis committee and determine the graduate faculty member of the department who will serve as chair of the committee. The thesis committee assists in selecting and developing the research problem and evaluates the student's work.
- Create the prospectus and have it approved by the thesis committee prior to enrolling for CJ 681: Thesis.
- Enroll in CJ 681: Thesis, for a minimum of 3 credits.
- Pass an oral defense of the thesis.

Plan of Study

Before registration for the 12th graduate credit hour, all graduate students must complete an official Plan of Study form to be approved by the Graduate Director and/or Department Chair and submitted for approval to the Graduate College Office.

Two-C Rule

A student who earns more than two grades of *C* or lower in any graduate courses will be withdrawn from the program (even if the course is repeated and a higher grade is earned).

Minor in Criminal Justice

Graduate students from any program, with permission of the student's graduate advisor and the graduate director of the Criminal Justice and Criminology program can choose a graduate minor in Criminal Justice by taking six credit hours from the following list:

CJ	504	Theoretical Criminology
CJ	506	Race, Ethnicity, Gender, & Crime
CJ	510	Police Administration
CJ	526	Civil Liability Issues in Criminal Justice
CJ	533	Correctional Administration
CJ	601	Seminar in Criminal Justice
CJ	620	Criminology

Special topics courses appropriate for the minor are also frequently offered.

Accelerated Master's Degree in Criminal Justice

An Accelerated Master's Degree is available for qualified undergraduate criminal justice majors. Please note that AMD applicants must have a 3.30 overall undergraduate GPA as well as a 3.50 GPA in the major for admission into the AMD program in Criminal Justice. AMD applicants who meet these GPA requirements are exempt from submitting GRE scores for formal admission to the program, but must comply with all other admission standards. Also, it is important to note that during the last semester of senior year, students in the AMD program must apply for formal admission to the Graduate College for the master's program in Criminal Justice. See the Accelerated Master's Degree section in this catalog for details.

FORENSIC SCIENCE, M.S.

Areas of Emphasis

Crime Scene Investigation

Digital Forensics

DNA Analysis

Forensic Chemistry

Graduate Certificate in Digital Forensics

The FEPAC-accredited Master of Science degree in Forensic Science is a broad-science-based, five-consecutive semester curriculum. While all forensic science students are required to complete a research project, both thesis and non-thesis options are available.

Thesis Option: The thesis option stresses a research component where students conduct original research and prepare, as well as defend, a written thesis based on their investigative findings. The thesis option requires a minimum of FSC 685 (3 credit hours) and FSC 681 (3 credit hours) in addition to the general Core Curriculum and a minimum of one Area of Emphasis. The thesis option often requires 1-2 additional semesters to complete. The students' research committee consists of a minimum of three working professionals or faculty skilled in the art with at least one external to the academic program. The students' thesis defense and presentation is in addition to the research project and associated activities described for the non-thesis option.

Non-Thesis Option: The research project associated with the non-thesis option is required of all forensic science students. Students electing the non-thesis option are required to successfully complete an applied research project during their summer internship which requires a research paper, as well as formal slide-based and poster presentations to be presented at regional or local meetings. The committee composition for the non-thesis option is similar to the thesis option.

Core Curriculum

The core curriculum is required of all forensic science students to provide broad-based education and experience. The core curriculum includes:

FSC	604	Genetics and DNA Technologies
FSC	606	Crime Scene and Death Investigation
FSC	612	Forensic Microscopy
FSC	618	Forensic Comparative Sciences
FSC	622	Forensic Analytical Chemistry
FSC	623	Forensic Analytical Chemistry Lab

FSC 624	Biochemistry
FSC 630	Forensic Science Internship
FSC 632	Foundations and Fundamentals in Digital Evidence
FSC 665	Legal Issues in Forensic Science
FSC 680	Seminar (semesters 1, 2, 4, 5)
FSC 619	Forensic Statistics
	Approved Elective (3 hrs.)

Total..... 38 hrs.

Areas of Emphasis

The Forensic Science Program offers four areas of emphasis that students may complete to enhance the core curriculum. The student is required to complete at least one area of emphasis but may complete up to four within the five-semester course of study. Completing multiple areas of emphasis is contingent on maintaining good academic standing while enrolled in the program. Students may choose from the following four Areas of Emphasis:

Crime Scene Investigation

The Crime Scene Investigation emphasis provides students with the tools and hands-on experience to excel and become leaders in their field. The Forensic Science program has its own Crime Scene House that allows students to obtain real-world experience and training through the completion of mock crime scene exercises. Upon completion of this emphasis, students qualify to sit for the International Association for Identification Basic Student Knowledge in Crime Scene Examination. In addition to the core curriculum, this area of emphasis includes:

FSC 607	Bloodstain Pattern Analysis
FSC 615	Adv. Crime Scene Investigation
FSC 617	Adv. Crime Scene Photography & Documentation

Total Emphasis requirements 9 hrs.

Total including Core requirements 47 hrs.

Digital Forensics

Computers and other digital devices hold a wealth of information including text, digital images, audio and video, which can serve as key evidence for solving crimes. Forensic software programs can be used to image digital storage media and the images can be analyzed using a variety of investigative software programs. Mobile phone forensics is an area that is emphasized in the forensic science courses, as well as investigation of computers and gaming devices. The opportunity to participate in hands-on experiences with investigative tools allows students to participate in mock investigations in preparation for careers in this exciting discipline. For the Digital Forensics area of emphasis, the student must complete the following courses in addition to the core curriculum:

FSC 605	Forensic Digital Imaging
FSC 609	Network Forensics
FSC 634	Digital Evidence Search and Seizure
FSC 676	Advanced Digital Evidence Detection & Recovery

Total emphasis requirements 11

Total including core requirements 49

DNA Analysis

The Marshall University Forensic Science Center is home to the academic program as well as a service-oriented DNA laboratory. This lab also serves as a Combined DNA Index System (CODIS) for West Virginia. MU DNA Lab facility and staff serve as instructors and supervisors for various DNA-based courses while providing select students with real-world experience, training, and exposure to the inner workings of a Forensic DNA Laboratory. The DNA emphasis exceeds the DNA Advisory Board standards by requiring a total of 12 graduate-level credit hours addressing the DNA guidelines. For the Forensic DNA Analysis area of emphasis, the student must complete the following courses in addition to the core curriculum:

FSC 600	Cell and Molecular Biology OR
BSC 550	Molecular Biology
FSC 603	Genetics and DNA Technologies Lab
FSC 627	Human Genetics
FSC 629	Advanced DNA Technologies

Total emphasis requirements* 8 hrs.

Total including core requirements..... 46 hrs.

*Students considering a career in Forensic DNA Analysis are encouraged to enroll in FSC 650, Crime Laboratory Technical Assistance (Fall, 2 credits; and Spring, 2 credits).

Forensic Chemistry

Students pursuing careers in forensic drug analysis, toxicology, and trace evidence will benefit from the completion of the Forensic Chemistry emphasis. As some agencies may require 30 or more hours of chemistry coursework, the Forensic Chemistry emphasis provides additional education and hands-on training to meet these federal and state guidelines. This emphasis requires the completion of the following chemistry related courses in addition to the core curriculum:

FSC 608	Forensic Toxicology	
FSC 626	Chemical Analysis of Trace Evidence	
FSC 628	Advanced Drug Analysis	
Total emphasis requirements		7 hrs.
Total including core requirements		45 hrs.

Other Requirements

In the third term, students are required to complete an approved research-based internship in a crime laboratory or other approved facility. In the fifth term, students are expected to pass a written, comprehensive examination.

FORENSIC SCIENCE ADMISSION POLICY

Entrance into the Forensic Science Program is restricted to the fall semester only. Applicant materials should be submitted by March 1 to have the best chance for admission for the fall term. The program observes a rolling application policy so that individuals may apply at any time. Applicants are considered after the deadline if openings are available in the program. Students who apply by or before March 1 have a better chance of admission than those who apply after March 1; however, it is not uncommon for applicants to be notified throughout the year.

The complete application process includes:

1. Submission of the Marshall University Graduate College Application available online at www.marshall.edu/graduate.
2. Completion of a Free Application for Federal Student Aid (FAFSA) as soon after January 1 as possible at www.fafsa.ed.gov.
3. Submission of formal transcript(s) documenting that the applicant has:
 - a) Completed a bachelor's degree in a forensic or natural science, computer science, computer electronic or electrical engineering, information systems or information technology (or its equivalent coursework in a relevant field) from an accredited institution of higher learning.
 - b) Achieved an overall Grade Point Average of 3.0 or better.
 - c) Completed 1 academic year of biology and its associated labs with no grade of less than a C.
 - d) Completed 1 academic year of general chemistry and its associated labs with no grade of less than C.
 - e) Completed 1 academic year of organic chemistry and its associated labs with no grade of less than C.
 - f) Completed 1 academic year of physics and its associated labs with no grade of less than C.
 - g) It should be noted that successful completion of an undergraduate course in biochemistry is recommended, but not required, prior to entry into this program.
5. Graduate Record Exam (GRE) Applicants should achieve a score of 150 or higher on the verbal and quantitative sections and a score of 3.5 or higher on the analytical writing section.
6. Formal Letters
 - a) Applicant's personal statement providing reasons why he or she should be admitted to the Forensic Science program.
 - b) 3 letters of recommendation on formal letterhead from individuals familiar with applicants' moral character, academic acumen and aptitude, integrity, and work ethic.

Qualified applicants may be awarded a "Conditional Admission" for one semester to satisfactorily complete select admission requirements.

Full admission to the program, once an offer is made, is also contingent on successful completion of a background check, documentation of hepatitis B vaccination/titer or formal declination of vaccination, and receipt of other documentation required for enrollment.

GRADUATE CERTIFICATE IN DIGITAL FORENSICS

The Graduate Certificate in Digital Forensics is designed to provide students with knowledge and skills for the identification, collection, preservation, and examination of various types of digital evidence, including basic and in-depth knowledge and skills in digital forensic analysis policy and procedure, forensic analysis tools and techniques, data recovery,

and investigation, as well as quality assurance, legal, and ethical considerations important to this rapidly changing field. This graduate certificate program does not assume, nor does it require, that the applicant have any experience in the field of digital forensics as the course sequence includes instruction ranging from fundamentals to advanced topics. Successful completion of this Graduate Certificate requires that the student:

1. Maintain a cumulative Grade Point Average (GPA) of 3.0 or better in 5 required courses, e.g., FSC 632, FSC 634, FSC 605, FSC 609, FSC 676, with no grade of C or less.
2. Successfully pass a comprehensive examination which spans these subject areas.

Admission Requirements

1. Applicants seeking admission to the Graduate Certificate in Digital Forensics program, without admission to the M.S. Forensic Science degree program, should apply to the Marshall University Graduate College as a Certificate/ Professional Development student. Students will be admitted on a competitive basis for fall semester admissions only. Review of applicants will begin March 1 of each year but applicants may be admitted any time prior to the fall enrollment deadline. As a limited enrollment program, student will be admitted on a space available basis.
2. Regarding Digital Forensics, those students enrolled in the M.S. in Forensic Science degree program may choose to complete the M.S. Forensic Science with a Graduate Certificate in Digital Forensics OR the M.S. Forensic Science with an Emphasis in Digital Forensics. Those electing to pursue the Graduate Certificate in Digital Forensics must complete a "Graduate Admissions Secondary Program Request" form at www.marshall.edu/graduate/secondary-program-request-form.
3. Applicants must submit official undergraduate transcripts to the Marshall University Graduate Admissions Office verifying that the applicant has a bachelor's degree from an accredited institution of higher learning and a cumulative Grade Point Average (GPA) of 3.0 or higher.
4. Applicants must submit their Graduate Record Examination (GRE) scores to the Graduate Admissions Office.
5. Applicants must submit 2 letters of recommendation to the Graduate Admissions Office, on formal letterhead from individuals familiar with the applicant's academic record and moral character. These letters must be signed and dated.
6. Applicants must submit a "Personal Statement/Statement of Purpose" to the Graduate Admissions Office, written, signed, and dated by the applicant, explaining why the applicant believes he/she should be admitted to the program.
7. Applicants must successfully complete a background check to gain entrance to this program. The procedure for undergoing a background check will be provided once the applicant demonstrates he or she has met all other admissions criteria. International students who have resided in the United States longer than 30 days are required to have a U.S. criminal background check as an admission requirement. As international students have a background check as part of their visa application, international students who have resided in the United States for fewer than 30 days are exempt from undergoing a U.S. background check.

Employment

Applicants must be aware that background checks similar to those required for law enforcement officers are likely to be a condition of employment (Reference: NIJ Report NCJ 203099 - "Qualifications for a Career in Forensic Science." pp. 7-10) in the field of Digital Forensics.

Curriculum

Fall Semester-

FSC	632	Foundations & Fundamentals of Digital Evidence
FSC	609	Network Forensics
Total - 6 credits		

Spring Semester-

FSC	634	Search & Seizure of Digital Evidence
FSC	605	Forensic Digital Imaging
FSC	676	Advanced Digital Evidence Detection & Recovery

Total - 8 credits

Fees

The Forensic Science Fee is a special fee designed to support the Forensic Science Program, which cannot be waived.

MATHEMATICS, M.A.

Area of Emphasis Statistics

Minor in Mathematics

Program Description

The Master of Arts degree in Mathematics is offered by the Department of Mathematics. This is a two-year program designed to prepare students for positions in industry, government agencies, or business; for further graduate study at the doctoral level, and for teaching positions at the secondary or two year college level.

NOTE: An area of emphasis in mathematics, Math through Algebra I, is offered by the M.A. degree programs in Elementary Education and Secondary Education. These programs, which are offered through the College of Education and Professional Development, are intended to meet the needs of public school teachers (K-12).

Area of Emphasis in Statistics

An area of emphasis in statistics is offered in the Department of Mathematics. The curriculum for the Master of Arts in Mathematics with an Area of Emphasis in Statistics prepares students with a solid background in both theoretical and applied statistics for positions in industry, government agencies, or business; for further graduate study at the doctoral level; and for teaching positions at the secondary or two-year college level. (See degree requirements that follow.)

Admission Requirements

Applicants to the Mathematics program must follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website at www.marshall.edu/graduate. International applicants should also consult the Office of International Admissions and review the website www.marshall.edu/admissions/international.

In addition:

- Applicants must have a Grade Point Average of at least 2.5 on a scale of 4 from the bachelor's degree granting institution. International applicants should contact the Office of International Admissions to inquire about possible substitute documentation.
- Applicants may optionally report scores from the Graduate Record Examination. Applicants who choose to send scores should send them directly to the Graduate Admissions office. GRE scores are required for applications for the mathematics Graduate Assistantship; see below.

Deadlines. To ensure full consideration for admission, domestic applicants must ensure that their application materials are received by the Graduate Admissions office no later than August 1 for admission in the fall, and no later than December 1 for admission in the spring. International applicants must ensure that their application materials are received by the Graduate Admissions office no later than June 15, for admission in the fall, and no later than October 15, for admission in the spring. Applicants who apply for a Graduate Assistantship should follow the earlier dates set below in the section Timeframe for Awarding Graduate Assistantships.

Conditional Admission. The Mathematics program may admit applicants conditionally, for one term, pending receipt of required credentials. Applicants whose transcripts do not show coursework equivalent to a bachelor's degree in mathematics may be admitted conditionally and required to take additional foundational courses, which may include undergraduate courses. Applicants who are conditionally admitted are not eligible to receive a Graduate Assistantship, but become eligible when fully admitted.

Provisional Admission. The Mathematics program may admit applicants provisionally, for one term, when the undergraduate Grade Point Average does not meet the requirement for admission.

For more information on the types of admissions, please see www.marshall.edu/graduate/admissions/types-of-admission.

Mathematics Graduate Assistantships and Financial Support

The department offers a limited number of Graduate Assistantships. An applicant wishing to be considered for a Graduate Assistantship must submit a separate application form to the Mathematics Department Assistant Chair for Graduate Studies. This form can be obtained from the Assistant Chair for Graduate Studies or from the Department of Mathematics website at www.marshall.edu/math/graduate.

For complete information on graduate assistantships and other financial support opportunities, please see the Graduate College website at www.marshall.edu/graduate.

Additional requirements for Graduate Assistant applications:

- The applicant should arrange for no more than three letters of recommendation supporting the application. Letters may be sent by email or by postal mail directly by the referees to the Assistant Chair for Graduate Studies, Department of Mathematics, One John Marshall Drive, Huntington WV 25755.
- The applicant must also submit a personal statement not more than two pages in length. This statement should describe the applicant's background, motivation for studying mathematics, future plans, and any other topics relevant to the applicant's qualifications for a Graduate Assistantship.
- Applicants for a Graduate Assistantship must also apply for admission to the Mathematics degree program and send General Record Examination scores to the Graduate Admissions office. A Graduate Assistantship application cannot be considered until the application for admission to the degree program is complete.
- A minimum Grade Point Average of at least 2.75 on a scale of 4 from the bachelor's degree granting institution is required.

Timeframe for Awarding Graduate Assistantships. Offers for Graduate Assistantships will be made beginning after May 15, for admission the following fall, and November 15, for admission the following spring. Applicants should ensure their materials are received before these dates to ensure full consideration. Applications received after these dates will be considered until all available Graduate Assistantships are filled.

Degree Requirements

A Plan of Study approved by the department/program and the graduate dean must be filed in the Graduate College office before the student registers for the 12th semester hour. For graduation, a student is required to pass at least 36 approved credit hours, of which 18 credit hours must be at the 600 level. These 18 credit hours may include Special Topics, not more than 3 credit hours of Thesis (for students taking the thesis option), but not Independent Study. Students must pass or be exempted from each of MTH 528 – Advanced Calculus II, MTH 546 – Probability and Statistics II, and MTH 552 – Modern Algebra II. Students may choose either to write and defend an acceptable thesis or pass a comprehensive oral examination. Hours from MTH 589 - Graduate Mathematics Seminar do not count toward graduation.

The specific coursework requirements for the program are:

- 18 credit hours of 600-level courses, including not more than 3 credit hours of Thesis but excluding Independent Study.
- 18 additional credit hours at the 500 level or higher, which will include MTH 528, 546, and 552 unless exempted. These additional credit hours may also include an optional 6 credit hours at the 500 level or higher from another department at Marshall offering a graduate program as a minor.

Area of Emphasis in Statistics: To be awarded the M.A. in mathematics with statistics as an area of emphasis, the student must satisfy the graduation requirements specified above for the M.A. degree in the Department of Mathematics. In addition to passing or exemption from MTH 528, STA 546, and MTH 552, students must take and pass STA 661 and STA 662, neither of which may be taken as Independent Study. Students must take at least 12 credit hours of mathematics courses at the 500 level or higher, not including probability and statistics courses. A student may choose to write and defend an acceptable thesis in the area of probability or statistics, or pass a comprehensive oral examination. A student choosing to write a thesis must take no fewer than 15 credit hours not including Thesis and Independent Study in probability or statistics courses. A student opting for the comprehensive oral examination must take no fewer than 18 credit hours not including Independent Study in probability or statistics courses.

Comprehensive Oral Exam: With the approval of the Assistant Chair for Graduate Studies, the student will select three graduate courses at the 600 level demonstrating a depth of knowledge in those areas of mathematics. For a student pursuing an area of emphasis in statistics, at least two of the courses must be chosen from the probability and statistics courses. The student will select, with the approval of the Assistant Chair for Graduate Studies, a committee consisting of three faculty members. The chairman of the Oral Examination Committee must have the level of Graduate Faculty Status as determined by the Graduate College.

Minor in Mathematics

The Department of Mathematics also offers a graduate minor in mathematics. A minor is earned by taking at least 6 credit hours in MTH-designated courses at the 500- or 600- level in Mathematics as approved by the student's advisor and the Assistant Chair for Graduate Studies in the Department of Mathematics.

PHYSICAL AND APPLIED SCIENCE, M.S.

Areas of Emphasis

Chemistry

Geobiophysical Modeling

Geology

Mathematics

Physics and Physical Science

Minor in Geobiophysical Science

The Master of Science in Physical and Applied Science, offered in cooperation with the Departments of Chemistry, Geology, Integrated Science and Technology, and Mathematics, is intended to provide the opportunity for students with diverse qualifications to improve the depth and breadth of their knowledge in the Physical Sciences.

The degree offered is a M.S. in Physical and Applied Science, with an Area of Emphasis in one of the following: Chemistry, Geobiophysical Modeling, Geology, Mathematics, Physics.

The area of emphasis in Geobiophysical Modeling is interdisciplinary, with core courses in Remote Sensing and GIS Modeling. Thereafter, students may choose from areas of concentration in Aquatic, Terrestrial or Biophysical Systems and Models.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

In addition:

- The applicant must have an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale in their major;
- Applicants with a GPA between 2.5 and 3.0 in their major may be provisionally admitted to the Geology emphasis program with the unanimous approval of the Geology faculty;
- Applicants who do not meet Marshall's requirements for a B.S. in Geology may be required to take additional courses (as determined by the Geology faculty), in addition to graduate coursework, to provide an adequate foundation in the area of emphasis. The foundation courses may be undergraduate courses.

Degree Requirements

A Plan of Study approved by the student's advisor must be submitted for approval to the Graduate College Dean before the student registers for his or her 12th semester hour. The Plan of Study is a student's "blueprint" for completing graduation requirements.

Programs will be designed to meet individual needs. Students must consult with their advisors for specific requirements. The writing of a thesis is optional in all areas of emphasis.

If the thesis option is chosen, a minimum of 32 hours is required, including not more than 6 hours for the thesis. Without the thesis, 36 hours are required.

NOTE: These are general guidelines. Individual departments may have their own requirements.

Hours

Minimum requirements32-36

Area of Emphasis (Chemistry, Geobiophysical Modeling, Geology, Mathematics, Physics).....	12-18
Minor area (Chemistry, Geobiophysical Modeling, Geology, Mathematics, Physics).....	6
Electives.....	12-18

Requirements for Geology Area of Emphasis

- The M.S. candidate must pass a qualifying examination during the first eight weeks of his or her first semester of graduate work. The exam will be administered orally by the Geology faculty and will be coordinated by the student's thesis advisor. The candidate will be allowed two attempts to pass the qualifying exam. If the candidate fails to pass the qualifying exam after two attempts, the candidate must withdraw from the program at the end of his/her first semester and may not re-enter the program until the following academic year.
- Following successful completion of the qualifying exam, and prior to the end of the first semester of graduate work, the candidate must submit to the Graduate College a Plan of Study approved by the Geology faculty. The plan must include

a total of at least 32 hours, at least 16 of which must be earned in classes numbered 600 or above. In addition, the curriculum must include at least 12 hours of 500-600 level geology courses. A maximum of six hours may be taken as thesis credit.

3. Following approval of the Plan of Study, the candidate must form a thesis committee with the mutual consent of his/her advisor, and nominated faculty. The committee will consist of at least three faculty members with graduate status, at least two of whom are faculty members from the Geology Department. All faculty members on the committee must hold a terminal degree in their field. If agreed by the candidate and his/her advisor, a person from outside the university and familiar with the thesis topic, such as a professional from government or industry, may be added to the committee as an ex-officio member. (Any ex-officio members of the committee will not participate in the qualifying exam).
4. The candidate must submit a thesis proposal by the end of his/her second semester. This document will contain an introduction to the thesis subject, with a clear statement of the significance of the work to be done. Sufficient background on the topic and a proposed plan of research methods to complete the thesis are also required.
5. The candidate will be evaluated by a letter grade in all graduate coursework with the exception of the 6 hours of thesis work, which will be evaluated by a *CR/NC* grade. No candidate will earn his/her degree unless he/she obtains a "CR" grade for the thesis.
6. The candidate should submit an application for graduation to the Graduate College at the beginning of the semester in which he/she plans to graduate.
7. Upon completion of his/her thesis work, the candidate will submit a draft of the thesis to his/her advisor. Once the draft thesis has been approved by the advisor, the candidate will submit the draft thesis to his/her thesis committee.
8. The candidate must orally present and successfully defend his/her thesis before his/her thesis committee. The oral presentation will not exceed 45 minutes, and will be open to the public. The subsequent question-and-answer session by the committee will focus solely on the candidate's research, and will be closed to the public. Upon completion of the Q & A session (which should not last more than 45 minutes), the candidate will be asked to leave the room, while the committee members deliberate. The candidate's thesis advisor will communicate the results of deliberation to the candidate. Should the candidate not pass his/her thesis defense, he/she will be allowed two more attempts at defending the thesis. Should the candidate be unsuccessful in defending the thesis after the third attempt, he/she will be removed from the M.S. in Physical and Applied Science. Conference or meeting presentations will not substitute for the oral defense.
9. The candidate must submit a final copy of his/her thesis with all revisions requested by the committee members to the committee for final approval. Once the committee approves the thesis, the candidate will be given permission to upload a PDF version of the thesis on the Graduate College ETD Administrator website. The candidate's advisor is responsible for proofreading this version to ensure that it is identical to the version approved by his/her thesis committee.

Minor in Geobiophysical Science

The Department of Physics and Physical Science also offers a minor field in Geobiophysical Science. Please contact the department chair for information about this minor.

BIOMEDICAL SCIENCES, M.S., Ph.D.

Areas of Emphasis

Cancer Biology

Cardiovascular Disease, Obesity, and Diabetes

Infectious and Immunological Diseases

Medical Sciences (M.S. only)

Neuroscience and Developmental Biology

Toxicology and Environmental Health Sciences

Program Description

The basic science departments of the Joan C. Edwards School of Medicine offer an interdisciplinary program leading to the Master of Science and Doctor of Philosophy degrees in Biomedical Sciences. The primary aim of the Biomedical Sciences (BMS) program is to produce graduate students who are broadly based in the biomedical sciences with defined interests and special in-depth training in one of the following areas of emphasis: cancer biology; cardiovascular disease, obesity, and diabetes; infectious and immunological diseases; neuroscience and developmental biology; and toxicology and environmental health sciences. These areas are designed to be flexible and research oriented in order to develop the interests, capabilities and potential of all students pursuing careers in academic or industrial biomedical sciences.

In addition, the BMS program offers a non-thesis Master of Science degree in the medical sciences area of emphasis to improve the science foundation of students seeking admission into doctoral programs in the health professions. This area of emphasis is also for students wishing to pursue non-research careers in the health professions or in the biotechnology and pharmaceutical industries.

Admission into this program does not guarantee admission into medical school. Students in this area of emphasis are required to pay the Health Professions Fee each semester while enrolled in the program. Because of the nature of the curriculum, applicants to the medical sciences area of emphasis will only be considered for admission for the Fall semester.

The Biomedical Sciences Doctor of Philosophy degree program accepts a very limited number of students to study concurrently with the Doctor of Medicine degree.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission.

Applicants must also meet the admissions requirements of the Graduate Studies Committee of Marshall University's Joan C. Edwards School of Medicine. Interested persons should contact the Biomedical Sciences Graduate Program, Byrd Biotechnology Science Center, Marshall University School of Medicine, One John Marshall Drive, Huntington, WV 25755 or via the Internet at www.marshall.edu/bms/future-students/application-information.

Minimum Requirements for Admission into Master of Science or Doctor of Philosophy Program

All applicants must have baccalaureate degrees, with one year of general biology, physics, general chemistry, and organic chemistry, all with associated laboratories. Although biochemistry, cell biology, calculus and physical chemistry are not requirements for admission, they may be required for certain areas of emphasis and are highly recommended.

- Graduate Record Examination (GRE) General Test scores (scores may not be more than five (5) years old at the application deadline for the Ph.D. program or at the start of the semester when matriculating for the M.S. program) or MCAT scores (Medical Sciences area of emphasis only, minimum of 22 total)
- Three letters of recommendation from references familiar with the applicant's relevant academic/professional performance
- A written statement describing educational and career goals.

Ph.D. Applications

The completed application, application fee, official transcripts and official GRE or MCAT scores should be received in the Graduate Admissions Office by January 15th for summer or fall applications in order for the application to be considered by the program.

Letters of recommendation and personal statements should be received in the BMS Office by January 15th in order for the application to be considered complete and for an admission decision to be rendered.

Applications completed very soon after the above stated deadlines may be considered at the discretion of the BMS Graduate Studies committee.

New Ph.D. students will matriculate in July (Summer III term).

M.S. Applications

The completed application, application fee, official transcripts, three letters of recommendation, written statement, and official GRE or MCAT scores (MCAT scores accepted for medical sciences area of emphasis only) should be received in the Graduate Admissions Office by June 1st for fall applications in order for the application to be considered by the program.

Duration of Degree Programs

Students generally complete the requirements for the Master of Science degree within two to three years. Those who pursue the doctoral degree usually complete the requirements within five to six years. Students who possess an M.S. degree in biomedical sciences or the equivalent when admitted into the doctoral degree program generally require three to four years to complete the Doctor of Philosophy degree.

BIOMEDICAL SCIENCES, M.S.

All students are required to meet the general requirements of the Graduate College for receipt of a master's degree. A minimum of 36 credit hours is required for a non-thesis degree, while a minimum of 32 credit hours is required for the thesis degree. No more than six hours of thesis (BMS 681) may be credited toward the 32-hour requirement. Each student will specialize in one of the six areas of emphasis as defined in the program overview. All students are required to successfully complete:

BMS	600	Foundations of Biomedical Sciences
BMS	617	Statistical Techniques for the Biomedical Sciences (or MTH 518, BSC 517, PSY 517, EDF 517 or equivalent)
BMS	644	Responsible Conduct of Research
BMS 660/661		Communication Skills for Biomedical Sciences
BMS	685	Introduction to Research (min. of 3 hrs.)
BMS	680	Seminar (minimum of 6 hrs.)

In addition, the student must successfully complete other courses required by his/her area of emphasis and advisory committee and pass a written and/or oral comprehensive examination.

BIOMEDICAL SCIENCES, Ph.D.

The doctorate is a research or performance degree and does not depend solely on the accumulation of credit hours. The degree requirements are admission to candidacy and successful completion and defense of a dissertation. The degree signifies that the holder has the competence to function independently at the highest professional level.

Degree Requirements

To qualify for the Doctor of Philosophy degree, the student must pass (*C* or better or *CR*) the following courses:

BMS	600	Foundations of Biomedical Sciences
BMS	644	Responsible Conduct of Research
BMS	617	Statistical Techniques for the Biomedical Sciences
BMS 660/661		Communication Skills for Biomedical Sciences
BMS	680	Seminar (minimum of 6 hrs.)
BMS	685	Introduction to Research
BMS	882	Research (maximum of 15 hrs.)

In addition, the student must successfully complete other courses required by his/her area of emphasis and advisory committee. All courses will be defined in the student's Course of Study.

Advisory Committee

The advisory committee should be formed no later than the end of the first year of graduate education or upon completion of 18 semester hours of credit. As soon as the committee has been identified, an Approval for Dissertation Topic

and Committee Membership form is completed and submitted to the Director of Graduate Studies and the Dean of the Graduate College.

The committee will be selected by the student and research advisor and approved by the Director of Graduate Studies and the Dean of the Graduate College. The advisory committee will be composed of at least five faculty members with appropriate expertise.

One of the members may be from another institution. The student's research advisor will act as the chairperson of the committee.

Approval of Course of Study

It is essential for the student and advisory committee to carefully define a Course of Study by the end of the first year. This is considered a basic contract between the student and the program and includes:

1. All transfer credits.
2. Required and elective courses to be taken at Marshall University.
3. All competencies to be achieved by the student during graduate study. These details must be recorded on a Course of Study form and submitted for approval by the Director of Graduate Studies and the Dean of the Graduate College.

Graduate Assistantships for the Doctor of Philosophy Program

Research assistantships are available for students in the doctoral degree program on a competitive basis. The base stipend is renewable annually for up to six years. Priority consideration for the Doctor of Philosophy graduate assistantships will be given to West Virginia residents.

Academic Performance

- The student must maintain a Grade Point Average of 3.0, and no more than six hours of *C* and no grades below *C* may be applied toward the degree.
- If the GPA falls below 3.0, the student will be placed on academic probation. Following notification of probation, the student will be counseled by his/her advisor. At this time, the deficiency will be identified and a written plan will be prepared for removing it within the next nine semester hours. This plan, co-signed by the student and the advisor, must be approved by the Dean of the Graduate College before the student can register for additional coursework.
- If probationary status is not removed within nine semester hours, the Dean of the Graduate College, in consultation with the Senior Associate Dean for the Biomedical Sciences and the Graduate Studies Committee will determine whether the student is retained or dismissed from the program. Retention must be recommended by the interim advisor or student's advisory committee and endorsed by the Graduate Studies Committee.

Transfer Credit

The student may transfer credits completed at other regionally accredited graduate institutions. Approval of the Graduate Studies Committee and the Dean of the Graduate College is contingent on:

1. the grades earned were *B*'s or better;
2. the credits are appropriate to the student's program and acceptable to the advisory committee; and
3. the time limitations were not exceeded.

The number of transfer hours acceptable for the Ph.D. degree will be determined by the student's advisory committee. Approval must be received from both the Graduate Studies Committee and the Dean of the Graduate College. Transfer credit will not become part of the Marshall University Grade Point Average.

Transfer of credits should be accomplished as early as possible. This should be accomplished either when the student is admitted to candidacy or submits an approved Course of Study. Attempts to transfer credits during the last semester may delay graduation. Official transcripts must be on file in the Graduate College office by the date that grades are due in the Marshall University Registrar's Office.

Validation of Outdated Coursework

The advisory committee has the option to require validation, by special examination, of courses which members deem to be outdated.

Time Limitations

Students must meet all requirements for the Doctor of Philosophy degree within seven years from the date of enrollment in the first course to be used in the degree program. The Graduate Dean may grant an extension upon recommendation by the Graduate Studies Committee. Absence due to military obligations, long serious illnesses, or similar circumstances beyond

the student's control may be considered valid reasons for an extension. It is the option of the advisory committee to require validation of outdated courses by special examination.

Admission to Candidacy

Admission to graduate study and enrollment in graduate courses does not guarantee acceptance as a candidate for the Doctor of Philosophy degree. This is only accomplished by satisfactorily passing a comprehensive qualifying examination and meeting all other specified requirements. The qualifying examination assesses whether the student has attained sufficient knowledge to undertake independent research. The examination should be completed at the end of the second year of study. The examination consists of written and oral components covering all areas specified in the Course of Study. The examination is prepared, administered and graded by the advisory committee. The written portion includes all coursework and relevant topics determined by the advisory committee. The student will be given 2-3 days to complete the written component of the examination. Upon passing the written examination, the student must submit a grant proposal on the topic of his/her dissertation research or a related topic approved by the advisory committee. The proposal must be in the style of an NIH Predoctoral grant proposal. Links to the instructions for the proposal format can be found on the BMS Graduate Program website. The grant proposal must be submitted within 2 months of completion of the written exam and given to the advisory committee members at least 2 weeks in advance of the oral defense. The oral examination consists of a defense of the grant proposal and, at the discretion of the advisory committee, may include topics from the written portion of the exam in which the student was deemed to be deficient. Successful completion of the qualifying examination is based on approval of the committee. Only one dissenting vote is permitted on each component. If necessary, a single portion of the examination may be repeated at the discretion of the advisory committee. The student must have the approval of the advisory committee to repeat either the written or oral component of the qualifying examination. The committee assesses the deficiencies and determines the time required for the student to make corrections. A student may take a given component of the qualifying examination no more than three times. Failure to pass this examination on the third attempt will result in dismissal. The advisory committee must complete an Admission to Candidacy for Ph.D. form after the student completes the examinations and submit it for approval by the Senior Associate Dean for the Biomedical Sciences and the Dean of the Graduate College.

Dissertation

All candidates must successfully complete a biomedical research project and prepare, submit, and defend a dissertation. The dissertation must present the results of the candidate's individual investigation and make a definite contribution to the current state of knowledge. While conducting research and writing a dissertation, the student must register for Research (BMS 882) at the beginning of each semester or summer term for which progress is to be earned. No more than 15 hours of doctoral research may be credited toward the degree.

Candidates are to follow the general guidelines outlined in *Publishing Your Dissertation: How to Prepare Your Manuscript for Publication* and *General Information About Dissertations*. Copies of these documents are on file in the Biomedical Sciences Graduate Program office.

Oral Defense of the Dissertation

The oral defense of the dissertation is held during the semester or summer session in which all other degree requirements have been met. The advisory committee must read and tentatively approve the dissertation before the examination can be scheduled. The committee chairperson will complete an Approval to Schedule Dissertation Defense form and submit it for approval of the Director of Graduate Studies and the Dean of the Graduate College before the examination can be given. Such notification must occur at least two weeks before the proposed date of the defense. A portion of the defense is an open examination and sufficient time is required for adequate public notice.

The open examination usually takes the form of a one-hour seminar. This is followed by a thorough review of the dissertation by the advisory committee and the candidate. Successful completion of the defense requires the approval of all but one of the members of the advisory committee. The results (pass/fail) must be recorded on a Results of Dissertation Examination form, which is to be reported to the Office of Research and Graduate Education and forwarded to the Graduate College Office within 24 hours. Should the candidate fail the defense, reexamination may not be scheduled without the approval of the advisory committee, the Senior Associate Dean for the Biomedical Sciences, and the Dean of the Graduate College.

All advisory committee members are to be present for the defense. If this is not possible, the Dean of the Graduate College, or designee, may permit one substitute for any member of the committee except the chairperson. A request for a substitute must be submitted in writing to, and approved by, the Senior Associate Dean for the Biomedical Sciences and the Dean of the Graduate College. The committee chairperson, the student, and both the original member of the committee to be replaced, and the substitute must sign this request. The substitute must have the same, or higher, graduate faculty status as the original member and represent the same academic discipline or area of emphasis.

Acceptance of Dissertation

Acceptance of the dissertation is a requirement for the doctoral degree. An accepted dissertation must bear the original signatures of at least all but one member of the advisory committee. If more than one member cannot approve the

dissertation, the doctoral degree cannot be recommended. If the substitute member attends and approves the dissertation defense, he or she signs the dissertation. For complete information on the preparation and submission of electronic theses and dissertations see www.marshall.edu/graduate/current-students/edt.

Survey of Earned Doctorates

Please complete and submit the online Survey of Earned Doctorates. Survey of Earned Doctorate information is used by a number of government agencies to assess the state of doctoral education in the U.S., and also to inform their decisions concerning funding of U.S. graduate institutions. The online survey is available at <http://survey.norc.uchicago.edu/doctorate/index.jsp>.

Publication

All doctoral dissertations and their abstracts will be microfilmed through University Microfilms, Ann Arbor, Michigan. This requirement cannot be satisfied by any other publication, but other publication of material in the dissertation is both permitted and encouraged.

Process Summary

1. Inquiry from prospective student to the Biomedical Sciences Graduate Program or Graduate Admissions Office.
2. Submission of the application to the Biomedical Sciences Graduate Program, the Graduate Admissions Office, or online.
3. Receipt of the following official application materials and required fee by the Graduate Admissions Office: application, GRE scores, and transcript(s). International students must apply through the Center for International Programs.
4. Referral of application materials by the Graduate Admissions Office.
5. The Biomedical Sciences Graduate Program notifies the Graduate Admissions Office and the prospective student of the admission decision of the Graduate Studies Committee.
6. The accepted student arrives, reports to the Biomedical Sciences Graduate Program, is assigned an interim advisor, and registers for coursework.
7. Selection of an area of emphasis/advisor must be achieved by the end of the first year. After a permanent advisor has been selected, an advisory committee is formed. A Course of Study should be developed by the end of the first year.
8. The student completes requisite coursework and other program requirements.
9. The student takes written and oral qualifying examinations for admission to candidacy to the Ph.D. These examinations should be scheduled within two months of each other.
10. The student continues doctoral research under the guidance of his/her advisory committee. The dissertation phase begins with the approval of a dissertation prospectus by the advisory committee, the Biomedical Sciences Graduate Program and the Graduate College Dean.
11. The student applies for graduation at the beginning of his or her last semester no later than the university deadline in the academic calendar. The diploma fee must be paid by this time.
12. A copy of the preliminary draft of the dissertation is given to each member of the advisory committee no later than two weeks prior to the final defense of the dissertation.
13. The chair of the advisory committee requests clearance for the defense from the Biomedical Sciences Graduate Program and the Graduate College for approval no later than two weeks before the scheduled date of the defense.
14. The time and place of the defense of the dissertation are announced.
15. The student defends the dissertation in an oral defense.
16. The student follows the steps to prepare and submit the electronic thesis or dissertation at www.marshall.edu/graduate/current-students/edt.

CLINICAL AND TRANSLATIONAL SCIENCE, M.S.

Program Description

The Clinical and Translational Science (CTS) Department in the Marshall University Joan C. Edwards School of Medicine offers a Master of Science (M.S.) degree in Clinical and Translational Science. The goal of this program is to equip physicians in-training and other biomedical scientists with the information and training they need to translate basic clinical advances into improved patient care that will enhance the quality of life for patients in the Appalachian region, particularly southern West Virginia.

Students will receive education in clinical trial design, epidemiology, statistics, informatics, and translational research. Graduates of this program will be able to lead clinical trials of new drugs and procedures in West Virginia, particularly in its rural regions. CTS graduates also will be strong applicants for positions in schools of medicine and medical centers that have clinical and translational science centers.

Clinical and Translational Science M.S. Admission Policy

Applicants must meet both the requirements of Graduate Admissions and the Marshall University Joan C. Edwards School of Medicine Clinical and Translational Science Department Admissions Committee. Interested persons may contact the Office of Research and Graduate Education via e-mail at mubiomed@marshall.edu or learn more at www.marshall.edu/bms/future-students/application-information.

Entrance into the Clinical and Translational Science, M.S. program is restricted to fall semester only. Applicant materials should be received by March 1 in the Graduate Admissions Office to have the best chance for admission.

The complete application process includes:

1. Submission of the Marshall University Graduate College Application available online at www.marshall.edu/graduate. Select "Degree Seeking."
2. Receipt of the application fee (submitted on line at the time of application).
3. Receipt of official transcript(s) from every institution attended documenting that the applicant has:
 - a. Completed a bachelor's degree from an accredited institution of higher learning. The degree must be completed prior to matriculation.
 - b. Achieved an overall Grade Point Average of 3.0 or better.
 - c. Successfully completed one academic year of biology and its associated labs.
 - d. Successfully completed one academic year of general chemistry and its associated labs.
 - e. Successfully completed one academic year of organic chemistry and its associated labs.
 - f. Successfully completed one academic year of physics and its associated labs.
 - g. It should be noted that successful completion of undergraduate courses in biochemistry and cell biology are highly recommended, but not required.
4. Official letters
 - a. Three letters of recommendation signed and on formal letterhead from individuals familiar with the applicant's relevant academic/professional performance (May be e-mailed as attachments)
 - b. Written statement describing the applicant's educational and career goals, and why he or she should be admitted to the CTS, M.S. program. (May be e-mailed as an attachment)

Completed applications received in the Graduate Admissions Office by March 1 will be considered for admission. The CTS Admissions Committee will review completed applications, then interview the top applicants.

Who Should Apply

- Undergraduates.
- Medical students at an LCME-accredited U.S. medical school with a current GPA of at least a 3.0.
- Postgraduate medical residents or fellows who have an M.D. or D.O. with a graduating GPA of 3.0 or better (equivalent GPA for foreign medical graduates).
- Ph.D.'s in biomedical sciences or Pharm.D.'s with graduating GPAs of 3.0 or better.

Medical students will apply to the program during their third year of training. After completing the requirements for the M.S. degree, students will finish the fourth year of medical school.

Medical residents and fellows who are admitted into this program will need to integrate coursework into a reduced clinical workload, thus extending their postgraduate medical education by two years.

Duration of the Program

Students will attend full-time and complete the requirements for the Master of Science degree in two years. This includes attending during the summer between years one and two.

Degree Requirements

All students are required to meet the general requirements of the Graduate College for receipt of a master's degree. A minimum of 36 credit hours is required for a non-thesis degree. In addition, all students must pass a written and/or oral comprehensive exam.

All students will take the following courses.

Fall Semester 1

BMS	660	Communication Skills I
BMS	680	Biomedical Sciences Seminar
CTS	600	Epidemiology and Biostatistics Used in Medical Research

(continued)

CTS	620	Basic Clinical Research Operations
CTS	635	Writing and Peer Review of Scientific Publications
CTS	640	Clinical Trials Journal Club

Spring Semester 1

BMS	661	Communication Skills II
BMS	680	Biomedical Sciences Seminar
CTS	610	Study Design and Applied Statistics in Medical Research
CTS	614	Online Survey Tools, Relational and Data Warehousing, and Data Manipulation
CTS	630	Fundamentals of Team Science
CTS	640	Clinical Trials Journal Club

Summer Semester

CTS	650	Rural Clinic Experience
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Fall Semester 2

BMS	680	Biomedical Sciences Seminar
CTS	625	Clinical Research Operations Lab
CTS	640	Clinical Trials Journal Club
CTS	660	Molecular Phenotype of Appalachian Disorders

Spring Semester 2

BMS	680	Biomedical Sciences Seminar
CTS	625	Clinical Research Operations
CTS	640	Clinical Trials Journal Club

PHARMACY, Pharm.D.

Program Description

The mission of the Marshall University School of Pharmacy is to prepare its students to become pharmacy practitioners that excel as skilled and productive health care professionals in the provision of services, in the standards of care, and in the discovery of new knowledge that ensures optimal medication therapy outcomes. The school utilizes an integrated, interprofessional education approach combined with a team-based clinical philosophy that emphasizes inquiry-based learning, while advancing scholarship, research, and patient care, all directed toward the goal of improving the health and well-being of West Virginians, residents of the Tri-state region, and the nation.

Central to the program's mission is the development of the key skills and abilities (termed terminal outcomes) required for competent pharmacy practice. These terminal outcomes expect all students who graduate from the Marshall University School of Pharmacy Pharm.D. program to be able to:

1. Improve patient quality of life,
2. Contribute to the betterment of patient care through integration in health care teams,
3. Incorporate cultural awareness and empathy into practice,
4. Accurately and safely dispense and formulate medication dosage forms,
5. Manage business, personal, and personnel responsibilities,
6. Contribute to the growth of the profession,
7. Improve population-based outcomes through application of public health and disease prevention principles,
8. Communicate appropriately with all stakeholders,
9. Use best available medical evidence during performance of professional responsibilities,
10. Exhibit professional behavior,
11. Assure patient safety.

The program requires a minimum of 4 years and 9 semesters of coursework, capstone, or practicum experiences.

Dual Degree: Pharm.D. and M.B.A.

Students admitted to the School of Pharmacy may also seek admission to the Graduate College to pursue a Master of Business Administration (M.B.A.) degree. The application procedure and the student's enrollment status will vary depending on the student's undergraduate degree.

All students wishing to pursue the dual degree option must first consult with the Pharm. D. advisor regarding when they should apply for admission. Students who are admitted to the M.B.A. program will be advised by a Pharm. D. advisor and an M.B.A. advisor. The advisors are responsible for ensuring students are making appropriate progress toward both degrees, enroll in the proper sequence of courses, and enroll in the proper section of the courses.

Pharm. D. Students Holding a Baccalaureate Degree: All students who have earned a baccalaureate degree from a regionally accredited college or university may apply for admission to the M.B.A. program. Students must meet the published admission criteria and complete the published degree requirements for the M.B.A. program. When admitted, the student will be classified depending upon his or her completion of core business courses.

Pharm. D. Students Who Do Not Have a Baccalaureate Degree: Students who have not earned a baccalaureate degree from a regionally accredited college or university may apply for admission to the M.B.A. program and pursue the degree under the following conditions. During their enrollment in the two degree programs, students who do not hold the baccalaureate will be continuously classified as Provisionally Admitted for the M.B.A. program. Students beginning the final semester of the Pharm. D. program of study will apply for graduation. Students in good academic standing in both programs and eligible to receive both degrees at the end of the term will be reclassified as Fully Admitted to the M.B.A. program. Students who withdraw or are dismissed from the Pharm. D. program will also be withdrawn from the M.B.A. program regardless of level of degree completion or academic standing.

Minimum Requirements for Admission

Admission to Marshall University School of Pharmacy is competitive. The school admits a maximum of 80 students per year. Applicants are directed to apply to the Marshall University School of Pharmacy through the Pharmacy College Application Service (PharmCAS, *www.pharmcas.org*). Completion of a secondary application directly to the Marshall School of Pharmacy is also required.

(continued)

Admission to the Pharm.D. program requires the student to have:

1. Completed all required pre-pharmacy courses (note: inquiries regarding prerequisite course equivalency should be forwarded to MUSOP Student Affairs at 304-696-7354). These courses include:

English Composition.....6 credit hours or 2 semesters
 Calculus.....5 credit hours or 1 semester
 Statistics.....3 credit hours or 1 semester
 Biology with Lab.....8 credit hours or 2 semesters
 Chemistry with Lab.....10 credit hours or 2 semesters
 Human Anatomy4 credit hours or 1 semester
 Human Physiology.....4 credit hours or 1 semester
 Microbiology4 credit hours or 1 semester
 Organic Chemistry with Lab9 credit hours or 2 semesters,
 Physics with Lab8 credit hours or 2 semesters
 Social Science elective credit hours or 1 semester

2. A recommended minimum undergraduate Grade Point Average (GPA) of 2.5 or higher on a 4.0 scale for all previously completed undergraduate university work.
3. A recommended minimum GPA of 2.75 or higher on a 4.0 scale for all prerequisite courses.
4. Three (3) letters of professional recommendation requested from persons such as pharmacists, supervisors, and professors who can tell us about your academic and/or work capabilities which would enable you to succeed in the School of Pharmacy.
5. Completed the Pharmacy College Admission Test (PCAT) within the past 24 months.
6. Completed both an application through PharmCAS and a supplemental application through the Marshall University School of Pharmacy (www.marshall.edu/pharmacy/application).
7. Submitted all required application fees.
8. Completed an on-site interview.

Curriculum

The curriculum is designed to be completed over 4 years or 9 semesters. A summary of the courses composing the curriculum is found below:

Year 1 - Fall

PHAR 541 Pharmacy Practice I
 PHAR 542 Immunology and Microbiology
 PHAR 511 Clinical Immunology
 PHAR 531 Biopharmaceutics I
 PHAR 522 Fundamentals of Medicinal Chemistry
 PHAR 546 Pharmaceutical Biochemistry
 PHAR 811 Introductory Pharmacy Practice Experiences in Community Settings 1 (PPE1) OR
 PHAR 812 Introductory Pharmacy Practice Experiences in Institutional Settings 1 (PPE2)

Semester Total.....20 credit hours

Year 1 - Spring

PHAR 543 Spring Pharmacy Practice II
 PHAR 544 Principles of Disease and Drug Action
 PHAR 532 Biopharmaceutics 2
 PHAR 521 Integrated Laboratory 1
 PHAR 545 Therapeutics 1-Appropriate use of over-the-counter products
 PHAR 811 Introductory Pharmacy Practice Experiences in Community Settings 1 (PPE1) OR
 PHAR 812 Introductory Pharmacy Practice Experiences in Institutional Settings 1 (PPE2)
 PHAR 819 Longitudinal IPPE

Semester Total.....18 credit hours

Year 2 - Fall

PHAR	661	Therapeutics 2 -Infectious, Immunological, and Ears, Nose, and Throat Diseases
PHAR	631	Pharmacometrics
PHAR	632	Pharmacy Practice Management I: Leadership
PHAR	621	Pharmacy Law and Ethics
PHAR	611	Integrated laboratory 2
PHAR	622	Exploration of Competency and Responsibility in Pharmacy Practice
PHAR	813	Introductory Pharmacy Practice Experiences in Community Settings 2 (PPE3) OR
PHAR	814	Introductory Pharmacy Practice Experiences in Institutional Settings 2 (PPE4)
PHAR	819	Longitudinal IPPE

Semester Total..... 18 credit hours

Year 2 - Spring

PHAR	671	Therapeutics 3- Cardiovascular Diseases, Renal diseases, Pulmonary Diseases, and Electrolyte Homeostasis
PHAR	633	Patient Care Skills Lab
PHAR	634	Pharmacy Practice Management II: Finance
PHAR	612	Therapeutic Drug Dosing
PHAR	635	Bridging Research Outcomes and Patient Care
PHAR	813	Introductory Pharmacy Practice Experiences in Community Settings 2 (PPE3) OR
PHAR	814	Introductory Pharmacy Practice Experiences in Institutional Settings 2 (PPE4)
PHAR	819	Longitudinal IPPE

Semester Total..... 18 credit hours

Year 3 - Fall

PHAR	711	National Certification for Medication Therapy Management
PHAR	751	Therapeutics 4 - Neurologic and Psychiatric diseases
PHAR	741	Therapeutics 5 - Endocrine Diseases, Genitourinary Diseases, and Reproduction
PHAR	742	Pharmacy Practice Management III: Patient Safety Elective 1 (3 credit hours)
PHAR	819	Longitudinal IPPE

Two courses from the following:

PHAR	815	Ambulatory Care Skills (PPE 5) OR
PHAR	816	Inpatient Practice Skills (PPE 6) OR
PHAR	817	Introductory Pharmacy Practice Experiences in Practice Management (PPE 7) OR
PHAR	818	Introductory Pharmacy Practice Experiences in Education (PPE 8)

Semester Total..... 18 credit hours

Year 3 - Spring

PHAR	761	Therapeutics 6 - Hematological Diseases, Oncological Diseases, Musculoskeletal Diseases, Gastrointestinal Diseases, Hepatic Diseases, And Nutrition
PHAR	721	Therapeutics 7 - Providing Care to Special Populations Elective 2 (3 credit hours)
PHAR	731	Case Studies in Pharmacy Practice

Two courses from the following:

PHAR	815	Ambulatory Care Skills (PPE 5) OR
PHAR	816	Inpatient Practice Skills (PPE 6) OR
PHAR	817	Introductory Pharmacy Practice Experiences in Practice Management (PPE 7) OR
PHAR	818	Introductory Pharmacy Practice Experiences in Education (PPE 8)

Semester Total..... 16 credit hours

(continued)

Year 4 – Summer/Fall/Spring

PHAR	881	Advanced Pharmacy Practice Experiences in General Medicine (APPE 1)
PHAR	882	Advanced Pharmacy Practice Experiences in Ambulatory Care /Primary Care (APPE 2)
PHAR	883	Advanced Pharmacy Practice Experiences in Community Pharmacy (APPE 3)
PHAR	884	Advanced Pharmacy Practice Experiences in Institutional Settings (APPE 4)
PHAR	885	Advanced Pharmacy Practice Experiences in Geriatrics (APPE 5)
PHAR	886	Advanced Pharmacy Practice Experiences in Diverse Populations (APPE 6)
		APPE 7 - elective (5 credit hours)
		APPE 8 - elective (5 credit hours)
PHAR	891	Capstone 1 – National APhA Diabetes Certification
PHAR	892	Capstone 2 - NAPLEX Exam Review

Total for Year 4 45 credit hours

Total Semester Credit Hours for Program 150

Note: PHAR courses may not always coincide with the university academic calendar.

Academic Performance

Students are eligible for graduation upon successful completion of all academic and clinical (Professional Practice Experiences) requirements and documented competency in the P4 Annual Assessment of Competency. The student must earn a minimum of 150 semester credit hours. The expected graduation grade point average is 3.0 with the minimum grade point average of 2.5. The student is responsible for knowing and satisfying degree and graduation requirements. Students must be enrolled in the term in which they plan to graduate.

Accreditation Status

Marshall University's Doctor of Pharmacy program has been granted full accreditation status by the Accreditation Council for Pharmacy Education (ACPE) Board of Directors. For an explanation of the ACPE accreditation process, please contact the Accreditation Council for Pharmacy Education, 135 South LaSalle Street, Suite 4100, Chicago, IL 60603, 312-644-3575; FAX 312-664-4652, website www.acpe-accredit.org.

Time Limitations

If a student has not completed his/her Pharm.D. degree within six years from the end of the first course to be counted toward his/her degree, and if the student has not been enrolled in a course toward that degree for the most recent one year when that seven-year limit is reached (meaning the sixth year), then the student will be dropped from the program. To continue to work on that degree, the student must reapply for admission to that degree program through the regular graduate admission process, and pay the appropriate admission fees.



Courses of Instruction

ABBREVIATIONS

PR: Prerequisite

CR: Corequisite

REC:Recommended

I,II,S:I-Fall semester; II-Spring semester; S-Summer

lec. -lab.....Lecture and laboratory hours per week
(e.g., 2 lec-4 lab means two hours lecture and four hours laboratory per week)

S/U:.....Graded Satisfactory/Unsatisfactory.

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CIRG	CURRICULUM AND INSTRUCTION: LITERACY EDUCATION	242
CISE	CURRICULUM AND INSTRUCTION: SCIENCE EDUCATION	244
CISL	CURRICULUM AND INSTRUCTION: ENGLISH AS A SECOND LANGUAGE	242
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ACCOUNTING (ACC)

510	Survey of Accounting. 3 hrs. Application of accounting as an information development and communication function that supports economic decision making. Topics include principles, concepts, problems, financial analysis, personal and organizational decisions, business entities, and government.
512	Government and Not-for-Profit Accounting. 3 hrs. Accounting, reporting, and analysis of both governmental entities and not-for-profit entities will be examined with the focus on the preparation and use of the information for decision makers. (PR: Admission to Master of Science in Accountancy program or permission of Program Director)
544	Consulting for CPAs. 3 hrs. To acclimate students to the consulting work environment; emphasis on collecting relevant information to provide Comprehensive solutions. To provide concrete examples of this process. The course will focus on estate tax calculations, and planning; retirement and investment planning
580-583	Special Topics. 4 hrs.
612	Accounting Functions in Business. 3 hrs. A study of the generation, transformation, and presentation of quantitative data produced by the accounting process. Emphasis is given to the modern accounting system that generates information (1) for marketing, production, and financial executives in planning and controlling business operations, and (2) by investors, creditors, governmental agencies, and other external groups having an interest in the operating results and financial position of business firms. (PR: Full M.B.A. admission or permission of GSM academic advisor)
613	Profit Planning and Controls. 3 hrs. Determination, analysis, and reporting of data for planning and controlling operations. Includes flexible budgets, standard costs, and systems of determining historical costs. (PR: Full M.B.A. admission or permission of GSM academic advisor)
614	Theory of Accounting. 3 hrs. History and development of accounting principles; intensive study of theoretical problems related to determination of income and presentation of financial conditions. (PR: Accounting 613 and full M.B.A. admission or permission of GSM academic advisor)
615	Auditing Theory and Practice. 3 hrs. Legal and social responsibilities of the auditor. Verification of financial statements by independent public accountants and internal auditors. (PR: Admission to Master of Science in Accountancy program or permission of Program Director)
616	Advanced Income Tax Procedure. 3 hrs. A study of selected topics in the Internal Revenue code and regulations with emphasis on tax accounting and research. (PR: ACC 348 and full M.B.A. admission or permission of GSM academic advisor)
617	Advanced Controllershship. 3 hrs. Functions of the modern corporate controller. Topics and problems demonstrating the integrative nature of the controller's role are investigated. The use of the computer is integrated into the course. (PR: Admission to Master of Science in Accountancy program or permission of Program Director)
618	Accounting Research. 3 hrs. Examination and evaluation of current theories, issues, and problems relating to accounting. Primary emphasis on accounting theory and research. (PR: Admission to Master of Science in Accountancy program or permission of Program Director)
632	Auditing Accounting Information Systems. 3 hrs. An overview of accounting information systems auditing, controls, and governance. Uses both lecture and case analyses to learn about controls and identify their strengths and weaknesses.
640	Forensic Accounting: Civil Litigation. 3 hrs. This course involves the examination of various services provided by financial experts during the litigation process and the financial theory and methodology behind analytic and damage issues in civil litigation. (PR: Admission to M.S. in Accountancy or ACC 613)
648	Tax Research. 3 hrs. Examines the primary and secondary sources of income tax law. Assignments will address using paper and electronic research tools to locate, understand, and interpret primary and secondary source materials.
650	Special Topics. 1-3, 1-3 hrs. (PR: Permission of the division head and full M.B.A. admission)
660	Independent Study. 1-4 hrs. Independent study of a specific nature under the supervision of a faculty member with graduate status. Hours determined by the magnitude of the project. (PR: Permission of the division head and full M.B.A. admission or permission of GSM academic advisor)
698	Ethics and Professional Development in Accounting. 3 hrs. This course examines ethical issues facing professional accountants. Professional codes of conduct and corporate governance mechanisms will be applied to manage ethical situations. (PR: Admission to Master of Science in Accountancy program or permission of Program Director)

ADULT AND TECHNICAL EDUCATION (ATE)

503	Introduction to Adult Learning Theory. 3 hrs. Designed to acquaint the student with the field of adult education and its underpinnings and the various adult learning theories and/or approaches.
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505	Instructional Methods in Technical Training. 3 hrs. Unit and lesson planning; cooperative education as a method of instruction, project plan of instruction, classroom management and control, demonstration techniques, evaluation methods, field experience in Marketing Education classroom.
508	Teaching Methods in Career and Technical Education. 3 hrs. Correlating lab instruction with classroom instruction; individual and group instruction sheets and materials; the four teaching steps in career and technical education; physical factors relating to classroom and lab.
510	Developing Selling Curriculum. 3 hrs. Conduct library research, review selling content, select content objectives, identify content appropriate for the target group, prepare teaching outlines, and design evaluation instruments.
511	Introduction to Career and Technical Education. 3 hrs. Designed as a follow-up to Teaching Methods in Career and Technical Education and intended to provide the new teacher guidance and supervision in developing teacher competence.
512	Course Construction and Planning in Career and Technical Education. 3 hrs. Analysis procedures for determining career and technical curriculum content; determination of program goals and objectives; involvement of advisory committees; factors, principles, and techniques of developing a course of study.
513	Organization and Management of School Shops and Laboratories. 3 hrs. Responsibilities as a manager; methods of handling tools, equipment, and supplies; project instructional resource needs and reporting; improvement of facilities; filing system, and career and technical laboratory.
520	Principles of Cooperative Education. 3 hrs. Principles for planning, implementing, and evaluating the cooperative design within the various service areas of technical education; analysis of factors which must be considered in selection of the cooperative design.
521	Occupational Analysis. 3 hrs. Assist the instructor in analyzing an occupation; goals and objectives to form a basis for vocational curriculum; classifying and describing occupations; analysis procedures; course content, and technical skills and knowledge.
522	Administration of Cooperative Programs. 3 hrs. Administering cooperative education programs, recruiting, and selecting students; selecting training agencies and placing students; conducting public relations activities for the program; and advising the student organization.
524	Safety in Career and Technical Education. 3 hrs. Responsibilities of the teacher in providing a safe learning/working environment; effective approaches to accident prevention; laws and regulatory agencies regarding safety management in the classroom and laboratory.
525	Computer Applications in Business and Marketing Education. 3 hrs. Study of computer applications and software for Business and Marketing Education.
535	Methods of Examination in Career and Technical Education. 3 hrs. Develop written and performance evaluation instruments; develop and use progress charts; determine appropriate grading procedures. Develop rating scales, objectives tests, classroom tests, and manipulative tests. Introduction to statistics.
536	Coordination of Cooperative Career and Technical Education. 3 hrs. Background of coordination; methods of techniques for evaluating and selecting work stations; student selection, placement, and follow-up; role of advisory committees; methods of evaluating cooperative work experience.
540	Developing Merchandising/Sales Promotion Curriculum. 3 hrs. Conduct library research, review merchandising and sales promotion content, objectives, identify content appropriate for the target group, prepare teaching outlines, and design evaluation instruments.
542	Principles of Prevocational Exploration. 3 hrs. Study of the prevocational exploration delivery system. Develop instructional units which include goals, objectives, and criteria for evaluation of students.
544	Practicum in Prevocational Exploration, I. 3 hrs. Participants make revisions to instructional units, organize a Career Exploration Club, and recognize apprenticeship opportunities.
546	Practicum in Prevocational Exploration, II. 3 hrs. Participants modify the 36-lesson plan project, incorporate additional "hands-on" activities, examine teaching strategies, and design activities for community involvement utilizing an advisory committee.
547	Computer Applications in Career and Technical Education. 3 hrs. Designed to introduce modern instructional technology in today's classrooms and labs. Introduction to disk operating systems; application software for instruction and instructional management; student evaluation; record keeping, and work processing.
548	Applications of Basic Skills in Career and Technical Education. 3 hrs. Methods, techniques, and strategies for incorporating basic skills in career and technical instruction; emphasis on reading, writing, math, oral communication, and critical thinking skills; job-seeking and job-keeping skills.
549	Occupational Analysis and Instructional Design. 3 hrs. Analyzing an occupation to identify knowledge and skills; use of the analysis to develop problem solving objectives and instructional plans; emphasis on approach to facilitate student achievement of objectives.
550	Interpersonal Skills in the Workplace. 3 hrs. Course is designed to provide opportunities to learn in preparation for career success with supervisors, co-workers, clients, and customers. Human relations skills are examined and related to business success.
552	History and Philosophy of Career and Technical Education. 3 hrs. Historical influences in the development of workforce education in America and Europe; motivating influences and the implications of philosophy in modern career and technical education.
559	Coordination of Career and Technical Youth Activities. 3 hrs. Organize and develop co-curricular student organization; defining the purpose of the organization; plan application and integration into the vocational program; competencies in leadership and team building.
560-563	Professional Development. 1-4 hrs.
565	Career Exploration and Development. 3 hrs. Exploring principles and techniques for career planning and job search. An overview of strategies for gaining a competitive edge in the labor market and for experiencing a successful career beginning.
569	Business and Occupational Teaching Methods. 3 hrs. Survey materials and methods for developing competencies in teaching business education and/or occupational training programs.
570	Practicum in Adult and Technical Education. 1-4 hrs. Individually designed field experience under supervision of the faculty; such experience related to the student's future professional role.
580-584	Special Topics. 1-4 hrs.
585-588	Independent Study. 1-4 hrs.
591-594	Workshop. 1-4 hrs.

- 595 Historical Developments in Workforce Preparation. 3 hrs.**
An overview of the historical evolution of technical education legislation; analysis of Technical Education Acts as they relate to state and local planning of technical education programs.
- 600 Aspects of Training and Development. 3 hrs.**
Overview of the training and development profession and theories that support the profession; emphasis on the variety of solutions used by HRD professionals to help improve individual and organizational performance.
- 601 Philosophy of Workforce Preparation 3 hrs.**
Overview of the historical origins of technical education and their relationship to educational philosophies; foundations of areas of technical education; analysis of questions fundamental to a philosophy of technical education.
- 603 Introduction to Adult Education and Adult Learners. 3 hrs.**
Designed to acquaint the student with the field of adult and continuing education, its foundations and development in this country and future trends.
- 605 Foundations of Business and Marketing Education. 3 hrs.**
Application of philosophy and principles of business and marketing education to the objectives, curriculum, guidance, and teacher preparation, emphasizing the techniques for coordination of federally aided programs.
- 609 Developing Training Plans for Business and Industry. 3 hrs.**
Analysis of factors in developing local plans for business and industry; emphasis on implications of federal guidelines; factors which impinge upon programs during implementation; developing evaluation procedures.
- 610 Current Issues in Business and Marketing Education. 3 hrs.**
Individual and group analysis of current issues in business and marketing; identification of issues significant to the direction of sound business education and marketing education programs.
- 614 Adult/Technical Education and Economic Development. 3 hrs.**
Study of the sources of data on employment needs; relationship to planning techniques for conducting a community survey; organizing data for analysis and applying the findings to the planning process.
- 615 Student Career Organizations. 3 hrs.**
A study of various facets of existing state/national student organizations. Special emphasis is placed upon the organizations of student career organizations and parliamentary procedures. (PR: ATE 542 or equivalent)
- 616 Community Relations in Adult/Technical Programs. 3 hrs.**
Study of community organization and the relationship of adult/technical education; consideration of models for analyzing employment opportunities and occupational training needs and the process in securing community commitment.
- 618 Literature of Adult and Continuing Education. 3 hrs.**
A program of readings and reports on specific areas in adult education or particular problems within an area of adult and continuing education. Readings to be selected cooperatively with advisor.
- 628 Adult Instruction: Environmental and Personal Aspects. 3 hrs.**
The course examines both environmental and personal factors which may impact on the adult learning process and is designed to foster awareness, which will be translated into appropriate intervention strategies.
- 631 Survey Practicum in Computer Applications in Business and Industry. 3 hrs.**
An introductory course for persons who want to become familiar with the application of computers in the business/industrial fields represented by adult and technical education.
- 635 Specialized Practicum in Computer Applications in Business and Industry. 3 hrs.**
An advanced course for persons who want to further their knowledge of the application of computers in the business/industrial fields represented by adult and technical education.
- 637 Individual Computer Program Applications. 3 hrs.**
Individually designed learning activities that involve the application of previously learned theories, processes, operations, techniques or systems. The applications are studied, analyzed, and evaluated.
- 640 Program Design in Technical Education. 3 hrs.**
An overview of technical education history, philosophy, legislation, certification, evaluation, and operations. Comparison to academic programs to emphasize similarities and differences.
- 643 Teaching EFL Abroad. 3 hrs.**
Designed to explore the educational history of teaching a foreign language in different countries. (PR: CISL 550 and CISL 551)
- 650 Career Education Curriculum Development. 3 hrs.**
Instructional unit is developed to assist children and youth achieve academic, general, or technical education and also career education goals; includes goals, objectives, procedures, student activities, resources, and evaluation.
- 651 Developing Marketing Curriculum. 3 hrs.**
Conduct library research, review marketing content, select content objectives, identify content appropriate for the target group, prepare teaching outlines, and design evaluation instruments.
- 652 Field Based Job Analysis and Curriculum Design. 3 hrs.**
Field study of job analysis, curriculum, course, and program design.
- 653 Developing Management Curriculum. 3 hrs.**
Conduct library research, review management content, select content objectives, identify content appropriate for the target group, prepare teaching outlines, and design evaluation instruments.
- 655 Developing Human Resources Curriculum. 3 hrs.**
Conduct library research, review personnel content, select content objectives, identify content appropriate for the target group, prepare teaching outlines, and design evaluation instruments.
- 656 Instructional Planning for Adult Populations. 3 hrs.**
An examination and application of the process involved in the development, operation, and evaluation of adult programs in the community, business, and industry.
- 659 EFL Methods. 3 hrs.**
Designed to provide students with the latest methodologies associated with teaching EFL to the adult learner. (PR: ATE 643)
- 661 Practicum in Adult and Continuing Education. 3 hrs.**
Individually designed to provide field experience under the supervision of the faculty, such experience to be related to the student's project role in adult and continuing education.
- 662 Applied Field Experience in Prevocational Exploration. 3 hrs.**
Participants are assisted in making revisions in instructional units, organizing an advisory committee, and organizing a Career Exploration Club as an integral part of the classroom instruction. (PR: ATE 542)
- 663 EFL Practicum. 3 hrs.**
Designed to engage the student in hands-on teaching in a classroom setting. (PR: ATE 659)

- 664 Technical Education Practicum. 3 hrs.**
Individually designed to provide field experience under the supervision of the faculty, such experience to be related to the student's profession.
- 667 Cooperative Education Workforce Experience. 1-10 hrs.**
Alternating or parallel periods of study and paid employment for experiential learning related to student's academic and/or professional goals (Min. 50 hours of paid work experience per credit hour)
- 668 Field Based Internship in Business and Industry. 3 hrs.**
Internship in the technical content areas of marketing, merchandising, management or technology; evaluating methods, and procedures in marketing, merchandising, management, or technology. (PR: ATE 609, 628, 652 and 656)
- 671 Evaluation of Adult and Technical Instruction. 3 hrs.**
An examination of the design and evaluation processes used in adult learning areas with emphasis on the T&D and technical fields as well as the general field.
- 673 Assessment in Adult/Technical Education. 3 hrs.**
Evaluation procedures in adult/technical education including principles of test construction; survey of standardized and published tests; utilization in the classroom or training department; review of statistical methods.
- 675 Literature and Applied Research in Adult/Technical Education. 3 hrs.**
Program of readings and reports on specific areas of adult/Technical education or particular problems within an area of adult and technical education; reading selected cooperatively with advisor.
- 677 Research Methodology and Design in Adult/Technical Education. 3 hrs.**
Study of methodology, application, analysis and synthesis of research; a review of current studies with attention to statistical techniques, data collecting, data handling, and the impact of particular research.
- 679 Problem Report. 1-6 hrs.**
- 680 International Workforce Development. 3 hrs.**
This course is designed for students in technical and social fields who are interested in workforce development. It has three components: education and training, collaborative research, and technical assistance.
- 681 Thesis. 1-6 hrs.**
- 685 Adult and Technical Education Capstone. 3 hrs.**
This course provides training and assessment experiences for students seeking Master of Science degrees in Adult and Technical Education. The student's degree portfolio and capstone assessment will be completed within this course.
- 689 Grant Proposal Writing for Non-Profit Agencies. 3 hrs.**
This course involves the development of a grant proposal and includes the steps required to produce a final document.
- 690-692 Seminar. 1-4 hrs.**
- 701 The Community and Technical College. 3 hrs.**
History, functions, and unique characteristics of the two-year college in the American education system.
- 702 Analysis of Literature on Community and Technical College Teaching. 3 hrs.**
Identification and analysis of current issues in community technical college teaching with application of procedures for investigation, accompanied by a critical examination of findings and their application to local programs.
- 703 Interpretation and Utilization of Applied Research in Community and Technical College Teaching.**
Students will learn how to choose the appropriate statistics, interpret the outputs, and develop skills in writing about the meaning of the results.
- 707 Professional Seminar I. 1 hr.**
Selected topics in program and institutional assessments related to community and technical colleges.
- 708 Professional Seminar II. 1 hr.**
Selected topics in thesis proposal, overview of grantsmanship, and funding sources. Discussion of the effects of new technologies and the Internet on the proposal process.
- 709 Professional Seminar III. 1 hr.**
Provides students an opportunity to synthesize prior course experiences and to prepare and present a draft thesis prospectus.
- 712 Classroom Assessment for Community and Technical College Students. 3 hrs.**
Presentation of assessment principles that clearly and specifically relate to instruction, current research and new directions in the assessment field, and practical and realistic examples and suggestions.
- 714 Community and Technical College Curriculum Design. 3 hrs.**
Study of the major curricular programs of the comprehensive community college, including factors that influence the design and implementation, processes for assessing, and strategies for changing the curriculum for open access colleges.
- 718 Education and Employment Preparation for Diverse Populations. 3 hrs.**
The needs of diverse/special needs populations, including youth and adults with disabilities, disadvantaged, limited English proficient, displaced workers, minorities, incarcerated, and single teen parents. Specific attention to federal legislation.
- 723 Perspectives and Strategies for Teaching Workforce Education. 3 hrs.**
Teaching/learning process and consideration of teaching methods employed to encourage, guide, and evaluate community and technical college students' learning.
- 726 Funding, Planning, and Administrative Issues of Community and Technical Colleges. 3 hrs.**
Governance and administration of the contemporary community and technical college in the United States with a focus on planning, funding, and selected administrative issues.
- 781 Thesis. 6 hrs.**
Individual research in a selected field of community and technical college teaching under the direction of a graduate faculty member of the department.

ANATOMY, CELL AND NEUROBIOLOGY (ACB)

- 620 Gross Anatomy/Embryology. 8 hrs. I.**
The course presents a comprehensive study of the structures of the human body and their development. Although the course is centered in dissection, additional learning resources include examination of non-invasive images such as CAT scans, MR images and radiographs, and the study of models and the use of computer programs. Clinical correlates and cases are used to establish the anatomical basis of the practice of medicine.
- 621 Gross Anatomy/Embryology I. 2 hrs.**
Morphology of the upper and lower limbs with dissection. (PR: Permission of instructor)
- 622 Gross Anatomy/Embryology II. 6 hrs.**
Morphology of the head and neck, thorax, abdomen, pelvis with dissection. (PR: Permission of instructor)
- 624 Microscopic Anatomy and Ultrastructure. 4 hrs. II.**
Students study the functional and microscopic aspects of cell and tissue types found in different regions of the human body. Presentation of topics correlates with the physiology course, which runs concurrently and provides an organ system approach to the material. In the laboratory portion of the course, tissues from medical histology slide sets and electron micrographs are studied.

- 626 Advanced Histological Techniques. 4 hrs., II.**
Advanced techniques of tissue preparation, staining, histochemistry and immune localization. (PR: Consent of instructor)
- 628 Anatomy of the Nervous System. 4 hrs. II.**
The gross and fine structure of the nervous system is correlated with function at each level of the spinal cord and brain. Lectures are supplemented in the laboratory by the study of microscopic sections and gross sections of the spinal cord, brain stem and whole brain. (PR: Consent of instructor)
- 629 Microscopic Anatomy and Ultrastructure Part I. 1 hr.**
The basic tissue types of the human body will be examined at the light and electron microscopic level. (PR: Permission of instructor)
- 630 Microscopic Anatomy and Ultrastructure Part II. 3 hrs.**
The organ systems of the human body will be examined at the light and electron microscopic level. (PR: Permission of instructor)
- 632 Principles of Mammalian Development. 3 hrs. I.**
A course designed to present the salient features of normal human development so that students will have a basis for comprehending normal adult anatomic relations and variations, and a basis for interpreting congenital pathologic conditions. (PR: Consent of instructor)
- 633 Neuroanatomy I: Clinical Anatomy of the Brain and Spinal Cord. 2 hrs.**
To study the essential organization of the cerebrum and spinal cord, blood supply, the spinal ascending and descending pathways, and clinically related disorders. (PR: BMS 600 or permission of instructor)
- 634 Neuroanatomy II: Clinical Anatomy of the Brain Stem and Forebrain. 2 hrs.**
To study the functional organization and neurological disorders associated with the brain stem, thalamus, hypothalamus, cerebellum, basal ganglia, limbic system, and cerebral cortex. (PR: ACB 633)
- 639 Neuroanatomy Research Techniques. 3 hrs. S.**
Students rotate through neuroanatomy faculty research laboratories where they have the opportunity to see state-of-the-art neuroanatomy research skills demonstrated. Each student has the opportunity to participate in neuroanatomical research. (PR: Consent of instructor)
- 640 Current Topics in Cellular Biology. 1-3 hrs. II.**
Students carry out a guided comprehensive review of the literature on a current research topic. The topic is selected by agreement of the student and faculty member. Consent of instructor is required.
- 641 Electron Microscopy. 3 hrs. I.**
The theory and practice of transmission electron microscopy (TEM). Sample preparation, TEM operation, darkroom work, manuscript preparation, and an individualized research project. (PR: Consent of instructor)
- 643 Independent Study in Electron Microscopy. 1-5 hrs. II.**
Supervised individual research projects in electron microscopy and advanced EM Techniques: STEM, SEM, Diffraction, Darkfield. (PR: ACB 641 or approval of instructor)
- 650 Research in Cellular Processes. 1-4 hrs. II.**
Provides the student with an introduction to research in cellular biology and neurobiology. The education program is arranged in consultation with an individual faculty member. Consent of instructor required.
- 655 Digital Video Imaging. 3 hrs. I, II.**
An in-depth study of the theory and practice of fluorescence and confocal microscopy (including Image Deconvolution, Multiphoton Imaging, FRET, FRAP, and GFPs), intracellular ion measurements and Immunocytochemistry. (PR: Consent of instructor)
- 660 Current Topics in Neurobiology. 1-3 hrs. II.**
Students carry out a guided comprehensive review of the literature on a current research topic in neurobiology. The topic is selected by agreement of the student and faculty. Consent of instructor required.
- 675 Special Topics. 1-4 hrs. I, II.**
Present course material on special areas of research or topics which are not routinely covered in existing courses. Consent of instructor is required.
- 676 Special Topics. 1-4 hrs. I, II.**
Present course material on special areas of research or topics which are not routinely covered in existing courses. Consent of instructor is required.
- 677 Special Topics. 1-4 hrs. I, II.**
Present course material on special areas of research or topics which are not routinely covered in existing courses. Consent of instructor is required.

ANTHROPOLOGY (ANT)

(See also Sociology)

- 511 Deconstructing Appalachia. 3 hrs.**
Exploration of the historical and cultural significance of Appalachia in the American experience and imagination. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 512 Appalachian Field Experience I. 3 hrs.**
Supervised field work in an Appalachian community studying the social and cultural characteristics of the area. (PR: ANT 511 or equivalent)
- 513 Appalachian Field Experience II. 3 hrs.**
Supervised field work in an Appalachian community studying the social and cultural characteristics of the area. (PR: ANT 511 or equivalent)
- 528 Archeological Theory and Analysis. 3 hrs.**
An introduction to archaeological theory and its application to the material record of cultures, past and present. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 540 African Cultures. 3 hrs.**
Comparative analysis of the ethnic groups of Africa, using archaeological and ethnographic data. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 541 Oceania. 3 hrs.**
Comparative analysis of the indigenous peoples and cultures Melanesia and Polynesia using archaeological and ethnographic data (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 542 The Native Americans. 3 hrs.**
Comparative analysis of the indigenous inhabitants of North America using archaeological and ethnographic data. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 545 American Ethnicities. 3 hrs.**
Comparative overview of historical and contemporary patterns of immigration, settlement, and interethnic relations in the United States. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 564 Design, Planning, and Health. 3 hrs.**
Social scientific study of how places where people live, work, and recreate affect quality of life and overall health with an emphasis on design decisions within urban and regional planning.
- 565 Disaster, Culture and Health. 3 hrs.**
Study of contemporary environmental and social problems emphasizing health impacts of natural and technological disasters on communities around the world. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)

- 566 Culture and Environment. 3 hrs.**
This course will examine the symbolic and structural dimensions of struggles over defining, organizing, and controlling the natural environment from a biocultural perspective.
- 567 Culture through Ethnography. 3 hrs.**
In-depth exploration and comparison of diverse cultural groups through reading and discussing ethnographic texts. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 568 National Identity. 3 hrs.**
Exploration of the cultural, political and economic processes that contribute to the creation and maintenance of the modern nation state as an imagined community. (PR: Six hours of undergraduate Anthropology on 300 level or higher or departmental permission)
- 572 Language, Gender and the Body. 3 hrs.**
Uses methods and theories from anthropology, linguistics, and sociology to examine how gendered bodies in different cultures are constructed through ways of acting in the social world.
- 580-583 Special Topics. 1-4 hrs.**
Study of topics of interest not covered in regularly scheduled classes. (PR: Graduate status and permission)
- 585-588 Independent Study. 1-4 hrs.**
Individual study of topics not offered in regularly scheduled classes. (PR: Graduate status and permission)
- 591 Theory in Ethnology. 3 hrs.**
Introduction to major theoretical traditions of cultural anthropology with emphasis on the connection between fieldwork and development of theory. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 600 Ethnographic Research. 3 hrs.**
An advanced project-based introduction to ethnographic research design and practice. (PR: Six hours of undergraduate anthropology on 300 level or higher or departmental permission)
- 685-688 Independent Study. 1-4 hrs.**
Individual study of topics not offered in regularly scheduled classes. (PR: Graduate status and six hours of undergraduate anthropology on 300 level or higher or departmental permission)

ART AND DESIGN (ART)

- 504 Iconography of Mary. 3 hrs.**
Traces the sources and evolution of Catholic doctrine and images of the Virgin Mary.
- 506 Figure Drawing. 3 hrs. I or II or S.**
Practice in drawing from the posed human figure.
- 507 Tribal Arts. 3 hrs. I or II or S.**
An introduction to the unique arts of so-called precivilized peoples with a twofold emphasis: First, the European Pre-Historic; Second, the Non-European Primitive.
- 508 Art and Architecture of Ancient Egypt. 3 hrs.**
History of the visual arts and architecture in Ancient Egypt in the context of social and religious influences.
- 509 Nineteenth Century Art. 3 hrs. I or II or S.**
A survey of the development of architecture, painting, and sculpture in the western world during the 19th century.
- 510 Art and Architecture of Ancient Greece. 3 hrs.**
Explores the art and architecture of the ancient Greek world in light of social and religious influences.
- 511 Art and Architecture of Ancient Rome. 3 hrs.**
Explores the art and architecture of ancient Rome in light of social and religious influences.
- 512 20th Century Art. 3 hrs.**
A survey of the development of architecture, painting and sculpture in the Western World from 1900 to 2000.
- 513 Contemporary Art. 3 hrs.**
A survey of the development of architecture, painting and sculpture in the Western World from World War II to the present.
- 514 Art and Architecture of the Italian Renaissance. 3 hrs. I or II or S.**
Explores the art and architecture of the Italian Renaissance in light of social and religious influences.
- 515 Art of the Renaissance in Northern Europe. 3 hrs.**
Explores the art of northern Europe during the Renaissance in light of social and religious influences.
- 516 Baroque Art. 3 hrs.**
Analyzes Baroque art and social milieu that influenced, commissioned, financed, and produced it.
- 519 Spinning, Dyeing, and Tapestry. 3 hrs. I or II or S.**
Basic procedures in hand spinning, dyeing and tapestry weaving.
- 524 Women and Art. 3 hrs.**
Explores the relationship of women to art historically: as artists, as subject matter, and as patrons/consumers.
- 540 Advanced Graphic Design. 3 hrs.**
Directed study in which student may select subject from any area of commercial design with the goal of developing specific area of expertise. Emphasis on original design and research.
- 548 Ceramic Materials and Processes. 3 hrs.**
Practical and empirical investigation of ceramic materials, techniques and approaches to their use in clay and glazes.
- 550 2 & 3 Dimensional Designs for Fabrics. 3 hrs.**
Exploring the potentialities of fabric as an art experience in two and three dimensional art form.
- 554 Designing for Multimedia. 3 hrs.**
Current topics and techniques in multimedia design. Topics include animation, incorporating digital video and sound, interaction design, information design, website design and advanced image processing.
- 555-556 Painting: Acrylic and Oil. 3; 3 hrs. I, II, S.**
Study and practice of painting in expressing still life, landscape and the human figure.
- 557 Figure Painting. 3 hrs. S.**
Painting the nude model using modern and classical methods.
- 560 History and Philosophy of Art Education, 3 hrs. I.**
A survey of the evolution of art education and philosophy, and a study of problems related to art education on the elementary and high school level.
- 564 History of Modern Design. 3 hrs.**
History of print and object design from the beginning of the nineteenth through the twentieth century will be studied in terms of art history, technology, politics, economics, and consumer behavior.
- 566 Problems in Curriculum Development for Public School Art K-12, 3 hrs.**
Exploring considerations for curriculum development in Art Education, developing individualized curriculum for specific situations on grade levels K-6 or 7-12.

- 569 Printmaking Processes. 3 hrs. I, II, S.**
Experiments in the media of Intaglio, Lithography, Serigraphy, Relief, Collagraphs and new techniques of printmaking.
- 570-573 Practicum. 3 hrs. I, II, S.**
To be used for learning activities that involve the application of previously learned processes, theories, systems or techniques
- 580-583 Special Topics. 1-4 hrs.**
To be used for experimental courses. By permission only.
- 585-588 Independent Studies. 1-4 hrs.**
To be reserved for tutorials, directed and independent research and readings, problem reports, and other activities designed to fit the needs of individual students within the major.
- 601 Advanced Problems in Art Education (Grades K-12). 3 hrs. I, II, S.**
For graduate students with limited experience in the arts and crafts wishing to familiarize themselves with methods and materials used in art education.
- 650-656 Advanced Studio Sequence. 3; 3; 3; 3; 3; 3 hrs. I, II, S.**
The student will select special studies from ceramics, drawing, fibers, graphic design, painting, photography, printmaking, sculpture, and other related approved projects.
- 670 Seminar. 3 hrs. II. Even years only.**
Discussion and research in selected areas of art.
- 679 Problem Report. 1-3 hrs. I or II or S.**
- 681 Thesis. 1-6 hrs. I or II or S.**

BIOCHEMISTRY AND MOLECULAR BIOLOGY (BIC)

- 636 Enzymes and Proteins. 3 hrs. I.**
Structure and function of enzymes and proteins, including proteomics, purification, assay, kinetics, molecular chaperones, protein degradation, engineering, and current literature concerning enzymes important in the cell cycle and gene regulation. (PR: Biochemistry and consent)
- 638 Nucleic Acids and Protein Synthesis. 3 hrs. II.**
An advanced course in molecular biology and molecular genetics emphasizing current research in these areas. (PR: Biochemistry and consent of instructor)
- 643 Molecular Signal Transduction. 3 hrs.**
An advanced exploration of the newest information on cellular signalling pathways. Special emphasis will be placed on current literature in following signal transduction from the plasma membrane to the nucleus. (PR: BMS 600 or equivalent)
- 675 Special Topics. 1-4 hrs.**
Present course material on special areas of research or topics which are not routinely covered in existing courses.

BIOLOGICAL SCIENCES (BSC)

- 501 Ichthyology. 4 hrs. II. (Alternate years)**
Anatomy, physiology, ecology, zoogeography, economic importance and classification of major groups and representative local species of fishes. 2 lec-4 lab and field. (PR: BSC 120-121, 214 or 310)
- 504 Cellular Physiology. 4 hrs.**
The physio-chemical nature of intracellular processes in plant and animal cells with emphasis on the functional significance of microscopic and submicroscopic structure and organization. 3 lec-3 lab. (REC: Background in chemistry and physics; PR: 12 hours biological sciences)
- 505 Economic Botany. 3 hrs.**
Plants used by man for food, ornamental purposes, building materials, textiles and other industrial purposes: economic importance of conservation. No laboratory. (PR: BSC 120-121 or equivalent)
- 506 Herpetology. 4 hrs. II, (Alternate years)**
A survey of the reptiles and amphibians of the world with special emphasis placed on forms resident to West Virginia including aspects of zoogeography, morphology, taxonomy, and behavior. 2 lec-4 lab. (PR: BSC 120-121, 214)
- 507 Genetics. 4 hrs. I, II.**
The fundamental principles and mechanisms of inheritance. 3 lec-4 lab. (PR: BSC 120-121 or equivalent)
- 508 Ornithology. 4 hrs. II, (Alternate years)**
An introduction to avian biology: Identification, distribution, migration and breeding activities of birds. 2 lec-4 lab. (PR: BSC 120, 121; REC: BSC 214)
- 509 Mammalogy. 4 hrs. I (Alternate years).**
Study of morphology, evolution and classification, zoogeography, ecology, economic importance; survey techniques and recognition of native mammals of West Virginia. (PR: BSC 121 plus an additional 8 hours of BSC courses)
- 510 Remote Sensing/GIS Applications. 4 hrs. I.**
A study of the physical systems for collecting remotely sensed data. Statistical/spatial analysis and modeling using image processing/geographic information/spatial computer software systems with earth resources applications. (PR: PHY 203-204, MTH 225 or permission)
- 511 Digital Image Processing/GIS Model. 4 hrs. II.**
A study of image processing/geographic information/spatial analysis systems, concurrent and parallel image processing 3-D modeling scenarios utilizing geophysical data for computer simulation modeling. (PR: BSC/PS 410 or BSC 510)
- 512 Biogeography. 3 hrs.**
Biogeography studies distributions of animals and plants in space and time; it combines knowledge from evolutionary biology, ecology, zoology, botany, and conservation science with basics of physical geography and geology.
- 513 Principles of Organic Evolution. 3 hrs. II.**
The facts and possible mechanisms underlying the unity and diversity of life with emphasis on Neo-Darwinian concepts of the role of species in evolutionary phenomena. (PR: 16 hours BSC)
- 514 Entomology. 4 hrs.**
Entomology, anatomy, physiology, identification, classification, life histories and economic importance of representative insect groups. 2 lec-4 lab. (PR: BSC 120-121 or equivalent)
- 515 Morphology of Plants and Fungi. 4 hrs. I, II, S.**
Form, structure, and development of plants and fungi. 2 lec-4 lab. (PR: BSC 120, 121 or equivalent)
- 516 Plant Taxonomy. 4 hrs. I, II, S.**
Identification and classification of seed plants and ferns of eastern United States. Readings in history and principles of taxonomy, rules of nomenclature and related topics. 2 lec-4 lab. (PR: BSC 120-121 or equivalent)

- 517 Biostatistics. 3 hrs.**
Statistical skills for biological/biomedical research, with emphasis on applications. Experimental design/survey sampling, estimation/hypothesis testing procedures, regression, ANOVA, multiple comparisons. Implementation using statistical software such as SAS, BMDP. Same as MTH 518. (PR: Permission)
- 518 Mycology. 4 hrs. I.**
Nature, cause and control of plant diseases. 2 lec-4 lab. (PR: BSC 120-121)
- 519 Plant Anatomy. 4 hrs. II.**
Investigations in plant anatomy with emphasis on seed plants. 2 lec-4 lab. (PR: BSC 120 and 121 or permission)
- 520 Plant Physiology. 4 hrs. II. (Alternate years)**
Experimental study of plant life processes to include applicable biophysical and biochemical principles, water relations, molecular biology, stress physiology, and growth and development. (PR: BSC 322 or equivalent)
- 521 Phycology. 4 hrs.**
Taxonomy and morphology of algae. Techniques used in the study of algae with emphasis upon application of ecological principles to current water quality problems. 2 lec-4 lab. (PR: BSC 105 or 121)
- 522 Animal Physiology. 4 hrs. I.**
Physiological principles operating in cells, organs, and systems of animals, with a focus on vertebrate, including human, function. (PR: BSC 322; CHM 355; MTH 140 or 132 or 229; or permission)
- 524 Animal Parasitology. 4 hrs. I, S.**
Morphology, life histories, classification, and host relationships of common parasites. 2 lec-4 lab. (REC: BSC 212 or equivalent)
- 525 Systematics. 3 hrs.**
Biosystematics is a unifying discipline that combines taxonomy (collecting, describing and naming organisms), phylogenetics (evolutionary relationships among species), and classification (organization of taxa into groups which ultimately reflect evolutionary relationship).
- 526 Medical Entomology. 4 hrs. II, S.**
The characteristics and control of certain insects and other arthropods which transmit disease-causing organisms. 2 lec-4 lab. (REC: BSC 212 or equivalent)
- 528 Neuroscience. 3 hrs.**
The fundamentals of cellular and systems neuroscience, with application toward understanding current research and biomedical problems.
- 530 Plant Ecology. 4 hrs. II.**
The study of plants and their interactions with their environment at different levels of ecological organization: individuals, populations, communities, and ecosystems. Emphasis on quantitative analysis of ecological data.
- 531 Limnology. 4 hrs. I, S.**
The study of inland waters; ecological factors affecting lake and stream productivity and various aquatic communities. 2 lec-4 lab. (PR: BSC 120-121 or equivalent; REC: BSC 212)
- 542 Advanced Microbiology. 4 hrs.**
An advanced treatment of microbiology with emphasis on the molecular aspects of anatomy, taxonomy, and physiology of microorganisms. 2 lec-4 lab. (PR: BSC 302)
- 543 Microbial Genetics. 3 hrs.**
Microbial Genetics covers the essential functions of DNA replication and gene expression in prokaryotic cells. The course includes molecular genetics of bacteria and phages, bioinformatics and discussion of laboratory techniques.
- 545 Microbial Ecology. 3 hrs. II.**
This course introduces students to the vital roles that microbes play in sustaining life on earth. Includes both theoretical and practical concepts ranging from the origin of life to biodegradation. (PR: BSC 121 or permission)
- 546 Microbial Ecology Lab. 2 hrs. II.**
A laboratory course emphasizing the recovery, cultivation, enumeration, and identification of bacteria from environmental samples. Also introduces students to molecular-based methods for studying microbial community structure and dynamics. (PR: BSC 121, CR: BSC 545 or consent)
- 550 Molecular Biology. 3 hrs. II.**
Advanced principles in molecular function emphasizing current research using recombinant DNA methodology. (PR: BSC 322 or equivalent)
- 556 Genes and Development. 3 hrs.**
An in-depth study of the genetic mechanisms of complex organismal development including cell specification, induction and morphogenesis. (PR: BSC 324 or BSC 322 or equivalent)
- 560 Conservation of Forests, Soil and Wildlife. 3 hrs. I.**
Primarily for students in the biological sciences, general and applied sciences. Includes fieldwork, seminars, and demonstrations related to conservation. 2 lec-4 lab. (PR: BSC 105 or 121 or equivalent)
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Permission)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs. CR/NC**
(PR: Permission)
- 601 Vertebrate Embryology. 4 hrs. I.**
Vertebrate development based on frog, chick and pig embryos. 2 lec-4 lab.
- 608 Plant Physiology: Growth and Development. 4 hrs. II. (Alternate years)**
Comprehensive advanced study of correlative growth in plants with emphasis on germination, dormancy, growth substances and physiological phenomena associated with phases of development. (PR: BSC 322 or 420 or 520)
- 610 Advanced Vertebrate Morphology. 3 hrs.**
AVM is an intensive, laboratory-based course in vertebrate morphology. Core responsibilities include detailed dissection and comparative cranial osteology. Each student must complete an independent dissection project and term paper. (PR: biology core)
- 620-622 Taxonomy of Vascular Plants. 1-2; 1-2; 1-2 hrs.**
Field studies in the taxonomy of higher plants. (Limited to 4 hours credit per student). (PR: BSC 516 or equivalent)
- 625 Advanced Physiology. 4 hrs.**
Lecture, current literature and introduction to research in physiological systems. 3 lec-3 lab. (PR: 4 hrs. physiology or permission)
- 626 Protozoology. 4 hrs. (Offered every third semester)**
A study of free-living and parasitic protozoa important to agriculture, wildlife, and man. Morphology, physiology, reproduction, ecology, and life histories of parasitic protozoa will be emphasized.
- 631 Animal Ecology. 4 hrs. I.**
A study of population and behavior ecology; community dynamics and field techniques. 2 lec-4 lab.
- 640 Cell Biology and Biotechnology. 3 hrs.**
Broad coverage of applied cell biology, biotechnology with high current interest and utility to the medical, agricultural and commercial product development. Application of DNA technologies for biotech communication. (PR: BSC 322 or equivalent)

- 650-652 Special Problems. 1-3; 1-3; 1-3 hrs.**
By permission of adviser, graded CR/NC.
- 660 Introductory Graduate Seminar. 2 hrs.**
Topics relevant to preparation for a career in the life sciences including: literature mining and interpretation, scientific ethics, preparation and delivery of scientific presentations, and career development tools
- 661 Seminar I. 2 hrs. I.**
In depth group discussion of current biological issues.
- 662 Seminar II. 1 hr. II.**
Oral presentation of individual topics. (PR: BSC 661)
- 679 Problem Report. 1-4 hrs.**
Preparation and completion of a written report from experimental or field research in biological sciences. (PR: permission)
- 680 Special Topics. 1-4 hrs.**
- 681 Thesis. 1-12 hrs.**
(PR: By permission of advisor).
- 716 Advanced Cellular Physiology for Nurse Anesthesia. 2 hrs.**
Study of structure and function of human cells, including protein synthesis, metabolism and reproduction, Study of genetic disorders and anesthesia, Study of anti-cancer drugs. (PR: Admission to DMPNA program)
- 717 Advanced Anatomy and Physiology I for Nurse Anesthesia. 3 hrs.**
Anatomy, physiology, pathophysiology, and anesthetic considerations related to respiratory and renal systems. (PR: Admission to DMPNA program)
- 718 Advanced Anatomy and Physiology II for Nurse Anesthesia. 3 hrs.**
Anatomy, physiology, pathophysiology, and anesthetic considerations related to cardiovascular system. (PR: Admission to DMPNA program)
- 719 Advanced Anatomy and Physiology III for Nurse Anesthesia. 3 hrs.**
Anatomy, physiology, pathophysiology, and anesthetic considerations related to the nervous and endocrine systems. (PR: Admission to DMPNA program)

BIOMEDICAL SCIENCE (BMS)

- 600 Biochemical, Cellular and Molecular Foundations of Biomedical Science. 7 hrs. I.**
A study of the structure and metabolism of biological compounds, the molecular biology of the cell, and the interactions of cell components. (PR: One year of Biology and Organic Chemistry and consent of instructor)
- 601 Introduction to Nucleic Acids and Proteins. 3 hrs.**
A molecular and cell biological study of the structure and function of nucleic acids and proteins. (PR: Consent of instructor)
- 602 Introduction to Cell Structure and Metabolism. 3 hrs.**
A molecular and cell biological study of the structure of cells and of cellular metabolism. (CR: BMS 601; PR: Consent of instructor)
- 603 Regulation of Cell Function. 2 hrs.**
An advanced molecular and cell biological study of cell metabolism and the regulation of cell function. (PR: BMS 601, BMS 602, and consent of instructor)
- 604 Cellular Basis of Disease. 1 hr.**
A molecular and cell biological study of the basis of diseases prevalent in Appalachia. (PR: BMS 601, BMS 602, and consent of instructor)
- 617 Statistical Techniques for the Biomedical Sciences. 3 hrs.**
An application-oriented course in statistical concepts and techniques aimed at prospective researchers in the biomedical sciences.
- 628 Neuroscience I: Major Structures of the Brain, Neuron Function, and Spinal Cord. 3 hrs.**
To study and understand the structure and function of the nervous system and disorders of neuronal function. (PR: BMS 600 or permission of instructor)
- 629 Neuroscience II: Structures and Functions of the Brain Stem and Forebrain. 3 hrs.**
To study and understand the structure and function of the nervous system and disorders of neuronal function. (BMS 628 or permission of instructor)
- 631 Neuroscience and Developmental Biology Literature Review. 1 hr.**
A seminar course where published articles in the fields of neuroscience and developmental biology will be presented by students and faculty. (PR: Permission of instructor)
- 632 Neuroscience Research Techniques. 3 hrs.**
Class participants will be exposed to state-of-the-art neuroscience research techniques while in the laboratories of the neuroscience faculty. (PR: Permission of instructor)
- 641 Molecular Developmental Biology. 3 hrs.**
An in-depth discussion of current literature in developmental biology with emphasis on early embryo development, morphogenesis, lineage determination and regulation of developmental processes. (PR: Permission of instructor)
- 644 Responsible Conduct of Research. 1 hr. CR/NC.**
Responsible conduct of research, including human subjects, live vertebrate animals, conflict of interest, mentor/mentee responsibilities, collaborative research, peer review, data management, research misconduct, and responsible authorship, with case discussions.
- 651 Cancer Biology. 4 hrs.**
An advanced graduate course on the core principles of initiation, progression, treatment and prevention of cancer, based on current literature. (PR: BMS 600, and permission of instructor)
- 652 Cancer Biology Colloquium. 1 hr.**
This is a mentored journal club for graduate students covering selected areas of current interest in cancer biology research. (PR: Permission of instructor)
- 660 Communication Skills for Biomedical Sciences I. 1 hr.**
Biomedical graduate students are trained to plan, prepare, and deliver effective scientific presentations.
- 661 Communication Skills for Biomedical Sciences II. 1 hr.**
Biomedical graduate students are trained to plan, prepare, and deliver effective scientific presentations.
- 665 Cardiovascular Disease, Obesity, Diabetes Research Colloquium. 1 hrs. CR/NC.**
A seminar-style series that will focus on recent advances in topics related to cardiovascular disease, diabetes and obesity.
- 674 Teaching Practicum. 1 hr. CR/NC.**
Students gain experience in teaching using a variety of methods in a supervised setting.
- 679 Special Problems. I, II, S. CR/NC**
Intensive study of a selected topic or problem. Emphasizes independent study. (PR: Consent of advisor)
- 680 Seminar. 1 hr. I, II. CR/NC**
Study and discussion of current topics related to the Biomedical Sciences.
- 681 Thesis. 1-6 hrs. I, II, S. CR/NC.**

- 785 Introduction to Research. 1-6 hrs. I, II, S. CR/NC**
Directed research activities requiring a completed prospectus for an advanced research project, a written report, or a research thesis. A minimum of three (3) hours required for all M.S. candidates. (PR: Consent of instructor)
- 882 Research. 1-15 hrs. I, II, S. CR/NC**

CHEMICAL ENGINEERING (CHE)

- 650-653 Special Topics. 1-4 hrs.**
Designed to increase the depth of study in a specialized area of chemical engineering. (PR: Consent)

CHEMISTRY (CHM)

- 510 Advanced Synthesis and Analysis. 4 hrs.**
Advanced problems in synthesis, separation and analysis with emphasis on modern instrumental methods. 1 lec-6 lab. (REC: CHM 356 or equivalent)
- 511 Modern Instrumental Methods in Chemistry and Biochemistry. 4 hrs.**
This course investigates the theory and functional aspects of modern analytical instrumentation. Emphasis is placed on components of instruments and the applicability of various techniques to specific analytical problems.
- 520 Fundamentals of Chemistry. 4 hrs. S. Offered on demand.**
An introductory chemistry course for College of Education and Professional Development graduate students.
- 522 Spectrophotometric Methods of Analysis. 3 hrs.**
Modern theories and methods of spectrophotometric analysis, including atomic absorption, infrared, UV-visible and colorimetric methods. 1 1/2 lec-3 lab. (PR: CHM 345 and 307 or 358)
- 523 Environmental Analytical Chemistry. 4 hrs.**
Sampling and modern instrumental analysis of water, air and sediments according to EPA methodology. (PR: Graduate standing; C or better in CHM 345 or equivalent experience.)
- 526 Chromatographic Methods of Analysis. 3 hrs.**
Modern theories and methods of chemical separations with emphasis on gas and liquid chromatography. (PR: 345, 356, 307 or 357) 2 lec-2 lab.
- 530 Introduction to Polymer Chemistry. 3 hrs.**
Properties of macromolecules. Methods of preparation and characterization. Industrial applications and processes. (PR: CHM 307 or 357, and 356 or permission of instructor)
- 540 Thermodynamics. 3 hrs.**
An introduction to chemical thermodynamics and statistical mechanics. (REC: CHM 358 or equivalent)
- 542 Quantum Mechanics. 3 hrs.**
An introductory course in quantum mechanics. (REC: MTH 231 or equivalent)
- 548 Advanced Inorganic Chemistry I. 4 hrs.**
Study of physical properties and periodic relationships of inorganic materials. 3 lec-2 lab. (PR: CHM 356 and 307 or 357)
- 549 Advanced Inorganic Chemistry II. 3 hrs.**
A detailed consideration of bonding, structure, reaction rates and equilibrium involving inorganic materials. (PR: CHM 448 or equivalent)
- 550 Industrial Chemistry. 3 hrs.**
Modern industrial processes for making chemicals, with emphasis on petrochemicals. An introduction to the engineering, economic, and environmental aspects of these processes. (PR: CHM 307 or 357, and 356 or permission of instructor)
- 551 Biological Mass Spectrometry. 4 hrs.**
This course investigates the theory and applications of mass spectrometry. It includes a laboratory component in which you will learn to run the mass spectrometers and interpret mass spectral results.
- 553 Magnetic Resonance in Chemistry. 3 hrs.**
Applications of analysis by magnetic resonance. Emphasis will be placed on proton and heteronuclear magnetic resonance theory and applications. 2 lec-2 lab. (PR: CHM 356)
- 562 Nuclear Chemistry and Physics. 3 hrs.**
An introduction to the phenomena of nuclear physics and chemistry. (REC: MTH 231 or equivalent)
- 563 Nuclear Chemistry and Physics Laboratory. 2 hrs. 4 lab.**
(REC: CHM 462 or equivalent)
- 565 Advanced Organic Chemistry I. 3 hrs. I.**
Studies of the dynamics of organic reactions with emphasis on mechanisms and stereochemistry. (REC: CHM 356 or equivalent)
- 566 Advanced Organic Chemistry II. 3 hrs.**
A continuation of Chemistry 565 with emphasis on synthetic methods. (PR: CHM 565)
- 567 Intermediate Biochemistry. 3 hrs.**
A survey course including introduction to basic biochemical concepts, bioenergetics and information transfer.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 604 Theories of Analytical Chemistry. 2 hrs.**
Offered on demand. (PR: CHM 556)
- 607 Theoretical Organic Chemistry. 2 hrs.**
The application of quantitative methods to problems in structure and dynamics. (PR: CHM 565)
- 618 Kinetics. 3 hrs.**
An advanced study of reaction rates and mechanisms.
- 627 Physical Chemistry for Teachers. 3-5 hrs. S.**
Offered on demand. 3 lec-6 lab. (PR: CHM 520 or equivalent)
- 628 Special Topics (Inorganic). 1-3 hrs. Offered on demand.**
- 629 Special Topics (Organic). 1-3 hrs. Offered on demand**
- 630 Special Topics (Physical). 1-3 hrs. Offered on demand**
- 631-632 Seminar. I; 1 hr. I, II.**
- 678 Applied Microscopy in Research. 4 hrs.**
Catalog Description: A combined lecture/lab/self-motivated research course that results in a microscopy-based project to be presented by each student at an open forum (can augment thesis project). (PR: instructor permission)
- 679 Problem Report. 3 hrs.**
Preparation of a comprehensive written report on a topic in Chemistry of current importance. Registration only by permission of Department.
- 685-688 Independent Study. 1-4 hrs.**
Individual study of topics not offered in regularly scheduled classes.

- 682 Research. 1-12 hrs. I, II, S.**
Credit in the course is earned by pursuing a directed original investigation in a field of chemistry. Twelve semester hours credit in research are applied toward the M.S. degree. Students may sign for one or more credit hours per semester depending upon the time to be spent on research. A grade of PR may be reported at the close of each term or semester. (PR: Approval of Department Chairman)
- 723 Chemistry and Physics for Nurse Anesthesia. 3 hrs.**
Scientific principles and chemical application of properties of matter, gas laws, vaporization, fluid dynamics, explosion hazards, electrical safety, acid-base balance, blood gas analysis, biochemistry in anesthesia, mechanisms of narcosis. (PR: Admission to DMPNA program)

CIVIL ENGINEERING (CE)

- 534 Geometric Design of Highways. 3 hrs.**
Highway planning and design, including the capacity, horizontal alignment, vertical alignment, roadside design, traffic control, and other related aspects. Types of facilities discussed will include roadways, sidewalks, intersections, and interchanges.
- 538 Pavement Design. 3 hrs.**
Design of highway pavement systems, subgrades, subbases and bases, soil stabilization, flexible and rigid pavements, cost analysis and pavement selection, traffic data collection, drainage, earthwork, pavement evaluation and maintenance.
- 612 Structural Steel Design and Behavior. 3 hrs.**
Principles and methodologies for conceptual and detailed design of steel structures emphasizing LRFD. Topics include behavior and design of hot-rolled/cold-formed steel, connections, members, frames, plate girders, and advanced analysis techniques.
- 614 Advanced Reinforced Concrete Structure Design and Behavior. 3 hrs.**
Background of modern reinforced concrete design procedures. Comparison of standard design codes. Review of research on behavior of reinforced concrete structures and projection of future changes in design and construction practices.
- 616 Prestressed Concrete Design. 3 hrs.**
Design of prestressed concrete structures, methods and losses. Design for flexure, shear torsion, camber, deflections, continuity, connections, fire rating, and review of research and projection to changes in construction practices.
- 618 Bridge Engineering. 3 hrs.**
An overview of design of highway bridges, and an introduction to maintenance of highway bridges, including the history of bridge engineering, types, design rules, loads, inspection, rating, preventive maintenance and aesthetics. (PR: CE 616 and advisor approval)
- 634 Traffic Engineering. 3 hrs.**
Design and application of signs, markings and signals. Timing of isolated and interconnected signals, speed regulation, one-way streets, capacity and analysis of highway facilities.
- 635 Evaluation of Transportation Systems. 3 hrs.**
Concepts of transportation economic analysis, transportation costs and benefits, needs studies, finance and taxation, methods of evaluation of plans and projects and environmental impact assessment.
- 636 Transportation Planning. 3 hrs.**
Techniques used to plan urban transportation systems, data collection, trip generation, trip distribution, mode choice, traffic assignment, modeling, evaluation techniques and travel demand modeling.
- 637 Highway Safety Engineering. 3 hrs.**
Traffic safety studies including crash analysis, control and geometry improvements, hazard and counter measured identification, before-and-after studies, data collection and computer tools for highway safety and traffic evaluation.
- 650-652 Special Topics. 3 hrs.**
Formal study of civil engineering topics of current interest. (PR: advisor approval)
- 699 Civil Engineering Research. 1-6 hrs.**
Directed research in fields of study relevant to civil engineering including transportation, structural analysis, environmental engineering and engineering management. A limit of six semester hours credit may be applied toward the M.S.E. degree with permission of the student's advisor. (PR: Advisor approval)

CLASSICS (CL)

These courses are given in English and require no knowledge of Greek or Latin.

- 535 Greek Civilization. 3 hrs.**
Study of ancient Greek culture, emphasizing parallels with present-day issues.
- 536 Roman Civilization. 3 hrs.**
Study of ancient Roman culture, emphasizing parallels with present-day issues.
- 560 Ancient Goddess Religions. 3 hrs.**
Study of the mythology and cults of the goddesses of Greece, Crete, Asia Minor and Rome, with a view to discovering cultural contexts.
- 570 Transformations of Myth. 3 hrs.**
An examination of how ancient myth transforms into the psychological and fictional works of more modern times.
- 575 Roman Law. 3 hrs.**
Taught in English, this course provides an introduction to the basic tenets of Roman Law, with particular attention to court cases and speeches.
- 580-583 Special Topics in Classics. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Consent of the instructor)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 599 Humanities Seminar. 3 hrs.**
- 620 Theoretical Approaches to Ancient Literature. 3 hrs.**
A close study of ancient and modern literary approaches to and theories about ancient literature with emphasis on genre and cultural contexts.

CLINICAL AND TRANSLATIONAL SCIENCES (CTS)

- 600 Epidemiology and Biostatistics in Medical Research. 3 hrs.**
Practical application of epidemiology and biostatistics used in medical research. The course will primarily focus on the design and analysis of translational studies.
- 610 Study Design and Statistics. 3 hrs.**
Students will participate in an internship with faculty in providing consultation services in study design and statistics for medical research projects. (PR: Consent of instructor)
- 614 Online Survey Tools. 3 hrs.**
This course will introduce Redcap and explore relational database terms; I2B2, a research data warehouse counting tool; and data manipulation using MS SQL queries, functions, and procedures, along with C# using LINQ.

- 620 Basic Research Operations. 3 hrs.**
This course will focus on the operation of clinical research trials, providing an overview of the critical aspects involved in all stages of clinical trials.
- 625 Clinical Operations Laboratory. 5 hrs.**
This course is a hands-on experience in clinical research trial operation. The course provides an opportunity for students to work with clinical research professionals on FDA-directed clinical trials. (PR: CTS 620)
- 630 Fundamentals of Team Science. 2 hrs.**
This course offers practical guidance about how best to engage in team science to pursue complex science questions and work effectively with team members. (PR: Consent of instructor)
- 635 Writing and Peer Review. 1 hr.**
This course teaches students to become more effective writers of scientific publications. (PR: Consent of instructor)
- 640 Clinical Trials Journal Club. 1 hr. CR/NC.**
This course will be presentations and discussion of the recent literature in the area of clinical trials. Fundamental principles and new discoveries will be emphasized. (PR Consent of instructor)
- 650 Rural Clinic Experience. 5 hrs. CR/NC.**
This course will acquaint students with the issues of rural community health and wellness, which will allow them to participate in clinical studies in a rural environment. (PR CTS 620)
- 660 Appalachian Phenotype. 3 hrs.**
The course will describe the clinical presentations, epidemiology and molecular phenotype of disorders common in the Appalachian region. (PR: Consent of instructor)

COMMUNICATION DISORDERS (CD)

- 515 Professional Literacies for the SLP. 3 hrs.**
Investigation into contemporary understandings of literacy using current communication and information technologies and resources.
- 518 Communication Disorders of School Children. 3 hrs.**
A survey of the causes, symptoms, and treatment of communication disorders encountered in the classroom. Not open to communication disorders majors.
- 524 Diagnostic Processes with Communication Disorders. 3 hrs.**
Evaluation of procedures for securing behavioral information to differentiate among various communication disorders; a study of symptom complexes. (PR: Permission of instructor and graduate standing)
- 524L Diagnostic Processes with Communication Disorders. 3 hrs.**
Observation and practice in evaluating individuals with communication disorders (PR: Permission of instructor and graduate standing)
- 526 Therapeutic Procedures I. 3 hrs.**
Examination of therapeutic procedures relative to developmental speech disorders. (PR: Permission of instructor and graduate standing)
- 526L Therapeutic Procedures I. 1 hrs.**
Observation of individuals with communication disorders and introduction to analysis of the Clinical process. (PR: Permission of instructor and graduate standing)
- 527 Therapeutic Procedures II. 3 hrs.**
Examination of therapeutic procedures relative to speech and language disorders. Investigation into the clinician's role in case management as well as behavior management techniques. (PR: Permission of instructor and graduate standing)
- 527L Therapeutic Procedures Laboratory II. 1 hr.**
Observation and in-depth analysis of the clinical process . (PR: Permission of instructor and graduate standing)
- 560 Basic Audiology. 3 hrs.**
Introduction to the profession of audiology, examination of the auditory system, preferred practice procedures for screening/assessment, examination of hearing disorders and their management. Includes laboratory. (PR: Permission of instructor)
- 561 Sign Language for the SLP. 3 hrs.**
Introduction to basic signs and finger spelling. Overview of different sign systems.
- 562 Sign Language for the SLP II. 3 hrs.**
This course will focus on the continuation of exposure to sign language and deaf culture and the various techniques of manual communication.(PR: CD 561)
- 563 Aural Rehabilitation. 3 hrs.**
Examination of various intervention strategies appropriate for individuals with hearing impairments; techniques for assessing degree of handicap. (PR: Permission of instructor)
- 570 Clinical Practicum I. 1-3 hrs.**
Supervised clinical practicum in the Marshall University Speech and Hearing Center or other site with a faculty member from Marshall University Dept. of Communication Disorders.(PR: Permission of instructor)
- 570L Introduction to Clinical Principles. 1 hr.**
This seminar will present the basic clinical principles and procedures including, but not limited to, professional communication, documentation, evidence-based practice, HIPAA compliance and safety issues within the MUSHC. (CR: CD 570)
- 571 Clinical Practicum II. 1-3 hrs.**
Supervised clinical practicum in the Marshall University Speech and Hearing Center or other site with a faculty member from Marshall University Department of Communication Disorders. (PR: CD 570, Permission of instructor)
- 571L Clinical Principles of Assessment. 1 hr.**
This lab/seminar corresponds with CD 571 and will present the basic clinical principles and procedures related to the evaluation process of individuals with communication and swallowing disorders. (PR: CD 570L; CR: CD 571)
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Permission of chair)
- 585-588 Independent Study. 1-4 hrs.**
(PR: Permission of chair)
- 601 Introduction to Graduate Studies. 3 hrs.**
An introduction to graduate studies, including clinical and research applications; quantitative and qualitative research methodology; critical analysis of clinical instruments and research literature. (PR: Permission of instructor)
- 602 Professional Issues in Speech-Language Pathology. 2 hrs.**
This course will discuss current professional issues in speech-language pathology, including ethics, reimbursement, multiculturalism, counseling, professional conduct, advocacy, and scope of practice. (PR: Permission of Instructor)
- 620 Communication Disorders Related to Cleft Palate and Voice. 3 hrs.**
Intensive study of the anatomy and physiology of laryngeal and maxillofacial structures; voice production and resonance; nature and etiology of voice and resonance disorders; principles of assessment and treatment. (PR: Permission of instructor)

- 622 Phonological Processes and Disorders. 3 hrs.**
Advanced study of the phonological component of the linguistic system. Emphasis on phonological disorders in children; social dialects; critical analysis of literature. (PR: Permission of instructor)
- 623 Fluency Disorders. 3 hrs.**
Detailed evaluation of theories of fluency disorders and relevant therapies; critical analyses of research literature. (PR: Permission of instructor)
- 624 Foundations in Neurogenic Communication and Swallowing Disorders. 3 hrs.**
Study of anatomy/physiology of the nervous and motor systems for communication and swallowing; foundational principles of service provision for people with neurologically based disorders. (PR: permission of instructor)
- 625 Acquired Aphasia. 3 hrs.**
Advanced study of the acquired aphasia; critical analysis of research literature. (PR: Permission of instructor)
- 628 Child Language Disorders: Infancy through Preschool. 3 hrs.**
Advanced study of the characteristics and etiology of language disorders in young children. Special emphasis will be placed on diagnosis and treatment of young children with language disorders. Helping children with language disorders acquire the oral language skills they need to successfully acquire literate language also will be covered (PR: Permission of instructor)
- 629 Child Language Disorders: School-Age through Adolescence. 3 hrs.**
Advanced study of the characteristics and etiology of language disorders in school-aged and adolescence children. Special emphasis will be placed on diagnosis and treatment of language disorders in these children (PR: Permission of instructor)
- 630 Cognitive Communication Disorders. 3 hrs.**
Intensive study of the nature and etiology of communication disorders associated with traumatic brain injury, right hemisphere lesions, dementia, and other neuropathologies; diagnosis and treatment; critical analysis of research literature. (PR: Permission of instructor)
- 650-653 Special Topics. 1-4 hrs.**
Program of study not normally covered in other courses. Topics vary from semester to semester. (PR: Permission of chair)
- 660 Special Populations: Clinical Considerations. 3 hrs.**
Examination of the principles of assessment and treatment for special populations with a focus on the interacting processes of the sensory, behavioral, physical, and communicative systems. (PR: Permission of instructor)
- 670 Advanced Clinical Practicum I. 3 hrs.**
Supervised clinical practicum in the Marshall University Speech and Hearing Center and in affiliated educational, rehabilitation and medical settings with graded credit. (CD 670 may be repeated but only a total of six hours may be applied to a master's degree in accordance with the American Speech-Language-Hearing Association's standard regarding application of practicum credits to master's degree programs) (PR: CD 571 or permission of instructor)
- 670L Clinical Issues in Health Care. 1 hr.**
This seminar will present principles related to clinical services in speech-language pathology in a variety of health care settings.
- 674 Clinical Practicum in the Schools. 1 hr.**
This course is a supervised clinical practicum with school-aged children; fulfills student teaching requirements for West Virginia certification as a Speech Language Pathologist. (PR: Permission of instructor)
- 674L Clinical Issues in Health Care. 1 hr.**
This lab/seminar will present special considerations related to providing services in speech-language pathology in the public school setting. (PR: CD 571L; CR: CD 674)
- 675 Advanced Clinical Practicum II. 1 hr.**
This is the graduate clinical capstone experience which includes a supervised clinical practicum in the MUSHC and affiliated education, rehabilitation and medical settings. (PR: CD 670, CR: 675L)
- 675L Professional Considerations. 1 hr.**
This lab corresponds with CD 675, the graduate clinical capstone, and will provide a forum for students to solidify knowledge and skills for professional practice. (PR: CD 674; CR: CD 675)
- 681 Thesis. 1-6 hrs. I., II.**
(PR: Permission of chair)
- 685-688 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Permission of chair)
- 691 Motor Speech and Swallowing Disorders. 3 hrs.**
Study of the nature, assessment, and treatment of dysarthrias, apraxias, and dysphagia, including critical analysis of the literature. (PR: CD 624 or permission of instructor)
- 690,692-3 Seminar. 1-4; 1-4; 1-4 hrs.**
Topics in communication disorders not covered in other courses; topics vary from semester to semester. (PR: permission of chair)

COMMUNICATION STUDIES (CMM)

- 501 Organizational Communication. 3 hrs.**
Investigation of information flow in organizations with emphasis on identifying communication problems.
- 502 Rhetorical Theory. 3 hrs.**
An exploration of theories of rhetoric from the Greek philosophers to the present. This course will examine the strategic use of symbols in persuasive discourse.
- 504 Rhetorical Communication Criticism. 3 hrs.**
An examination of the construction of situated rhetorical texts and the effects they produce.
- 506 Interviewing. 3 hrs.**
Skill development in the question-answer-response process as it applies to a variety of interviewing situations.
- 508 Leadership and Group Communication. 3 hrs.**
A study of the variables affecting, and affected by, the communication process in small groups, with particular emphasis upon leadership variables.
- 509 Theories of Persuasion and Change. 3 hrs.**
Study of the relationship between persuasion and social change, including theories of attitude and behavioral change and contemporary theories of persuasion.
- 511 Communication Study and Research. 3 hrs.**
Introduction to the advanced study of theory and research areas with emphasis on communication research methods and reporting.
- 513 Theories of Interpersonal Communication. 3 hrs.**
A survey and analysis of theories related to interpersonal communication in relationships. Emphasis is on the communication processes and contingencies underlying relationship development, maintenance, and disengagement in various interpersonal contexts.
- 521 Gender and Communication. 3 hrs.**
An exploration of gender as an organizing principle for communication.

- 541 Development and Appreciation of Film Since 1930. 3 hrs.**
A study of important directions in modern film, including style, genre, and the relationship to contemporary society. A variety of films will be viewed for analysis.
- 550 Direction of Speech Activities. 3 hrs.**
Direction of extracurricular speech activities/assemblies, forensic events, etc. (PR: 15 hours of Communication Studies or permission)
- 556 Computer-Mediated Communication. 3 hrs.**
This course explores the impact of computer-mediated communication on human organization. (PR: E-mail capability; web search capability)
- 576 Communication for Classroom Teachers. 3 hrs.**
Knowledge and utilization of interpersonal communication skills in all teaching-learning environments.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Permission of chair)
- 585-588 Independent Study. 1-4 hrs.**
(PR: Permission of chair)
- 597-598 Instructional Television Course. 1-4 hrs.**
A course based upon Instructional Television Series broadcast by public television. The student is responsible for viewing the series on the air and satisfying all course requirements announced by the department.
- 601 Problems and Methods in Communication Research. 3 hrs.**
- 602 Communication Consultation Strategies. 3 hrs.**
An in-depth analysis of diagnostic and intervention strategies employed by communication consultants. Strategies include communication network analysis, communication process observation and consultation, communication role and norm negotiation, and team building.
- 603 Nonverbal Communication. 3 hrs.**
Examines the major dimensions and functions of nonverbal communication with a focus on what constitutes nonverbal competence in a variety of contexts.
- 605 Qualitative Research Methods. 3 hrs.**
This course provides an introduction to qualitative research methods and their application in communication studies.
- 606 Studies in Communication Theory. 3 hrs.**
An extensive investigation into the major concepts of contemporary communication theory.
- 620 Communication and Conflict. 3 hrs.**
An exploration of the theory, research, and practice of communication in understanding and negotiating interpersonal conflict.
- 650 Leaders and Movements in Communication Education. 3 hrs.**
The study of speech-communication education from the time of the Greeks to the present, with emphasis upon the evolution of communication education to meet the needs of contemporary society.
- 656 Seminar in Public Communication. 3 hrs.**
- 670 Interpersonal Health Communication. 3 hrs.**
Investigates communication in establishing effective interactions between health providers, patients, and families. Explores theories and findings in relationship development, decision making, intercultural communication, social support, advocacy, and family relationships.
- 671 Health Communication Campaigns: Strategies and Processes. 3 hrs.**
Examines communication processes that influence human behavior and public policy through health promotion campaigns, including theories and practices of health behavior change and designing, implementing, and evaluating health communication interventions.
- 673 Seminar in Interpersonal Communication. 3 hrs.**
Intensive treatment of principles and processes underlying dyadic communication. Designed to enable the student to diagnose and intervene to resolve communication problems.
- 674 Seminar in Communication Pedagogy. 3 hrs.**
Primarily for graduate teaching assistants to develop instructional skills of preparation, presentation and evaluation; to understand instructor duties and requirements, and to exemplify interpersonal skills in dealing with students.
- 675-676 Seminar. 1-3; 1-3 hrs.**
Program of study not normally covered in other courses. Topics vary from semester to semester.
- 677-678 Special Topics. 1-3; 1-3 hrs.**
Program of study not normally covered in other courses. Topics vary from semester to semester.
- 681 Thesis. 1-6 hrs.**
- 685-688 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Permission of chair)
- 689 Internship. 1-3 hrs.**
Supervised work experience in communication.

COMPUTER SCIENCE (CS)

- 502 Computer Architecture. 3 hrs.**
Design and analyze structure of major hardware components of computers including ALU, instruction sets, memory hierarchy and caching, parallelism through multicore and many core, GPGPUs, storage systems and interfaces.
- 504 High Performance Computing. 3 hrs.**
Learn how to develop highly optimized applications for multi-core processors and clusters using software tools, parallel algorithms, performance profiles, and programming constructs in MPI, OpenMP, MapReduce, CUDA, and Open CL.
- 505 Computing for Bioinformatics. 3 hrs.**
Study of computational algorithms and programming techniques for various bioinformatics tasks including parsing DNA files, sequence alignments, tree construction, clustering, species identification, principal component analysis, correlations, and gene expression arrays.
- 510 Database Systems. 3 hrs.**
Study of relational data model and abstract query languages, SQL, logical and physical database design, transactions, database recovery, query optimization, XML databases, issues in managing Big Data, and NewSQL systems.
- 512 Embedded Systems. 3 hrs.**
The design of systems containing embedded computers. Micro-controller technology, assembly language and C programming, input/output interfacing, data acquisition hardware, interrupts, and timing. Real-time operating systems and application programming. Application examples. (PR: CS 502)
- 515 Data Mining. 3 hrs.**
Covers (1) the process of knowledge discovery, (2) algorithms (association rules, classification, and clustering), and (3) real-world applications. Focuses on efficient data mining algorithms and scaling up data mining methods.

529	Introduction to Computer Graphics. 3 hrs. II. Introduction to underlying theory and techniques of computer graphics. Historical perspective. Display hardware technology, 2D raster operations, 2D and 3D geometric transformations, and 3D projection and viewing techniques. Project participation. (PR: MTH 330 or equivalent, or permission of instructor)
539	Introduction to Artificial Intelligence. 3 hrs. I. Concepts and methods. Heuristic search, planning, hypothesis formation, modeling, knowledge acquisition and representation. Languages, methodologies, tools. Applications including automatic programming, theorem proving, machine vision, game playing, robots. Project participation. (PR: CSD 240 or equivalent, or permission of instructor)
540	Digital Image Processing. 3 hrs. Study of mathematical techniques and algorithms for image sampling, quantization, intensity transformations, spatial filtering, Fourier transforms, frequency domain filtering, restoration and reconstruction, color imaging, wavelets, morphological image processing, and segmentation.
542	Communication Networks and Distributed Systems. 3 hrs. II. Network structures, architectures, topology. Layers, protocols, interfaces, local area networks. Coverage of current networks. Distributed processing concepts; architectural trade-offs, distributed databases. Operating system and application software issues. Project participation. (PR: CSD 322 or equivalent, or permission of instructor)
549	Formal Languages and Automata Theory. 3 hrs. I. Concepts and formalisms of formal languages and automata theory. Fundamental mathematical concepts. Grammars and corresponding automata. Deterministic parsing of programming languages. (PR: MTH 340 or equivalent, or permission of instructor)
550	Information Retrieval. 3 hrs. Study of theory and algorithms for modeling and retrieving text. Text representation, IR models, query operations, retrieval evaluation, information extraction, text classification and clustering, enterprise and Web search, recommender systems.
552	Natural Language Processing. 3 hrs. Fundamental algorithms and computational models for core tasks in natural language processing; word and sentence tokenization, parsing, information and meaning extraction, spelling correction, text summarization, question answering, and sentiment analysis.
557	Database Systems. 3 hrs. II. Basic concepts, semantic models. Data models: object-oriented and relational, lesser emphasis on network and hierarchical. Query languages and normal forms. Design issues. Security and integrity issues. (PR: Permission of instructor)
559	Computer Simulation and Modeling. 3 hrs. I. Concepts of model building and computer-based discrete simulation. Special-purpose simulation languages. Experimental design, analysis of results. Statistical aspects, random number generation. Model validation issues and methods. Project participation. (PR: MTH 445 or equivalent, or permission of instructor)
567	Compiler Design. 3 hrs. I. Compilation of modules, expressions, and statements. Organization of a compiler including compile-time and run-time aspects; symbol tables, lexical analysis, syntax analysis, semantic analysis, optimization, object-code generation, error diagnostics. Compiler writing tools. Participation project. (PR: CSD 325 or equivalent, or permission of instructor)
568	Image Processing. 3 hrs. Image Processing focuses on the application of technology to scientific analysis of images. Topics include: measurement techniques, scientific methods of reconstruction and interpretation of images and video. (PR: Graduate standing in COS or the Medical School)
570	Introduction to Applied Automation. 3 hrs. I. Introduction to production economics; programmable logic control, sensors and actuators, digital and analog I/O design. Introduction to robotics and flexible manufacturing systems. (PR: Permission of instructor)
579	Software Engineering. 3 hrs. Current techniques in software design and development using Ada, Modula-2, or C for software projects. Formal models of structured programming, top-down design, data structure design, object-oriented design, program verification methods. (PR: CSD 239 and 320)
580-583	Special Topics. 1-4 hrs. Study of emerging and advanced topics in Computer Science. Topics vary with instructor and change from one semester to another. (PR: Permission of instructor)
585-588	Independent Study. 1-4 hrs. (PR: Permission of instructor)
603	Advanced Educational Computing. 3 hrs. Allows the educator to develop a more in-depth understanding of the 'BASIC programming' language and become familiar with other languages used on microcomputer.
605	Software Specifications. 3 hrs. Study of software specification and verification technologies that facilitate semantic reasoning and verification of development artifacts including functional models, architecture, and source-code implementations.
610	Software Design. 3 hrs. Study of approaches to software design that meet availability, manageability, maintainability, performance, reliability, scalability, and securability goals. Emphasis is on object-oriented analysis and design, design patterns and metrics.
615	Software Testing. 3 hrs. Study of methods and tools to design high quality tests during all phases of software development. Topics include test design, test automation, test coverage criteria, and how to test software.
620	Applied Algorithms. 3 hrs. Study of clustering, graph-theoretic, genetic, probabilistic and randomized algorithms and their application to machine learning, data streams, data mining, computer vision, natural language processing, information retrieval, and bioinformatics.
625	AI Principles and Methods. 3 hrs. Study of machine learning and statistical pattern recognition algorithms and their application to data mining, bioinformatics, speech recognition, natural language processing, robotic control, autonomous navigation, text and Web data processing.
630	Machine Learning. 3 hrs. Study of machine learning and statistical pattern recognition algorithms and their application to data mining, bioinformatics, speech recognition, natural language processing, robotic control, autonomous navigation, text and web data processing.
640	Advanced Topics in Bioinformatics. 3 hrs. Study of advanced algorithms, data structures, and architectures required for solving complex problems in Bioinformatics. Focus is on analysis of patterns in sequences and 3D-structures. Team taught seminar course. (PR: CS 505)
650-653	Special Topics. 1-4 hrs. Study of emerging and advanced topics in Computer Science. Topics vary with instructor and change from one semester to another. (PR: permission of instructor)

- 660 Big Data Systems. 3 hrs.**
Learn high performance computer architectures and methods for developing and querying databases for Big Data.
- 670 Visual Analytics. 3 hrs.**
Study of approaches, algorithms, and tools for Big Data exploration, analysis, and interpretation to enable novel discoveries and innovation. Integrating analytic capabilities of computers and domain knowledge of human analysts.
- 681 Thesis. 1-6 hrs.**
Investigate a research problem of theoretical interest and practical value under mentorship of a computer science faculty.
- 685-688 Independent Study. 1-4 hrs.**
Pursue faculty supervised, individualized course of study of a topic that is not currently a part of the Computer Science graduate curriculum.
- 690 Comprehensive Project. 3 hrs.**
Develop expertise in an emerging area of computer science through guided study under faculty mentorship.

CONTROL SYSTEMS (CSE)

- 601 Advanced Differential Equations. 3 hrs.**
Systems of linear ordinary differential equations and nonlinear equations. Linearization, approximation, and stability. Use of dynamic simulation software.
- 602 Modeling and Simulation. 3 hrs.**
Process models for flow, heat transfer, mass transfer, and reactions. Analysis includes various lumped parameter and distributed parameter methods.
- 611 State Space Control-Continuous. 3 hrs.**
State space representation of dynamic systems; dynamics of linear systems; frequency domain analyses; controllability and observability; shaping the dynamic response; linear observers and compensator design; linear, quadratic optimum control.
- 620 Digital Control. 3 hrs.**
Discrete time systems and the Z transform; sampling and reconstruction; open-loop and closed-loop discrete systems. System time response characteristics; stability analysis techniques. Pole assignment design and state estimation.
- 621 Control Systems Design. 3 hrs.**
Design of simple control systems. Multivariable control systems. Periodic processing. The concepts will be illustrated using chemical, electrical and mechanical engineering processes.
- 624 Advanced Control. 3 hrs.**
Specific advanced control topics such as dead time compensation, inverse response, cascade control, ratio control, adaptive control, inferential control, decoupling control, process identification, and optimal control.
- 626 Non-Deterministic Systems. 3 hrs.**
Probability models used in engineering, transformations of random variables, multivariate random variables, application of statistical process control. Stochastic processes for engineering applications, linear least-square estimation and regression analysis.
- 629 Nonlinear Control. 3 hrs.**
Methods for analysis and design of nonlinear control systems. State space models, phase plane limit cycles, stability, describing functions, relay system stabilization theory, variable structure systems and advanced topics.
- 630 Optimal Control. 3 hrs.**
General theory of optimal control; calculus of variations; Pontryagin's maximum principle; Hamilton-Jacobi theory, application of optimal control theory to design of feedback systems, using several performance criteria; advanced topics.
- 631 Adaptive Control. 3 hrs.**
Study of developments in the field of adaptive control; stability, convergence of adaptive systems, model reference, self-tuning and robust adaptive control, adaptive observer, autotuning and gain scheduling, and advanced topics.
- 650-653 Special Topics. 3 hrs.**
Designed to increase the depth of study in a specialized area of control systems. (PR: Consent)

COUNSELING (COUN)

- 545 Beginning Manual Communication. 3 hrs.**
This course provides a beginning study of the psychological characteristics of the hearing impaired and fundamental techniques of manual communication.
- 554 Advanced Manual Communication. 3 hrs.**
This is the follow-up course to COUN 618 and provides an advanced study of the grammar, syntax and idioms of American Sign Language (ASL) and a comprehensive overview of the effect of hearing impairment. Emphasis will be upon communicating in ASL. (PR: COUN 545)
- 555 Crisis Intervention and Conflict Resolution. 3 hrs.**
Students explore types, effects, and interventions for crises, disasters, and other trauma-causing events across the lifespan. Specific topics include ethics, self-care, cultural competence, suicide/homicide, intimate partner violence, sexual assault, emergency preparedness, disaster mental health, grief and bereavement.
- 556 Death and Grief Counseling. 3 hrs.**
A study of the stages of death, dying and the grief process are presented in practical, theoretical, social, and psychological aspects. Emphasis is on counseling relating to various forms of loss.
- 574 Social & Cultural Foundations. 3 hrs.**
Examines the use of appropriate resources for effective counseling of individuals of different cultural, ethnic, social, racial, geographic, or other backgrounds. Personal, social, and cultural sources contributing to social and emotional disenfranchisement are explored, as well as the impact of using stereotypes and practicing discrimination in society and human service delivery systems. (PR: program admission or permission.)
- 575 Prevention and Treatment of Addictions. 3 hrs.**
Course surveys the field of addictions covering assessment, treatment, prevention, and education. It will explore the development of addiction theory and with particular focus on the bio-psycho-social model. (PR: COUN 600 & 603)
- 577 Stress Management Counseling. 3 hrs.**
This course provides counseling students and others with a comprehensive analysis of stress in contemporary society. Of particular emphasis is an orientation to stress management as a counselor helping intervention. Students explore theoretical and practical alternative in helping the stressed client.
- 579 Pharmacology in Counseling. 3 hrs.**
Provides basic understanding of the role of therapeutic drugs in the treatment of psychiatric disorders, familiarizes with most commonly used drugs, side effects, and adverse reactions in specific mental illness. (PR: COUN 600 & 601)
- 580 - 583 Special Topics. 1-4 hrs.**
Study, reading, and research in specialized areas of counseling and human relations. Areas of interest are offered at various times by the faculty to provide specialized study for advanced students or practicing professionals in the field of counseling. (PR: Consent)

- 585-588 Independent Study. 1-4 hrs.**
Individual or group study and research of various issues and fields of emphasis in counseling. (PR: Consent)
- 600 Professional Orientation. 1-3 hrs.**
This course provides an understanding of all aspects of professional helping in mental health including history, roles, ethics, standards and credentialing. (PR: Program admission or permission)
- 601 Counselors in Consulting Roles. 3 hrs.**
This course provides an exploration of consultation roles that are integrated into the various settings in which counselors work. Content includes an orientation to consultation and its historical development, theory and practice issues, and major models. Of special emphasis is the focus upon case applications and presentations. (PR: COUN 600)
- 602 Human Development and Psychopathology. 3 hrs.**
The course will explore human growth/development from birth through adulthood. Theories of character development, social maturation, abnormalities and variations in development due to gender, culture, and environmental factors will be covered. The change processes, helping relationships, and strategies for facilitating development appropriate to various phases of the life span will be addressed. (PR: program admission or permission)
- 603 Counseling Theories. 3 hrs.**
Survey of classical and contemporary counseling philosophies, history, and techniques as related to interpersonal relationships in the counseling process. (PR: COUN 574, 600, 602, EDF 621)
- 604 Group Counseling & Theories. 3 hrs.**
An examination of group dynamics and theories of group counseling with demonstrations of specific group techniques and the practice of popular approaches in group counseling. (PR: COUN 574, 600, 602, EDF 621)
- 605 Theory and Practice of Human Appraisal. 3 hrs.**
Provide an understanding of individual and group approaches to assessment and evaluation including history, theoretical and statistical aspects, applications to special populations, and legal and ethical concerns and issues. (PR: COUN 574, 600, 602, EDF 621)
- 606 Career and Lifestyle Development. 3 hrs.**
A study of career development theories and decision-making models that impact career development and related life factors. (PR: COUN 603, 604, 605, and 607)
- 607 Counseling Techniques in Human Relationships. 3 hrs.**
Study of a variety of counseling and therapeutic techniques within the framework of a systematic counseling model. Emphasis on basic interviewing, assessment and counseling skills that facilitate the helping process through integration of various theoretical orientations. (PR: COUN 574, 600, 602, EDF 621)
- 608 Practicum. CR/NC. 3 hrs.**
A clinical experience under professional supervision preparing the student for internship; audio and video tapes, group supervision and feedback are used to achieve competency in the application of a counseling process. (PR: COUN 603, 604, 605, 607)
- 611 Foundations of Community Counseling. 3 hrs.**
Examines the history of deinstitutionalization in human services with an emphasis on prevention in the delivery of such services in community agencies. Proposal writing for grants and needs assessment processes and procedures will be emphasized. (PR: COUN 603)
- 616 Domestic Violence. 3 hrs.**
An introduction to the epidemiology, dynamics, clinical interventions and treatment of domestic violence.
- 617 Seminar in Counseling. 1 -6 hrs.**
For students in degree programs or in post-master's work who wish to discuss and study theory, principles, and techniques of counseling or other special topics. Instructor will indicate in course syllabus whether class is letter graded or S/U. (PR: Consent)
- 620 Workshop. 1 - 6 hrs.**
Special workshops and short intensive courses on theory, methods, supervision and other special topics in counseling, designed for advanced students and professionals in the counseling field or related fields. (PR: Consent)
- 621 Introduction to Child Abuse & Neglect. 1 hr.**
Introduction to the dynamics of child abuse and neglect and to the legal and ethical issues of persons mandated to report child abuse and neglect. (PR: COUN 600 & 603)
- 622 Parent Education. 3 hrs.**
Study of family education skills training for conducting family education groups and parent training.
- 630 Introduction to Clinical Mental Health Counseling. 3 hrs.**
Provides an introduction to the foundations and contextual dimensions of mental health counseling. Emphasis is given to an exploration of mental health counseling roles and functions, theories and techniques, professional standards and operations, administration, evaluation, and special issues. (PR: COUN 603 and 607)
- 631 Diagnosis and Treatment Planning in Mental Health Counseling. 3 hrs.**
Provides an in-depth exploration of the knowledge and skills necessary for the practice of mental health counseling. Emphasis is given to the principles and practices that relate to psychopathology, DSM diagnosis, etiology and assessment, systematic treatment planning, interviewing, and short and long-term interventions. (PR: COUN 600, 603, and 607)
- 632 Introduction to Marriage, Couple, and Family Counseling. 3 hrs.**
A comprehensive survey of the major theoretical models of marriage, couple, and family therapy from a systems perspective and the applied practices evolving from each orientation.
- 635 Core Functions of Addiction Counseling . 3 hrs.**
Advanced course designed to prepare students for work with clients presenting with substance abuse, and addiction disorders. The course will address the nature and treatment of addiction with attention to the core functions of the addiction counselor. (PR: COUN 575)
- 636 Couple Counseling. 3 hrs.**
A comprehensive survey of the major theoretical models of couple counseling and the applied practices evolving from each orientation.
- 637 Adult and Family Development and Transition. 3 hrs.**
An in-depth study of various theories of family development and interaction. Focus will be on theoretical understanding of family relationships across the stages of the family life cycle and related treatment strategies.
- 638 Interventions: Marriage, Couple, and Family Counseling. 3 hrs.**
An intensive practical experience in marriage, couple, and family therapy techniques to prepare the student to enter the supervised internship of the program. (PR: Students must have achieved minimum grades of B in COUN 622, 632, 636, and 637)
- 641 Correctional Counseling Seminar. 1-9 hrs.**
A critical examination of counseling models in corrections and an appraisal of current professional trends in community corrections. The course may include field experience in correctional settings. The course is designed for visiting professors and/or consultants who offer an expertise in a correctional setting. (PR: COUN 600 & 603 or Consent)
- 646 Correctional Counseling: Client Advocacy. 3 hrs.**
Designed to provide the counselor in a correctional setting with an integration of current contributions from related disciplines. Emphasis will be upon client advocacy, as well as the public, administrative, and legal responsibilities of correctional counselors and others who work with correctional clients. (PR: Consent)

- 651 Seminar in Career Counseling. 3 hrs.**
For students in career counseling who wish to discuss and study theory, principles, and techniques of career counseling or to study specific topics and issues in the field of career counseling. (PR: Consent)
- 652 Career Counseling with Special Populations. 3 hrs.**
Introduction to the special career development needs and concerns of various groups of people in a variety of settings. Emphasis will be given to the special concerns of women, various ethnic groups, the physically and mentally challenged, and person at various stages of vocational maturity. (PR: COUN 600 & 603)
- 653 Career Assessment Techniques and Report Writing. 3 hrs.**
A study of career assessment tools needed to assist individuals in making career choices. Focus will be given to the administering, scoring, and interpreting of vocational and career instruments utilized in career decision making. (PR: COUN 605 and 606)
- 654 Ecology of Domestic Violence. 3 hrs.**
The course will examine domestic violence from an ecological and sociocultural perspective in the context of the community infrastructure, and its response to victims, child safety, and batterer accountability.
- 655 Counseling Victims, Perpetrators, and Children of Domestic Violence 3 hrs.**
This course will provide a foundation in assessment, treatment, and advocacy for victims, perpetrators, and children who have been involved in relationships or families where domestic violence has been present.
- 660 Introduction to Student Affairs. 3 hrs.**
Provides a broad, comprehensive introduction to the field of college student affairs and its role with the context of American higher education. Various student affairs functional areas, historical, and philosophical foundations of the field, professional standards, guiding theories, and models, and competencies needed to work with diverse student populations are examined. (PR: COUN 603)
- 662 Current Issues in Student Affairs. 3 hrs.**
To enhance the student's awareness and understanding of the educational, environmental, administrative, legal, and ethical issues in the field of Student Affairs in colleges and universities, this course provides the opportunity to discover, discuss and analyze current issues impacting student affairs practices both nationally and internationally. (PR: COUN 603 and 607)
- 670 Interventions for Current Issues in School Counseling. 3 hrs.**
An in-depth examination of effective strategies for dealing with current issues in K-12 environment. Issues such as academic failure, substance abuse, loss, violence, multicultural factors, etc., will be explored. (PR: COUN 603 and 607)
- 672 Organization and Administration of School Counseling Programs. 3 hrs.**
Operation and administration of elementary and secondary school counseling programs in terms of personnel functions, relationships, physical facilities, instructional integration, financial standards, laws, and regulation. (PR: COUN 670)
- 673 Counseling Children, Adolescents, and Parents. 3 hrs.**
Consideration of effective counseling strategies and techniques appropriate for children, adolescents and parents through lecture, demonstration and laboratory experiences. Personal, social, career, academic and family related issues and dynamics will be explored. (PR: COUN 600 & 603)
- 675 Legal and Ethical Issues for Counselors. 3 hrs.**
An overview of professional issues in the field of counseling, mental health and education; an overview of legal and ethical issues specific to the field of counseling; an overview of international, national, regional and state legal and ethical cases affecting the field of school counseling; an introduction to ethical and legal issues including an ethical and legal decision making models, licensure and certification requirements, confidentiality, etc. (PR: COUN 600 and COUN 603)
- 682 Treatment in Trauma Recovery. 3 hrs.**
This course explores types of trauma experienced in modern society, the inter- and intrapersonal effects of trauma on clients, and an introduction to treatment modalities and evidence-based practice (PR: COUN 555)
- 683 Psychophysiology of Trauma. 3 hrs.**
This course explores effects of trauma on the central nervous system, psychomotor abilities and physiological and emotional responses to trauma, PTSD, and traumatic injury. (PR: COUN 682)
- 684 Treating Complex Trauma and Loss. 3 hrs.**
This course focuses on the treatment of complex trauma and loss, through investigation of trauma theory, phases of post-traumatic recovery, evidence-based treatment, and practice implications for complex cases. (PR: COUN 556 and COUN 682)
- 685 Military Culture and Treatment of Veterans. 3 hrs.**
This course is designed to introduce students to the nature of military culture, the unique challenges of deployment and re-entry for both military personnel and their families, and various mental health best practices specific to those affected with combat-related PTSD, TBI, and other traumatic injury.
- 686 Trauma and Suffering. 3 hrs.**
This course focuses on existential suffering caused by traumatic stress, and the counseling needs of affected individuals. It explores the nature of suffering, as well as a variety of philosophical, religious, and theoretical approaches to suffering. The course presents best practices for clinical approaches within professional counseling.
- 691 Internship in Clinical Mental Health Counseling. CR/NC. 3 - 9 hrs.**
Supervised experience in mental health counseling. Participation in seminars on specified topics. Minimum 100 clock hours for each semester hour credit. (PR: COUN 608 and 631 with minimum grade of B or permission)
- 692 Internship in Community Counseling. 3-6 hrs.**
Supervised experience in community counseling. Minimum 100 clock hours for each semester hour credit. (PR: COUN 608 with a minimum grade of B or permission)
- 693 Internship in Marriage and Family Counseling. CR/NC. 3 - 9 hrs.**
Supervised experience in marriage and family counseling. Participation in seminars on specified topics. Minimum 100 clock hours for each semester hour credit. (PR: Student must have achieved a minimum grade of B in COUN 638)
- 695 Internship in Corrections Counseling. CR/NC. 3 - 6 hrs.**
Supervised experience in corrections counseling. Participation in seminars on specified topics. Minimum 100 clock hours for each semester hour credit. (PR: COUN 608 and 641 with a minimum grade of B or permission)
- 696 Internship in Career Counseling. 3 - 6 hrs.**
Supervised experience in career counseling. Participation in seminars on specified topics. Minimum 100 clock hours for each semester hour credit. (PR: COUN 608 and 653 with a minimum grade of B or permission)
- 697 Internship in Student Affairs Counseling. 3 - 6 hrs.**
Supervised experience in student affairs counseling. Participation in seminars on specified topics. Minimum 100 clock hours for each semester hour credit. (PR: COUN 608 with a minimum grade of B or permission)
- 698 Internship in School Counseling. CR/NC. 3 - 6 hrs.**
Supervised experience in school counseling. Participation in seminars on specified topics. Minimum 100 clock hours for each semester hour credit. (PR: COUN 608 and 673 with a minimum grade of B or permission)
- 740 Internship. 1-12 hrs. CR/NC.**
A course designed to offer advanced graduate students an opportunity to practice under close supervision the professional skills required in the broad field of counseling in school and community settings. (PR: Consent)

- 741 Professional Development and Advocacy. 3 hrs.**
This course prepares professional counselors for community leadership roles related to client advocacy in multicultural setting, current political trends, theories of social change, social justice, and advocacy planning. (PR: Admission to Ed.S.)
- 742 Current Issues in Counseling. 3 hrs.**
An examination of current issues affecting professional counselors and training in effectively dealing with the issues. Selected readings, guest speakers, and class discussion will center around professional issues relevant to counselors in various settings (i.e., legal and ethical considerations). (PR: Consent)
- 746 Systems Intervention 3 hrs.**
Examination of the major systems which may require intervention by a supervisor of counselors and training in effective intervention strategies. (PR: Consent)
- 747 Advanced Group Counseling 3 hrs.**
The application of counseling theories in group settings, including supervised group leadership experiences. (PR: Consent)
- 750 Seminar 3 hrs.**
For students in post-master's work who wish to discuss and study theory, principles, and techniques of counseling or other special topics. Instructor will indicate in course syllabus whether class is letter graded of S/U. (PR: Consent)
- 755 Models of Counselor Supervision 3 hrs.**
A survey of theoretical approaches and techniques counseling supervision. Emphasis is placed on supervision of counselors in various settings. (PR: Consent)
- 756 Residency in Counselor Supervision 6 hrs.**
Supervised application of the knowledge and skills gained in the Ed.S. Program. Students will supervise practicing counselors in approved settings. (PR: Acceptance into the Ed.S. Program, completion of all other Ed.S. academic requirements, and consent)
- 760 Special Topics 3-6 hrs.**
Study, reading, and research in specialized areas of counseling, human relations, guidance or other special topics.

CRIMINAL JUSTICE (CJ)

- 500 Applied Ethics in Criminal Justice. 3 hrs.**
Examines ethical issues and moral dilemmas faced by criminal justice professionals. Traditional ethical theories and practices designed to foster public trust in the criminal justice system are examined and applied.
- 501 Teaching and Training in Criminal Justice. 3 hrs.**
Students examine various theories and techniques used in teaching and training criminal justice professionals, develop lesson plans, and use technology based presentation media to present information.
- 504 Theoretical Criminology. 3 hrs.**
A critical analysis of the major criminological theories and their empirical foundations. Current theory and research receive greater emphasis than historical development.
- 506 Race, Ethnicity, Gender, & Crime. 3 hrs.**
Examines the impact of race, ethnicity, and culture within the criminal justice system. Explores minorities and women as victims, witnesses, and offenders.
- 508 Examination of School Violence in the U.S. 3 hrs.**
An examination of school violence in the U.S. is the focus of this course. Course will involve field research of 78 currently incarcerated school violence offenders between 1979 and 2011.
- 510 Police Administration. 3 hrs.**
This course studies the functions and activities of police agencies, including police department organizations and responsibilities of police administrators. Current administrative and management techniques and theories are also explored.
- 516 Terrorism. 3 hrs.**
This course provides students with a working knowledge of the history of terrorism, the current status of terrorist groups, terrorism tactics, and methods to counteract terrorism.
- 521 Corrections and the Law. 3 hrs.**
Review of legal principles relating to convicted criminals, including plea negotiations, sentencing, post-conviction remedies, constitutional rights of inmates, and conditions of confinement.
- 522 Law of Evidence. 3 hrs.**
Leading rules and principles of exclusion and selection; burden of proof, nature and effect of presumptions; proof of authenticity and contents of writings; examinations, competency and privilege of witnesses.
- 524 Computer Crime. 3 hrs.**
Students will identify and define criminal acts committed with computers or directed toward computer systems, electronic search and seizure and electronic evidence.
- 526 Civil Liability Issues in Criminal Justice. 3 hrs.**
This course examines various theories of civil liability that relate to Criminal Justice professionals, the civil justice system, and preventing and defending civil liability claims.
- 533 Correctional Administration. 3 hrs.**
Objectives of correctional institutions; records; personnel, program development, security; educational programs.
- 540 Criminal Justice Response to Domestic Violence. 3 hrs.**
This course focuses on the legal response to child abuse, domestic violence, and elder abuse. Examines dynamics of abusive relationships, the effects of victimization, and current research on these issues.
- 550 Business and Industry Security. 3 hrs.**
Selection, training and staffing of a security force; security devices available, techniques of internal security; ground security; security techniques applicable to personnel selection; legal problems.
- 553 Seminar in Crime Prevention. 3 hrs.**
This course examines theory, operation, and evaluation of crime prevention as a function of the criminal justice system. Techniques for crime prevention are analyzed from various orientations, including environmental design.(PR: permission)
- 580-583 Special Topics in Criminal Justice. 1-4; 1-4; 1-4; 1-4 hrs.**
A study of special interest criminal justice topics under the supervision of a qualified faculty member. (PR: Consent of instructor)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
This course permits the student to undertake supervised research (field or library) in any area where there is no appropriate course. (PR: Consent of instructor)
- 590 Internship. 1-6 hrs.**
The placement of an individual into a criminal justice agency (police, probation, courts, jails) to observe and participate in its operation. Grading is CR/NC. (PR: Consent of instructor)

- 601 Seminar in Criminal Justice. 3 hrs.**
A forum to acquaint students, faculty and guests with each others' research and experiences in dealing with criminal justice issues.
- 602 Law and Social Control. 3 hrs.**
An examination of the nature of law and crime with a view towards determining the nature of control of social behavior by the legal system.
- 603 Criminal Justice Planning. 3 hrs.**
A systematic review of procedures to plan and evaluate criminal justice organizations and their operations.
- 604 Advanced Theory in Criminal Justice. 3 hrs.**
Course is designed to provide the student already familiar with the basic concepts of criminological theory the opportunity to examine in depth a selected set of theories (PR: CJ 504, its equivalent, or permission of instructor)
- 605 Juvenile Delinquency. 3 hrs.**
Juvenile delinquency in the modern world; nature, extent, causes, treatment, and control.
- 620 Criminology. 3 hrs.**
Seminar in crime and delinquency.
- 621 Advanced Criminal Law and Procedure. 3 hrs.**
A review of contemporary legislation and court decisions relating to criminal law and procedure. (CJ 322 or permission)
- 632 Community Corrections. 3 hrs.**
A survey of probation, parole, pre-release centers, halfway houses and other forms of community corrections as elements of a total correctional system. Historical development, contemporary organization, and legal issues are emphasized.
- 655 Research Methods in Criminal Justice. 3 hrs.**
Elements of scientific research; interaction between research and theory; use of data processing resources. (PR: Undergraduate research methodology course, undergraduate statistics course, and permission)
- 656 Applied Statistics in Criminal Justice. 3 hrs.**
Principles of statistical techniques with emphasis upon their application in the Criminal Justice system. (PR: Undergraduate statistics course, CJ 655, and permission)
- 679 Problem Report. 3 hrs.**
The preparation of a written report on a research problem or field study in Criminal Justice. (PR: CJ 655 and permission)
- 681 Thesis. 1-6 hrs.**
- 699 Capstone Experience. 3 hrs.**
A culminating experience where student will apply knowledge and skills learned in the program of study to create, in collaboration with an agency or organization in the field, and original, scholarly work that addresses a current issue of concern. (PR: CJ 604, CJ 655, and CJ 656)

CURRICULUM AND INSTRUCTION (CI)

- 501 Middle Childhood Curriculum. 3 hrs. I, II, S.**
The study of procedures for creating a functional middle childhood curriculum with emphasis upon the needs of middle childhood learners.
- 503 Methods and Materials of Teaching in the Middle Childhood Grades. 3 hrs. I, II, S.**
The study of methods appropriate for teaching in the middle childhood grades and the production and utilization of materials and resources in these grades.
- 511 Analysis of Teaching in Early Years. 2 hrs.**
The analysis and appraisal of teaching strategies employed in the teaching of young children. (CR: CI 630)
- 515 Integrated Methods and Materials: Secondary Education. 3 hrs.**
General secondary/middle school course with emphasis on instructional standards and objectives, methods, and materials of the disciplines. A clinical experience provides observation and teaching. MAT students only. (CR: EDF 537)
- 517 Comprehensive Classroom Discipline Techniques. 3 hrs.**
Identification of common classroom discipline problems and techniques for dealing with behavioral incidents in school settings K-12.
- 518 Classroom Motivation. 1-3 hrs. I, II, S.**
Classroom motivation with an emphasis on theoretical constructs and practical applications for teachers of students from early childhood through adolescence.
- 539 Language Arts and Literature. 3 hrs.**
An examination of theory, research, and practical strategies for integrating language arts and teaching literature for students K-8.
- 542 Instructional and Classroom Management in Elementary Education. 3 hrs.**
This course allows elementary education students to critically examine a variety of classroom management strategies and educational issues that impact instruction.
- 549 Instructional and Classroom Management in Secondary Education. 3 hrs.**
Classroom management with an emphasis on practical techniques for dealing with management problems in secondary and middle school settings.
- 550 Writing in an Integrated Literacy Framework. 3 hrs.**
Views writing from an integrated literacy framework emphasizing multiple methods of writing and writing assessment.
- 551 Writing to Learn in Content Areas. 3 hrs.**
Designed to introduce teachers to successful approaches and strategies to foster thinking and learning through writing, and experiment with a variety of approaches and techniques in their classrooms.
- 552 Summer Institute: The National Writing Project Model. 6 hrs.**
Participants will examine problems in the teaching of writing, present and demonstrate approaches to the teaching of writing, study current and past research in the field.
- 557 Elementary Education: Teaching Contemporary Mathematics. 3 hrs.**
Application of modern methods and techniques in the implementation of a contemporary elementary mathematics program.
- 559 Multicultural Influences in Education: Materials and Techniques. 3 hrs. I, S.**
Multicultural education with an emphasis on methods and materials for teaching students from diverse cultural backgrounds.
- 560-564 Staff Development: (Identifying content title to be added). 1-4; 1-4; 1-4; 1-4 hrs. I, II, S.**
Courses and activities designed to meet the specific inservice needs of public school personnel. Credit in these courses may be used for certificate renewal and salary upgrading if approved but not in degree programs. CR/NC grading.
- 580-583 Special Topics. 1-6 hrs. I, II, S.**
- 585-588 Independent Study. 1-4 hrs. I, II, S.**
Permission of Chair and GPA 3.0 to take class. Limit of 6 hrs. of Independent Study to be used in master's degree program.
- 591-594 Workshop. 1-4 hrs.**
A study of practical applications in teacher education and related fields for advanced students and professionals. Experience in new techniques and application of new knowledge.
- 597-598 Instructional Television Course. 1-4 hrs.**
A course based upon Instructional Television Series broadcast by public television. The student is responsible for viewing the series on the air and satisfying all course requirements announced by the department.

- 609 Elementary Education: Curriculum in the Modern Elementary School. 3 hrs. I, II, S.**
Examination of traditional and current assumptions undergirding the modern elementary school curriculum with emphasis on converting theoretical bases into plans for curriculum change and modernization.
- 610 Secondary Education: Curriculum in the Modern Secondary School. 3 hrs. II, S.**
Analysis of the social and political factors which affect secondary school curriculum with emphasis upon trends and developments in high schools today.
- 618 Elementary Education: Informal Learning in Primary and Middle Schools. 3 hrs.**
Informal learning in the primary and middle school with emphasis on the significance of natural child development, learning through games and play, and the British model for infant and junior schools, and related activities for the middle years (ages 10-14) in middle school settings.
- 623 Instructional Models and Assessment Techniques. 3 hrs.**
Selected teaching models are analyzed with implications for the role of the teacher; assessment of influences of the teacher.
- 624 Advanced Instructional Strategies. 3 hrs.**
Performance-based laboratory experiences in a micro-teaching laboratory development of a personalized teaching repertoire. (PR: 515 or permission)
- 627 Program Planning and Evaluation. 3 hrs.**
Explicitly links program planning in/for organizations with advances in evaluation research practice in education and closely related fields. Designed for students engaged in varying levels of professional practice.
- 630 Early Childhood Education: Practicum in Early Childhood Education. 1-4 hrs.**
Supervised experience in teaching kindergarten with a concurrent seminar in organization and administration.
- 631 Early Childhood Education: Current Influences on Early Childhood Education. 3 hrs.**
A study of recent findings in the behavioral sciences and their implications for early childhood education.
- 632 Early Childhood Education: Early Childhood Programs. 3 hrs.**
An examination of past and present programs for young children with opportunity provided for curriculum development.
- 633 Early Childhood Education: Adult Involvement in Early Education. 3 hrs.**
Ways of communicating and involving paraprofessionals, parents, volunteers, staff in the education of young children.
- 634 Language and Cognition in Early Childhood. 3 hrs.**
Examination of selected studies in language acquisition and cognitive development of children from birth to eight years of age.
- 638 Curriculum Planning. 3 hrs.**
A study of the fundamental skills needed to evaluate educational progress at the classroom, program, and school levels.
- 640 Literature. 1-3 hrs. I, II, S.**
A program of reading, either extensive or intensive, and reports on a group of outstanding contributions to education; readings selected with guidance of advisor. Only one registration for Curriculum and Instruction 640 is permitted. (PR: Permission of chair)
- 641 Seminar. 3 hrs. I, II, S.**
A guided program of readings, reports and discussions. No student may register for this course a second time. (PR: Permission of chair)
- 656 Elementary Education: Teaching Language Arts. 3 hrs.**
A unified Reading-Language instructional approach to develop a basic understanding of reading- language related principles derived from disciplines, research, and innovative classroom practices.
- 657 Elementary Education: Advanced Techniques in Teaching Elementary Mathematics. 3 hrs. II, S.**
Historical, social, psychological, and philosophical foundations of mathematics education; investigation of current trends and issues in contemporary programs.
- 659 Symposium-Elementary and Secondary Education, Part I. 3 hrs.**
The symposium is the culmination of the master's degree program in Elementary Education, Secondary Education, and Early Childhood Education. This is the first of a two-part sequence. (PR: Consent)
- 670 Elementary Education: Teaching Social Studies in Elementary Schools. 3 hrs.**
Materials and procedures for teaching social studies with emphasis on a survey of successful programs of instruction.
- 671 Elementary Education: Advanced Techniques in Teaching Science. 3 hrs.**
Intensive concentration on helping children inquire into the earth, physical, and biological sciences through modern methods and media.
- 672 Practicum in Education. 3-6 hrs.**
Clinical Experience: Directed activity in a clinical setting. (PR: Permission)
- 675 Curriculum Theory. 3 hrs.**
Analysis of the assumptions undergirding curriculum development.
- 676 Program Evaluation. 1-3 hrs.**
An examination of program evaluation models and techniques for instructional supervisors.
- 677 Writing for Publication in Professional Education. 3 hrs.**
For professional educators and students who wish to study and practice writing articles for publication in scholarly journals in the field of education.
- 678 The Supervising Teacher. 3 hrs.**
Duties and responsibilities of the teacher who supervises student teachers.
- 679 Classroom Management for Elementary Teachers. 3 hrs.**
This course is designed for elementary teachers. The content includes methods of managing the physical and social environment in the classroom.
- 680 Symposium-Elementary and Secondary Education, Part II. 3 hrs.**
The comprehensive assessment requirement is met within the framework of this course. (PR: Consent.)
- 681 Thesis. 1-6 hrs. I, II, S.**
Students completing 681 must defend their thesis in an oral examination.
- 690 Capstone Experience. 3 hrs.**
This course is designed as a culminating experience that allows participants to demonstrate professional knowledge and skills related to program experiences. (PR: Permission only)
- 701 Curriculum Development. 3 hrs.**
This course is designed to review curriculum development and planning from the historical perspective – the four foundations of curriculum that can be translated into instructional design. (PR: Admission to C&I doctoral program or permission)
- 702 Curriculum Theories. 3 hrs.**
This course will give the student a foundation in the theories and paradigms underlying curriculum from the past, present and future. (PR: Admission to C&I doctoral program or permission)
- 703 Theories, Models, and Research of Teaching. 3 hrs.**
This course will analyze and synthesize the historical development of curriculum and the implications on instructional design. Behaviorism, cognitivism, constructivism, humanism, brain-based learning, and multiple intelligences will be examined. (PR: Admission to C&I doctoral program or permission)
- 704 Social, Cultural and Political Determinants of Curriculum Development. 3 hrs.**
This course critically analyzes the social, cultural, and political determinants of curriculum, and examines issues of difference and equity in curriculum. (PR: Admission to C&I doctoral program or permission)

- 705 Higher Education Curriculum. 3 hrs.**
This course is an introduction to the development and management of the curriculum in higher education institutions.
- 706 Multicultural and Diversity Issues in Curriculum and Instruction. 3 hrs.**
This course attempts to understand the issue of differences and equity through personal and critical analyses of the philosophical, social, and cultural perspectives that inform and shape curriculum and teaching.
- 707 Curriculum Change. 3 hrs.**
This course will explore current developments in curriculum transformation and change theory. This course will examine the impact of change theory on curriculum development.
- 780 Special Topics in Curriculum and Instruction. 1-9 hrs.**
This course requires study, reading and research in an advisor/chair approved area of curriculum and instruction. This course is limited to Ed.D. and Ed.S. students. (PR: Permission)
- 797 Curriculum and Instruction Dissertation Research. 1-12 hrs.**
This course is designed to support the student's doctoral research. The major focus is completion of the dissertation. (PR: Admitted to candidacy of C & I doctoral program)

CURRICULUM AND INSTRUCTION: DEAF AND HARD OF HEARING (CIDH)

- 501 American Sign Language (ASL) I. 3 hrs.**
This course emphasizes the learning of basic person-to-person conversational signing skills as a second language, including use and comprehension of ASL vocabulary, syntax, and fingerspelling.
- 502 American Sign Language (ASL) II. 3 hrs.**
For professionals serving deaf/hard of hearing (D/HH) individuals. Includes deaf culture, functional language, and legal issues in deaf education.
- 503 American Sign Language (ASL) III. 3 hrs.**
For professionals serving deaf/hard of hearing (D/HH). Includes deaf culture, the impact of cross-cultural perspectives on D/HH children, language in the Deaf Education classroom.
- 504 Auditory Habilitation: Communication Approaches and Sensory Devices for Children with Hearing Loss. 3 hrs.**
Course will consist of lecture, demonstration discussion, and student presentations. Graduate students in the course will be required to develop a Web-based instructional module illustrating one of the major communication approaches used with children with hearing loss.
- 505 Introduction to Deaf and Hard of Hearing. 3 hrs.**
Introduction to the education of deaf and hard of hearing students. (PreK-12) for prospective teachers and other professionals serving deaf/hard of hearing students.
- 506 Curriculum and Methods for Deaf and Hard of Hearing Students. 3 hrs.**
Study of curriculum, methods, techniques, and materials used in the education of deaf/hard of hearing students. Includes information on classroom organization, classroom management.
- 601 Teaching Internship and Practicum (Deaf/Hard of Hearing) I (Residential). 3 hrs.**
This course represents a residential placement in which the students works with deaf and hard of hearing students in a classroom under the direction of a licensed teacher.
- 602 Teaching Internship and Practicum (Deaf/Hard of Hearing) I (Local School District). 3 hrs.**
This course represents a residential placement in which the students works with deaf and hard of hearing students in a classroom under the direction of a licensed teacher.
- 607 Development and Remediation of Reading, Writing, and Discourse for the Deaf and Hard of Hearing. 3 hrs.**
Study of complex nature of language acquisition, reading, and writing in deaf/hard of hearing students and techniques for enhancing language and teaching reading in this population.

CURRICULUM AND INSTRUCTION: EDUCATIONAL COMPUTING (CIEC)

- 530 Computer Software and Methodology in Education. 3 hrs.**
This course is designed for inservice teachers who want to become familiar with how to use the microcomputer to improve their instruction.
- 534 Applications Software in the Classroom Curriculum Area. 3 hrs.**
Offers hands-on experience using applications software (databases, multimedia, spreadsheets, word processing) and explores a range of related topics for schools, including state/national standards, current trends/issues, Internet/communications technologies, and hardware accessories.
- 560-564 Staff Development. 1-4 hrs.**
Courses and activities designed to meet the inservice needs of public school personnel. Credit in these courses may be used for certificate renewal and salary upgrades if approved, but may not be used a degree programs. CR\NC grading.
- 580-583 Special Topics. 1-4 hrs.**
- 585-588 Independent Study. 1-4 hrs.**
- 591-594 Workshop. 1-4 hrs.**
- 600 Instructional Design and Technology. 3 hrs.**
An analysis of current systems of educational computing based on models of instruction, learning modalities, and desired learning outcomes. (PR: CIEC 534 or equivalent or consent)
- 610 Local Area Networks and Telecommunications in the School. 3 hrs.**
A hands-on approach to managing and using local area networks and telecommunications to meet the instructional needs of the school. (PR: CIEC 534 or equivalent or consent)
- 620 Software Evaluation and Selection. 3 hrs.**
In-depth evaluation of software based on student-developed criteria. (PR: CIEC 600 or equivalent)
- 630 Authoring Systems and Multimedia. 3 hrs.**
Explores multimedia design as process and product while providing hands-on experience using authoring systems for planning, creating, editing, and publishing text, graphics/images, animations, audio, video and interactive projects.
- 635 Using the Internet in the Classroom. 3 hrs.**
This course provides an introduction to the Internet, with an emphasis on the World Wide Web and its potential uses for teaching and learning.
- 660 Using Computers to Improve Instruction in the Classroom. 3 hrs.**
This course is designed for inservice teachers who are familiar with the "BASIC programming" language and who want to learn how the microcomputer can be utilized in a content area.
- 699 Final Project in Curriculum Area. 3 hrs.**
A final project related to the student's curriculum area which demonstrates the ability to design and implement a computer-based curriculum application. (PR: CIEC 630 or equivalent)
- 700 Technology and Curriculum. 3 hrs.**
This course provides and overview of current issues related to technology in education while also providing participants with the opportunity to improve personal technology skills and use.

- 715 **Online Course Development and Delivery. 3 hrs.**
This course offers participants the opportunity to explore strategies and issues related to the development and delivery of online courses.

CURRICULUM AND INSTRUCTION: ENGLISH AS A SECOND LANGUAGE (CISL)

- 550 **Second Language Acquisition. 3 hrs.**
This course examines current theories of second language acquisition and their implications for second language teaching and learning.
- 551 **Linguistics for ESL. 3 hrs.**
This course examines major linguistic theories on first- and second-language acquisition, emphasizing acquisition of English by non-native students in prekindergarten through twelfth grade. (PR: CISL 550)
- 552 **Intercultural Communication. 3 hrs.**
This course focuses on the interrelationship of language and culture and includes analyses of world cultures, with literature and arts as bridges. Participants develop teaching materials for ESL classrooms.
- 653 **Methods and Materials for ESL: Language Development. 3 hrs.**
Approaches to developing and assessing listening and speaking skills among second language populations at different stages in academic development, with an overview of traditional ESL methods. (PR: CISL 550)
- 654 **Methods and Materials for ESL: Literacy Acquisition. 3 hrs.**
Approaches to developing and assessing writing and reading skills among second language populations at different stages in academic development. Focus also includes literacy acquisition in content areas. (PR: CISL 550)
- 655 **ESL Practicum for Teaching ESL. 3 hrs.**
A culminating practicum that involves participation in ESL curriculum evaluation and development. (PR: CISL 550, 551, 552, 553, 554)

CURRICULUM AND INSTRUCTION: LITERACY EDUCATION (CIRG)

- 500 **Building Supportive Classrooms for Early Literacy Learning. 3 hrs.**
This is a field-based course designed for schools that are adjusting the literacy curriculum to support literacy acquisition. Participants learn to provide appropriate assessment and instruction to foster the development of learning strategies for reading and writing for their pupils.
- 506 **Introduction to Reading Recovery. 3 hrs.**
A course designed for Reading Recovery Teachers-in-Training including the basic concepts, practices, theory, and philosophy. Participants will administer, score, and interpret an observation survey.
- 507 **Reading Recovery: Theory and Practice. 6 hrs.**
Provides information, direction, and supervision in implementing Reading Recovery within the school setting. This course includes a daily practicum and weekly seminar session relating theory to practice. (PR: CIRG 506)
- 560-564 **Staff Development. 1-4 hrs.**
Courses and activities designed to meet the inservice needs of public school personnel. Credit in these courses may be used for certificate renewal and salary upgrades if approved, but may not be used a degree programs. CR\NC grading.
- 565 **Reading for Supervisors of Instruction. 1 hr.**
A course for individuals seeking certification as a supervisor of instruction. Attention will be given to comprehensive reading programs, approaches to reading instruction, and inservice programs. (PR: Consent)
- 580-583 **Special Topics. 1-4 hrs.**
- 585-588 **Independent Study. 1-4 hrs.**
- 601 **Professional Guidance for the Literacy Specialist. 3 hrs.**
An elective course for candidates in the master's in reading education. It supports the program's assessment plan that prepares candidates as literacy specialists.
- 610 **Multimodal Literacy. 3 hrs.**
This graduate class examines the theories, processes, and strategies of multi-modal classroom literacy. Intended for literacy specialists, the course investigates relevant theory, research, and practical applications to classroom literacy.
- 613 **Children's Literature. 3 hrs.**
An examination of teaching methods and of children's literature that are conducive to promoting permanent interests, skills, and interests in reading for ECE and MCE.
- 614 **Adolescent Literature. 3 hrs.**
Analysis of the roles of the teacher in developing a reading program for the late adolescent and adult. The utilization of children's literature as a medium for bridging the content fields with the process of reading will be a major concept that will be utilized.
- 615 **Writing in the Literacy Curriculum. 3 hrs.**
Examine, develop, implement and evaluate traditional and electronic writing within a balanced literacy framework.
- 616 **Language Structures. 3 hrs.**
This graduate class examines an approach to spelling instruction based on an understanding of English orthography and the way students develop as spellers, readers, and writers.
- 619 **Reading Leadership: Roles, Responsibilities, and Problems. 3 hrs. S.**
Analyses of administrators/supervisor's roles, responsibilities, problems, and practices in reading programs K-12. Presents practical solutions for problems encountered in a comprehensive reading program.
- 621 **Current Issues and Problems in Reading. 3 hrs.**
A seminar course especially designed to explore problems and issues in reading, K-12. Professional literature, empirical research, and practical experience will be used to identify problems and solutions. (PR: CIRG 643)
- 622 **The Use of Technology for Literacy Instruction. 3 hrs.**
Candidates will plan for literacy instruction and use literacy technology in their classrooms. Emphasis will be given to the Internet and educational software.
- 623 **Reading Instruction for Literacy Facilitators: A Practicum. 3 hrs.**
Practicum experiences requiring demonstration of literacy leadership including demonstration teaching, classroom support of literacy instruction, and developing, implementing, and evaluating the literacy curriculum within the school setting. (PR: CIRG 654)
- 636 **Developmental Reading. 3 hrs.**
Principles and practices of teaching developmental reading.
- 637 **Literacy Assessment. 3 hrs.**
Study the causes of reading difficulties, diagnostic devices and techniques, and theory related to assessing literacy development.
- 639 **Reading Education Seminar: Planning, Organizing and Supervising a Reading Program. 3 hrs.**
This course is designed as an in-depth study and analysis of the planning and organizing of reading programs at various administrative levels. (PR: CI 643)
- 642 **Reading Education Seminar: Reading Instruction for Individuals with Special Needs. 3 hrs.**
Study of research findings, methodology and instructional materials for atypical learners, illiterate adults and others.

- 643 Teaching Struggling Readers: A Practicum. 3 hrs.**
Clinical experiences in the diagnosis and corrective treatment of reading disabilities. (PR: CIRC 654)
- 644 Literacy in the Content Area. 3 hrs.**
Principles underlying the teaching of reading in the content fields.
- 651 Principles of Family Literacy. 3 hrs.**
This course examines different family literacy programs and anchors the literacy needs of family member in what is known about linguistic, cognitive, and literacy development.
- 652 Implementing and Evaluating a Family Literacy Program. 3 hrs.**
This is a development and evaluation course in family literacy intended for active practitioners. (PR: CIRC 653, CI 634, CIRC 651)
- 653 Literacy Acquisition. 3 hrs.**
Literacy acquisition is a foundation course open to professionals whose interests require understanding of the process involved in becoming literate.
- 654 Aligning Assessment with Instruction. 3 hrs.**
Experiences in analyzing diagnostic test results, preparing diagnostic reports, and selecting appropriate materials and procedures to meet specific reading needs. (PR: CIRC 644, 653, 615, 636, 622 and 637)
- 701 Literacy Education Seminar I. 3 hrs.**
An investigation of research in reading that has made a difference in education, pupil achievement in reading, the role of reading, and the role of the reading specialist. (PR: Master's degree, consent of instructor)
- 702 Literacy Education Seminar II. 3 hrs.**
An examination of research that has the potential to bring about changes in reading education and school curriculum.
- 703 Literacy and Literacy-Related Tests and Techniques. 3 hrs.**
An examination of research related to the development of reading and reading-related diagnostic procedures. Detailed study will be made of standardized tests, the Informal Reading Inventory (IRI) and other similar diagnostic measures and competency-based instruments.
- 704 Advanced Instructional Literacy Processes. 3 hrs.**
A study of advanced instructional techniques in reading. Attention will be given to such concepts as self-concept, intelligence, nature/nurture, interaction, perception, physiological differences, and exceptionalities.
- 705-706 Applied Research in Reading Education I and II. 3-6 hrs.**
Planning and implementing a study investigating aspects of reading theory. The study will necessitate deriving empirical data under field conditions.
- 707 Issues in Reading. 3 hrs.**
A review of trends and issues in reading education focusing on the complexity of the reading process.
- 708 Philosophy and History of Reading Education. 3 hrs.**
A study of the philosophical foundation of current reading programs. This course will review the historical background and progress in reading education.
- 709 Field Experience: An Aspect of Reading Education. 3 hrs.**
A field-based course designed to study the theory, preparation, presentation, and evaluation of inservice education. Emphasis will be placed on the refinement of teacher education in specialized areas of the curriculum.
- 710 Independent Study. 3 hrs.**
Individualized study of advanced topics in reading.

CURRICULUM AND INSTRUCTION: MATH EDUCATION (CIME)

- 500 Mathematics for the Elementary Teacher I. 3 hrs.**
Systems of numeration, sets, relations, binary operations, decimal and other base systems, natural numbers, integers, rational numbers, and real numbers with emphasis on the algebraic structure.
- 501 Mathematics for the Elementary Teacher II. 3 hrs.**
Continuation of CIME 500. PR: CIME 500
- 555 Technical Mathematics for Mathematics Educators. 3 hrs.**
Specialized mathematical knowledge for teaching: an in-depth analysis of the foundations of mathematics: numbers and operations, ratio and proportion, and numbering systems, with emphasis on workplace applications and mathematical tools.
- 556 Finite Mathematics for Mathematics Educators. 3 hrs.**
Specialized mathematical knowledge for teaching: a study of set theory; probability; data analysis; elements of discrete mathematics, such as combinatorics and graph theory; and the mathematics of finance.
- 560-564 Staff Development. 1-4 hrs.**
Courses and activities designed to meet the inservice needs of public school personnel. Credit in these courses may be used for certificate renewal and salary upgrades if approved, but may not be used a degree programs. CR\NC grading.
- 580-582 Special Topics. 1-4 hrs.**
- 585-588 Independent Study. 1-4 hrs.**
- 591-594 Workshop. 1-4 hrs.**
- 650 Algebra for Mathematics Educators. 3 hrs.**
Specialized mathematical knowledge for teaching: an in-depth study of topics typically found in a college algebra course. (PR: CIME 555 and CIME 556)
- 657 Precalculus for Mathematics Educators. 3 hrs.**
Specialized mathematical knowledge for teaching: a study of advanced algebraic structures and functions of change, including an introduction to calculus. (PR: CIME 650)
- 658 Geometry for Mathematics Educators. 3 hrs.**
Specialized mathematical knowledge for teaching: basic concepts of logic and mathematical proofs. Topics include angle relationships, parallel, and perpendicular lines, circles, polygons, solids, triangles, elementary trigonometry, and use of geometry software. (PR: CIME 650)
- 670 Teaching Mathematics. 3 hrs.**
Emphasis will be on planning for instruction based on how students learn mathematics, state or district standards, research on best practices, NCLB goals, and data from a variety of assessments. (PR: CIME 555 and CIME 556)
- 675 Supervised Field Practicum/Seminar in Mathematics, 5-9. 3 hrs.**
Supervised practicum in which the student demonstrates and is assessed in mathematics teaching skills in a clinical setting in grades 5-9. (PR: CIME 670 and any two of the following: CIME 555, 556, 650, 657, or 658; or permission)
- 677 Supervised Field Practicum/Seminar in Mathematics, 5-12. 3 hrs.**
Supervised practicum in which the student demonstrates and is assessed in mathematics teaching skills in a clinical setting in grades 5-12. (PR: CIME 670 and any two of the following: CIME 555, 556, 650, 657, or 658; or permission)

CURRICULUM AND INSTRUCTION: SCIENCE EDUCATION (CISE)

- 560-564 Professional Development. 1-4 hrs.**
Courses and activities designed to meet the inservice needs of public school personnel. Credit in these courses may be used for certificate renewal and salary upgrades if approved, but may not be used a degree programs. CR\NC grading.
- 570 Flora and Fauna for the Elementary/Middle School. 3 hrs.**
A study of the flora, fauna, and physical geography of West Virginia. Field-based experiences will lead to a greater understanding of the forces that shaped Appalachia and the flora and fauna that live here.
- 571 Developing Thematic Science in the Elementary/Middle School. 3 hrs.**
A study of the strategies and techniques needed to plan, implement and evaluate a thematic, coordinated, and integrated science program in the schools.
- 572 Environmental Education for the Elementary/Middle School Teacher. 3 hrs.**
A study of man's interactions with the environment. Awareness, conservation, problem-solving and stressed using strategies and techniques appropriate for the elementary/middle school student.
- 573 Chemistry for the Elementary/Middle School. 3 hrs.**
A study of the fundamental principles of chemistry focusing on developmentally appropriate methods, strategies and techniques to assist with concept development and attainment.
- 574 Integrated Science for the Elementary School. 3 hrs.**
Study and application of the concepts and activities included in an integrated science program for the elementary school.
- 575 Integrated Science for the Middle School. 3 hrs.**
Study and applications of the concepts and activities included in an integrated science program for the middle school.
- 576 Wave Phenomena and Electricity for the Elementary/Middle School. 3 hrs.**
A study of the fundamental principals of physics focusing on wave phenomena and electricity for the elementary/middle school teacher.
- 577 Energy and Matter for the Elementary/Middle School. 3 hrs.**
A study of the fundamental principles of physics focusing on energy and matter for elementary and middle school teachers.
- 580-582 Special Topics. 1-4 hrs.**
- 585-588 Independent Study. 1-4 hrs.**
- 591-594 Workshop. 1-4 hrs.**

CURRICULUM AND INSTRUCTION: SPECIAL EDUCATION (CISP)

- 510 Introduction to Instruction Practices/Exceptional Children. 3 hrs.**
An introductory course on applied planning and instructional approaches for the exceptional child. The course will introduce students to validated instructional practices for the beginning classroom teacher.
- 520 Introduction to Exceptional Children. 3 hrs.**
An introduction to the study of children who deviate from the average in mental, physical, and social characteristics, including a study of the characteristics of such children and the adaptation of educational procedures to their abilities and disabilities.
- 521 Children with Exceptionalities. 3 hrs.**
Behavioral characteristics of children with exceptional development, dynamics of family- community interaction, and attitudes toward exceptional conditions. Implications for amelioration and educational planning.
- 527 Introduction to Autism. 3 hrs.**
This is an online course designed to survey current issues in the education and treatment of students with autism spectrum disorder (ASD.)
- 529 Introduction to the Physically Handicapped. 3 hrs.**
An introduction to the characteristics and needs of crippled and other health impaired children. The medical aspects of physically handicapping conditions are considered. (PR: CI 520; CR: Field Experience)
- 535 General Special Education Programming. 3 hrs.**
Address the educational/curricular needs of students with mild learning problems in the categorical areas of mental retardation, behavior disorders, and specific learning disabilities.
- 553 Characteristics/Methods: Intellectually Disabled. 3 hrs.**
Characteristics and effective instructional strategies appropriate for students with intellectual disabilities are considered. Emphasis will be on evidence and research-based practices to address academic achievement and functional performance.
- 554 Working with Families of Exceptional Students. 3 hrs.**
Principles and information designed to give the student an understanding of the needs and rights of parents of exceptional children and techniques to involve parents successfully in their child's education.
- 560-564 Staff Development. 1-4 hrs.**
Courses and activities designed to meet the inservice needs of public school personnel. Credit in these courses may be used for certificate renewal and salary upgrades if approved, but may not be used a degree programs. CR\NC grading.
- 580-583 Special Topics. 1-4 hrs.**
- 585-588 Independent Study. 1-4 hrs.**
- 600 Grant Writing in Special Education. 3 hrs.**
A review of the federal and state guidelines for writing grants in Special Education. The priority areas of special education in which monies are currently available will also be examined.
- 604 Practicum in Emotional Disturbances. 3 hrs.**
An initial participation and observation experience with children experiencing behavior problems. Course evolves around bi-weekly seminar and selected projects.
- 606 Reading Strategies for Exceptional Students. 3 hrs.**
This course examines research-based strategies in reading instruction for students with high-incidence disabilities. This includes application of appropriate techniques in assessment, materials, and instructional strategies for adapted reading lessons.
- 607 Math Strategies for Exceptional Students. 3 hrs.**
Examines mathematics curriculum, methods, and adapted materials for students with mild to moderate disabilities in K-12 classrooms. Emphasizes strategies for accessing the general education curriculum, higher-level courses, and technology.
- 611 Special Education Research, Part I. 3 hrs.**
The study of problems related to the area of exceptionality receiving emphasis in the student's degree program. (PR: CISP 603 or CISP 655)
- 615 Special Education Research, Part II. 3 hrs.**
As a part of the requirements for this course, the student will submit a written, bound document, which will be added to the college library collection. (PR: CISP 611)
- 626 Special Education: Diagnostic-Clinical Practices. 3 hrs.**
Collaborative/consultative multi-disciplinary and curriculum-based assessment process and their use in developing appropriate interventions linking instruction to content standards and objectives. (PR: CISP 520)

- 627 Trends and Issues in Special Education. 3 hrs.**
An in-depth look at current issues affecting all areas of special education as well as issues specific to each special education category.
- 629 Special Education: Seminar 3 hrs.**
Research methods and current significant findings in special education. Guest speakers. Advanced special education students only.
- 645 Characteristics/Methods Emotional/Behavior Disorders. 3 hrs.**
Recognition of socio-emotional issues, assessment of educational needs, establishment of programs to implement behavioral change and provision of necessary modification in educational programs to remediate learning and behavioral difficulties of children.
- 647 Characteristics/Methods Specific Learning Disabilities. 3 hrs.**
Recognition of learning disabilities, assessment of educational needs, and understanding of evidence-based teaching techniques and interventions to promote success of students with or at risk of learning disabilities.
- 650 Special Education: Diagnostic Evaluation and Prescriptive Teaching Techniques. 3 hrs.**
Educational assessment and diagnostic evaluation for remediation-amelioration; advanced course for providing understanding and utilization of evaluation, teacher assessment, and analysis for programming for exceptional individuals. (PR: CISP 626)
- 655 Field Experience: Multi-categorical: ID, LD, BD. 3 hrs.**
Field Experience (practicum) affords graduate students an opportunity to demonstrate the skill-based competencies required by CEC Standards and to qualify for the multi-categorical teaching license. (PR: CISP 647, 649 and 651)
- 656 Field Experience: Non-Public Setting. 3 hrs.**
Field experience in a non-public setting affords graduate students an opportunity to demonstrate the skill-based competencies required by CEC Standards and to qualify for the multi-categorical teaching license.
- 661 Introduction to Preschool Special Education. 3 hrs.**
An overview of early childhood special education programs including historical events, legislation, the population served, program models and components and current issues and trends.
- 662 Instructional Characteristics of Autism. 3 hrs.**
This course is designed to provide students with practical information on classroom arrangement, teaching techniques, and how to support students with autism who have diverse behavioral and educational need. There is an emphasis on current developments in the field of autism which are presented through reading research articles, viewing videotapes, and reading the textbooks. Because the literature related to the educational treatment of autism has suggested that a behavioral approach to autism is most effective, the course will rely heavily on material from the field of Applied Behavior Analysis. (PR: CISP 527)
- 663 Developmental Issues in Preschool Special Education. 3 hrs.**
An examination of the normal development of young children, the interrelated effects of impairment in various areas of development and strategies for intervention.
- 664 Practicum in Autism. 3 hrs.**
This course contains two components: a competency-based practicum experience with students with autism spectrum disorders (ASD) and a seminar with regular discussions and readings on practical issues concerning the education of students with ASD. (PR: CISP 527 and 662)
- 665 Assessment in Preschool Special Education. 3 hrs.**
An overview of issues in the identification, screening and assessment of young handicapped children, specific assessment techniques for working with families and interdisciplinary teams in the assessment process.
- 666 Curriculum and Methods in Preschool Special Education. 3 hrs.**
A review of curriculum development and methodology used to teach young children with handicaps. Evaluation techniques, program development and management, adaptation of materials and equipment and program models are presented.
- 673 Field Experience: Preschool Special Education. 3 hrs.**
Supervised participation and directed teaching activities in an early childhood special education program across ages, disabilities and severity levels. Activities with non-handicapped preschoolers are also required.
- 674 Practicum: Preschool Special Education. 3 hrs.**
Supervised teaching in a variety of early childhood special education programs across ages, disabilities, and severity levels. Experiences with non-handicapped preschoolers are required. Specific competencies will be individually determined.

CURRICULUM AND INSTRUCTION: VISUAL IMPAIRMENTS (CIVI)

- 500 Introduction to Visual Impairments. 3 hrs.**
Introduction to educational programs and services for students with visual impairments, history, definitions, incidence and prevalence, development, psychosocial aspects, service delivery models, issues, and professionalism.
- 501 Reading and Writing Strategies/Instruction for Students with Visual Impairments. 3 hrs.**
Knowledge and skills in reading and writing literary braille code, braillewriter, slate and stylus, proofreading, interlining, basic Nemeth mathematics code, textbook formatting, computer translation, overview of other braille codes.
- 502 Structures and Functions of the Human Visual System. 3 hrs.**
Structure and function of the eye, development of the visual system, causes of eye conditions, vision assessments, environmental modifications, relationship to other disabilities, and neurological aspects of visual impairment.
- 503 Assessment and Program Planning of Students with Visual Impairments. 3 hrs.**
Design and adaptation of instruction for students with visual impairments, expanded core curriculum, teaching literacy and other communication skills, assessment, early childhood intervention, parent involvement, and collaboration.
- 504 Assessment and Program Planning of Students with Visual Impairments and Additional Disabilities. 3 hrs.**
Strategies for students with visual impairments and severe/multiple disabilities, interaction of sensory disabilities with other disabilities, functional curricula, alternative communication and mobility systems, and collaboration.
- 505 Braille. 3 hrs.**
This course will provide the student with basic skills in literary braille transcription and codes. Students will acquire competence in reading and writing braille and the use of the Perkins braillewriter, slate and stylus, and Perky Duck Software. Techniques for braille instruction of school-aged students and techniques for pre-braille activities for younger children will also be taught.
- 507 Advanced Braille and Technology for Teaching Students with Visual Impairments. 3 hrs.**
Codes and techniques for advanced braille. Essential skills in transcribing Nemeth code for mathematics and science, formatting techniques, and computer translation. (PR: CIVI 501 or equivalent)
- 600 Math Methods for Visually Impaired. 3 hrs.**
An exploration of scientifically-based instructional math research will be developed and applied to the visually impaired. Emphasis will be placed on Nemeth Code and linkage to content standards and objectives. (PR: CIVI 500 and CIVI 501)
- 601 Practicum in Visual Impairment I. 3 hrs.**
Three hundred documented hours of supervised practicum experiences with students with visual impairments, including those with severe/multiple disabilities ranging from infancy to early adulthood. (PR: Permission of instructor)

- 602 Practicum in Visual Impairment II. 3 hrs.**
The graduate student will complete an advanced selection of experiences in inclusive and residential settings in order to demonstrate competence as an entry-level teacher. (PR: Permission of instructor)
- 603 Basic Orientation and Mobility Skills. 3 hrs.**
Strategies for teaching and reinforcing orientation mobility skills, basic concept development, movement, exploration of space in the home and school environment, environmental orientation, and collaboration with O & M specialists.

DIETETICS (DTS)

- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.
591-594 Workshop. 2-3; 2-3; 2-3; 2-3 hrs.
Workshop in selected areas of dietetics.
- 670 Advanced Medical Nutrition Therapy I. 3 hrs.**
Pathophysiology, medical nutrition therapy, and current research of common and unique disease states and conditions. (PR: Dietetic Internship Students or permission)
- 673 Administrative Dietetics. 3 hrs.**
Application of a systems approach to transforming resources in a foodservice setting. Management theories, principles, organizational climate, and continuous quality improvement are discussed as vehicles to achieve the desired outputs. (PR: Dietetic Internship Students or permission)
- 675 Dietetic Internship Practicum I. 3 hrs.**
Supervised practice experience focusing on the nutritional screening assessment and education of individuals and groups across the lifespan in a variety of community and long-term settings.
- 676 Dietetic Internship Practicum II. 3 hrs.**
Supervised practice experience focusing on activities necessary for managing foodservice facilities and introduction to clinical practice.
- 677 Dietetic Internship Practicum III. 3 hrs.**
Supervised practice experience focusing on skills required to become a competent entry-level clinical practitioner.
- 679 Advanced Medical Nutrition Therapy II. 3 hrs.**
The continued study of pathophysiology, medical nutrition therapy, and current research of common and unique disease states and conditions.
- 681 Thesis. 1-6 hrs.**
Individual research in a selected field of dietetics under the direction of a graduate faculty member.
- 690 Research Applications in Dietetics. 3 hrs.**
A synopsis of research design and analysis, with principles applied in development and presentation of a research proposal.
- 691 Problem Report in Dietetics. 3 hrs.**
Implementation of research proposal developed in DTS 690 and development of manuscript to describe findings. (PR: DTS 690)

EARLY CHILDHOOD EDUCATION (ECE)

- 530 Preschool Curriculum and Methods. 3 hrs.**
Historical and contemporary curriculum and methods for preschool children with an emphasis on current best practices.
- 535 Administration of Early Childhood Programs. 3 hrs.**
This course examines the administration and educational aspects of early childhood education programs. Classroom observation is required.
- 585-588 Independent Study. 1-4 hrs.**
Limit of 6 hours of Independent Study to be used in master's degree program (PR: permission of Program Director and GPA of 3.0)

ECONOMICS (ECN)

- 501 Economic Analysis. 3 hrs.**
Overview of the basic principles of both microeconomics and macroeconomics.
- 505 Environmental Economics. 3 hrs.**
The application of basic economic theory to a wide range of environmental problems, including pollution, natural resource exhaustion, population and economic growth. (PR: ECN 253 or permission of GSM academic advisor)
- 508 Comparative Economic Systems. 3 hrs.**
Marxism, capitalism, communism, fascism and socialism considered as theories, movements and actual political economics. (PR: ECN 253, or permission of GSM academic advisor)
- 515 Regional Economics. 3 hrs.**
A study of location theory and regional development within a framework of economic theory. (PR: ECN 253 or permission of GSM academic advisor)
- 520 International Economics. 3 hrs.**
Movement of goods and balance of payments among nations; exchange rates; exchange controls and tariffs; problems and policies. (PR: ECN 253 or permission of GSM academic advisor)
- 522 Introduction to Mathematical Economics. 3 hrs.**
Modern mathematical methods for use in economics and other social sciences. (PR: ECN 253 and Mathematics 203, or permission of GSM academic advisor)
- 540 History of Economic Thought. 3 hrs.**
Economic theories and ideas from the earliest economists to those of Marshall and Keynes. (PR: ECN 253 or permission of GSM academic advisor)
- 550 Public Finance. 3 hrs.**
Analysis of governmental activities pertaining to raising of revenue and expenditure of monies; analysis of public debt and fiscal programs at all levels of government. (PR: ECN 253 or permission of GSM academic advisor)
- 560 Economic Development. 3 hrs.**
A study of the problems, dynamics and policies of economic growth and development in underdeveloped and developed countries. (PR: ECN 253 or permission of GSM academic advisor)
- 561 Economics Education Workshop. 3 hrs.**
Intensive review of subject matter and teaching methods in economics for elementary and high school teachers. (PR: Consent of instructor or grant scholarship)
- 562 Economics Education Workshop 1-3 hrs.**
Intensive review of subject matter and teaching methods in economics for elementary and high school teachers. (PR: Consent of instructor or grant scholarship)
Note: Students who have taken the Social Studies workshop in American Capitalism Seminar for credit may not take ECN 561 and 562, American Capitalism Seminar, for credit.

- 620 The United States and The Global Economy. 3 hrs.**
A study of the interdependent and transnational nature of the global economy with an emphasis on contemporary global economic issues, commercial policies, trading blocs, developing countries and world economic agencies. (PR: GSM admission)
- 630 Managerial Economics. 3 hrs.**
Utilization of microeconomic theory and optimization techniques for management decision making. (PR: Full M.B.A. admission)
- 650-651 Special Topics. 1-3; 1-3 hrs.**
Members of the department may teach, when necessary, any economics subject not listed among current course offerings. (PR: Nine hours of economics and permission of division head and of GSM academic advisor)
- 656 Labor Economics. 3 hrs.**
Theoretical and empirical analysis of labor markets, wage determination, hours of work, unemployment and inflation, unions and collective bargaining and related subjects in their social and legal contexts. (PR: Full M.B.A. admission)
- 660 Independent Study. 1-4 hrs.**
Independent study of a specific nature under the supervision of a qualified faculty member. Hours of credit are determined by the magnitude of the project. (PR: Permission of division head and of GSM academic advisor)

EDUCATION (See Curriculum and Instruction)

EDUCATIONAL FOUNDATIONS (EDF)

- 502 Psychology of the Middle Childhood Student. 3 hrs.**
A course in the study of developmental principles relating to the physical, cognitive, social, and moral development of the middle childhood student 10-14 years old.
- 510 Contemporary Issues in Education. 3 hrs.**
The impact of contemporary forces in education with emphasis on current educational issues.
- 513 Human Growth and Development Birth-8. 3 hrs.**
A study of various topics and instructional implications for birth-8.
- 514 Human Growth and Development Adolescents. 3 hrs.**
A study of various topics and instructional implications for adolescents.
- 515 History of Modern Education. 3 hrs.**
Our debt to the ancient Hebrews, Greeks, and Romans. Emphasis also is placed upon the movements since the beginning of the Renaissance.
- 517 Statistical Methods. 3 hrs.**
A foundation course in descriptive and inferential statistics as applied in education and the social sciences.
- 537 MAT Level I Clinical Experience. 0 hrs.**
Thirty five-hours of public school clinical experience in middle/secondary schools designed to provide an opportunity for MAT students to work with faculty, staff and students in a teaching environment. (CR: CI 515)
- 580-583 Special Topics. 1-4 hrs.**
- 585-588 Independent Studies. 1-4 hrs.**
- 610 Trends and Issues in Education. 3 hrs.**
An investigation of current trends and issues in education through extensive reading, research and discussions. Implications for schools, classrooms, and teachers are the focus of the course.
- 612 Educational Evaluation. 3 hrs.**
A study of the fundamental skills needed to evaluate educational progress at the individual, classroom, program, and school levels.
- 615 History of Education in the United States. 3 hrs.**
Development of public and private educational systems in the United States.
- 616 Advanced Studies in Human Development. 3 hrs.**
The nature of human growth and development from infancy through adulthood. *MAT students only.* (CR: EDF 537)
- 617 Multiple Regression. 3 hrs.**
A first course in Multiple Regression Analysis and its application. Designed to be cross-disciplinary. Of interest to students in Education, the Social, Behavioral and Natural Sciences.
- 618 Multilevel Analysis and Growth Models. 3 hrs.**
An introduction to applied multilevel analysis and growth curve modeling for nested educational data. The nested data may have a repeated measures dependent variable.
- 619 Educational Psychology. 3 hrs.**
Study of learning theories and their applications to teaching.
- 620 Mixed Methods Research. 3 hrs.**
Integrates quantitative and qualitative approaches and applications to research, couching these models within developing theories for and approaches to mixed methods research in education and closely related fields.
- 621 Educational Research and Writing. 3 hrs.**
Research methods, techniques, and their application to education.
- 625 Qualitative Research in Education. 3 hrs.**
Study of qualitative research methods: understanding historical and philosophical foundations of qualitative research and developing expertise in qualitative research strategies including participant observation, interviewing and inductive content analysis of data.
- 626 Advanced Qualitative Research in Education. 3 hrs.**
Advanced study of selected topics in qualitative research. Emphasis on application of qualitative research knowledge and skills. (PR: EDF 625)
- 630 Comparative Education. 3 hrs.**
The study of the origins, nature, scope, basic literature and methodology of comparative education.
- 631 Gender and Education. 3 hrs.**
The course focuses on gender relations in education and schooling. The course addresses gender in relation to curriculum and knowledge, pedagogy and instructional arrangements, and administration and policy issues. (PR: EDF 621 or equivalent)
- 635 Policy Studies in Education. 3 hrs.**
The course focuses on current policy issues facing educators today. The course offers conceptual and analytical tools for a critical examination of the uncertain political environment of schooling.
- 636 Advanced Classroom Assessment. 3 hrs.**
History, philosophy and advanced statistical methods for testing, measuring and evaluating pupil behavior are studied.
- 637 MAT Level II Clinical Experience. 0 hrs.**
Seventy five-hour secondary public school experience provides opportunity for preservice, master's-level teachers to put theory into classroom practice through observation, participation, reflection, individual/small group teaching, and up-front classroom teaching. (PR: EDF 537 and CI 515)

- 640 Literature. 1-3 hrs.**
A program of reading, either extensive or intensive, and reports on a group of outstanding contributions to education; readings selected with guidance of advisor. Only one registration for this course is permitted. (CR: Permission of instructor)
- 641 Seminar. 2-3 hrs.**
A guided program of readings, reports and discussions. No student may register for this course a second time.
- 660 Philosophy of Education. 3 hrs.**
Surveys basic philosophy schools and concepts and their application to educational practice.
- 665 Sociology of American Schools. 3 hrs.**
American school organizational patterns interpreted sociologically; role of power and bureaucracy, social and cultural change, stratification and social mobility, and values; analysis of school rituals and ceremonies.
- 677 MAT Level III Clinical Experience. 3-9 hrs.**
Culminating clinical experience through directed activity in a clinical setting for MAT/PBC students. (PR: EDF 537 and EDF 637)
- 679 Problem Report. 1-3 hrs.**
The preparation of a written report on a research problem, experiment or field project in education. This report is not a thesis; students must complete an additional 33 credit hours unless 697 is followed by 681 for 3 hours credit.
- 681 Thesis. 3-6 hrs.**
May be taken for 3 hours of credit by students whose reports in 679 were excellent and are of such character as to warrant further research. Students completing 679 and 681 for a total of 6 hours may qualify for the master's degree by earning an additional 26 hours of credit. Students completing 681 must defend their theses in an oral examination.
- 711 Survey Research in Education. 3 hrs.**
Advanced research, theories, methods, and procedures for conducting survey research in education.

ELECTRICAL ENGINEERING (EE)

- 650-653 Special Topics. 1-4 hrs.**
Formal study of electrical engineering topics of current interest. (PR: Consent)

ENGINEERING (ENGR)

- 570 Finite Element Analysis. 3 hrs.**
Theory and applications of the finite element method to problems in the area of static and dynamic structural analysis, heat transfer, fluids, and analogous solution.
- 610 Applied Statistics 3 hrs.**
Practical application of statistical techniques to decision-making, forecasting, optimization, experimental design. Interpretation of data using central tendency and dispersion, t-test, F-test, variance analysis, correlation, and linear regression. (PR: Permission)
- 620 Computer Applications 3 hrs.**
Introduction to current software technology to solve problems of interest to technical professionals. Covers the use of tables, databases, modeling, curve fitting, and solution of equations. (PR: Permission)
- 650-653 Special Topics. 1-4 hrs.**
Formal study of engineering topics of current interest. (PR: Consent)
- 670 Advanced Stress Analysis. 3 hrs.**
Three-dimensional stress and strain, failure criteria, advanced topics in structural mechanics, energy methods, introduction to the theory of elasticity, fundamentals of fracture mechanics.
- 682 Research. 1-6 hrs.**
Completion of research under the supervision of a faculty member. Six semester hours of credit in research are applied toward the Thesis Option in the engineering M.S. degrees.
- 685-688 Independent Study. 1-4 hrs.**
An approved study of special interest concerning engineering, under the supervision of a faculty member. (PR: Consent)
- 699 Comprehensive Project. 3 hrs.**
Completion of comprehensive project under the supervision of a faculty member. Includes final written submittal and public oral presentation. Fulfills engineering M.S. requirement for Project Option.

ENGINEERING MANAGEMENT (EM)

- 620 Management of Technical Human Resources and Organizations. 3 hrs.**
Principles leading to better management and development of technical human resources and organizations. Included are concepts technical managers need to change themselves positively and to lead others toward desired behaviors.
- 646 Operations Research I. 3 hrs.**
Examination of the methodology of operations research, including linear programming, transportation methods, network flows, economic analysis, decision analysis, queuing theory and simulation. (PR: ENGR 610)
- 647 Operations Research II. 3 hrs.**
A continuation of EM 646 including an introduction to sensitivity and parametric analysis in linear programming, integer programming, nonlinear programming, dynamic programming, reliability theory, and inventory control. (PR: EM 646)
- 650-653 Special Topics. 1-4 hrs.**
Study of special topics of an advanced nature. (PR: Consent)
- 660 Project Management. 3 hrs.**
Provides the student with a practical knowledge of how to integrate effectively the functional efforts of many in the execution of programs and projects.
- 661 Advanced Project Management. 3 hrs.**
Course is designed to increase proficiency in the advanced aspects of project management. Participants will become aware of all the project management processes in PMI's *Project Management Body of Knowledge*.
- 664 Management of Research & Development Organizations. 3 hrs.**
Techniques and methods for effective management of research and development organizations, projects, and personnel. (PR: EM 601)
- 665 Management of Engineering Organizations. 3 hrs.**
Techniques and methods for effective management of engineering firms, departments, and personnel. (PR: EM 601)
- 668 Operations Management. 3 hrs.**
Examination of the quantitative and conceptual tools for generating goods and services in manufacturing and non-manufacturing organizations.
- 670 Seminar in Engineering Management. 3 hrs.**
Provides the student an opportunity to examine issues in engineering management and to evaluate their consequences in organizations, in the profession, and in society. (PR: Consent)

- 675 Engineering Economics. 3 hrs.**
The concepts and methods for the financial calculations involving time value of money and uncertainty. Capital and departmental budgeting processes and engineering inputs to cost accounting. (PR: Consent)
- 694 Engineering Law. 3 hrs.**
The American legal system, contracts and specifications, liability of professional engineers, product liability, agency relationships, patent and proprietary rights, and special problems in contracts are studied.

ENGLISH (ENG)

- 502 Composition and Rhetoric for Teachers. 3 hrs.**
Study of rhetorical invention and models of composing process, with intensive practice in writing.
- 505 History of the English Language. 3 hrs.**
The phonology, spelling, grammar, syntax, and vocabulary of previous language periods as background to Modern English.
- 508 Advanced Expository Writing. 3 hrs.**
Development and refinement of writing skills—description, organization, and style—with an emphasis on informative and explanatory genres.
- 509 Milton. 3 hrs.**
Biographical and critical study, including Milton's English poetry and prose, and his literary and intellectual milieu.
- 510 Shakespeare's Comedies, Tragicomedies, and Romances. 3 hrs.**
Intensive study of Shakespeare's comedies, tragicomedies, and late romances. Also includes the sonnets and *Venus and Adonis*.
- 511 Chaucer. 3 hrs.**
The poetry of Chaucer, including the *Canterbury Tales*, in the light of medieval tradition and critical analysis.
- 512 Shakespeare's Histories and Tragedies. 3 hrs.**
Intensive study of Shakespeare's histories and tragedies.
- 514 Nineteenth-Century British Novel. 3 hrs.**
Austen, Scott, the Brontës, Eliot, Dickens, Thackeray, Trollope, Meredith, Hardy, Butler, Wilde, and their contemporaries.
- 515 Victorian Poetry. 3 hrs.**
Emphasis on Tennyson, the Brownings, Arnold, Hopkins, Christina Rossetti, Hardy and the pre-Raphaelites.
- 516 Victorian Nonfiction. 3 hrs.**
Essays, speeches, treatises, and other works from Britain's Victorian age. Includes such authors as Arnold, Carlyle, Darwin, Huxley, Eliot, Martineau, Mill, Newman, and others.
- 517 British Drama to 1642. 3 hrs.**
Non-Shakespearean British drama from its beginnings to the closing of the theatres.
- 519 Approaches to Teaching Literature. 3 hrs.**
The intensive study of the pedagogy of literature and literary critical theory and its classroom applications.
- 521 American Literature to 1830. 3 hrs.**
Study of American literature of the Puritan, Colonial, and Federal periods, including such authors as Jonathan Edwards, Edward Taylor, Anne Bradstreet, Benjamin Franklin, Phillis Wheatley, Washington Irving, and Catharine Maria Sedgwick.
- 522 American Literature, 1830-1865. 3 hrs.**
American literature of the Romantic Period, including such authors as Emerson, Poe, Melville, Hawthorne, Dickinson, Whitman, Fuller, Douglass, Stowe, and other figures of the period.
- 523 American Literature, 1865-1914. 3 hrs.**
American literature of the Realistic and Naturalistic periods, including such authors as Howells, Twain, James, Dreiser, Chesnut, Wharton, Crane, and Chopin.
- 524 American Literature after 1914. 3 hrs.**
American literature after 1914, including such authors as Faulkner, Hemingway, Cather, Mailer, Carver, Vonnegut, Morrison and others.
- 528 International Literature. 3 hrs.**
Readings in contemporary literature from the non Anglo-European world. Texts by Asian, African, South American, Australian, and other authors.
- 530 Young Adult Literature. 3 hrs.**
Critical study of literature intended for adolescent and pre-adolescent readers. Focus on coming-of-age and identity issues, and on texts representing cultural, ethnic, and social diversities of U.S. and world literatures.
- 532 Contemporary Literature. 3 hrs.**
Examines literature of the present and its influences, including the inter-relationship between literature and other forms of textual/cultural production (e.g., cinema, television, popular music, comix/managa, 'zines, blogs, hypertext).
- 533 Twentieth-Century British and Irish Poetry. 3 hrs.**
British poetry since the Victorian period.
- 534 Twentieth-Century American Poetry. 3 hrs.**
American poetry since 1900.
- 535 Modernism. 3 hrs.**
A study of trans-Atlantic Modernist writers, including both poetry and prose.
- 536 Medieval British Literature. 3 hrs.**
Old English elegiac and heroic poetry; Middle English lyrics and romances; the Ricardian poets and Malory.
- 537 Tudor Literature: Poetry and Prose of the Sixteenth Century. 3 hrs.**
Survey may include works by More, Skelton, Wyatt, Sidney, Spenser, Nashe, Marlowe, Raleigh, Lyly, Sidney, Mary Sidney, and Shakespeare, excluding drama.
- 538 Seventeenth-Century Literature: Poetry and Prose. 3 hrs.**
Survey may include Donne and the Metaphysical poets, the Cavalier lyricists, Bacon, Browne, Wroth, Cary, Lanyer, Herbert, Jonson, Burton, Walton, Hobbes, and Bunyan.
- 547 British Romantic Poets. 3 hrs.**
Emphasis on Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats.
- 555 Literary Criticism. 3 hrs.**
Historical study, with application of principles.
- 560 Composition and Writing Center Theory. 3 hrs.**
Introduces students to the study of teaching writing in a classroom setting and in one-to-one tutoring. (PR: graduate program admission)
- 566 Literacy Studies. 3 hrs.**
Theories of writing and reading development with a focus on cultural, linguistic, and rhetorical influences on literacy acquisition.
- 567 Visual Rhetoric. 3 hrs.**
Study of the production, strategies, reception, and persuasive effects of visual texts.

- 569 Creative Writing Pedagogy and Theory. 3 hrs.**
A study of the professional and pedagogical methods and theories related to teaching and designing courses in creative writing.
- 570 Form/Theory: Creative Writing. 3 hrs.**
Readings in contemporary literature (fiction, non-fiction, and poetry) addressing the work in terms of the formal and theoretical concerns that drive it. Course texts will challenge notions of genre, form, theory, and practice.
- 575 Introduction to Linguistics. 3 hrs.**
The structural and descriptive approach to the study of the English language.
- 576 Structures of English Language. 3 hrs.**
- 578 Introduction to Sociolinguistics. 3 hrs.**
Sociolinguistics is the study of the effects of language in society, relevant to discourse practices, language attitudes, variations, shifts, and changes.
- 580-583 Special Topics. 1-4 hrs. each.**
(PR: Permission of the chair)
- 585-588 Independent Study. 1-4 hrs.**
(PR: Permission of Director of Graduate Programs. Only one independent study may count toward degree without permission of Director of Graduate Programs.)
- 591 Creative Writing: Poetry Workshop. 3 hrs.**
A practical and intensive class in exploring the varieties of creative expression; exercises on the creating of verse in different forms and styles.
- 592 Creative Writing: Fiction Workshop. 3 hrs.**
A forum for presentation, discussion, and refinement of the student's work, either short stories or novels.
- 593 Creative Writing: Nonfiction Workshop. 3 hrs.**
A writing workshop where students develop and refine their original creative nonfiction (memoir, biography, essays, travel/leisure writing, etc.), employing techniques typically reserved for fiction (dialogue, narrative, poetic language, etc.).
- 601 Folk and Popular Literature. 3 hrs.**
A study of types, variants, backgrounds, and influences. (PR: ENG 630 or permission of the chair)
- 615 TESOL Methods. 3 hrs.**
This course aims at teaching English for academic purposes, ranging from teaching language skills to pragmatics to cultural understanding in relation to theories of language and language learning. (PR: ENG 575 and ENG 576)
- 617 TESOL Curriculum Development and Materials Design. 3 hrs.**
This course introduces students to core principles of curriculum development for the language classroom. Students develop the abilities to critique and adapt textbooks and to design and create classroom materials.
- 618 TESOL Language Assessment. 3 hrs.**
Students are introduced to core principles of language assessment. By exploring a variety of assessment techniques, students develop the ability to critique current assessments and to build their own assessments.
- 622 Second Language Learning. 3 hrs.**
This course starts with an overview of disciplinary frameworks of language development, then addresses the four major theoretical perspectives: linguistics, cognitive, sociolinguistic and socioculture. (PR: ENG 575; ENG 576)
- 624 Twentieth-Century British Novel. 3 hrs.**
Major British novelists of the twentieth century. (PR: ENG 630 or permission of the chair)
- 625 Twentieth-Century American Novel. 3 hrs.**
Major American novelists of the twentieth century. (PR: ENG 630 or permission of the chair)
- 626 Systemic Functional Grammar. 3 hrs.**
This course is a general introduction to the principles and practice of Systemic Functional Grammar with an emphasis on the paradigmatic meaning-making potential of language systems.
- 627 Text Analysis. 3 hrs.**
Text analysis compares crucial aspects of English syntax, discourse pragmatics, and prepositional and lexical semantics with those of other languages. (PR: ENG 575 and 576)
- 628 Twentieth-Century African-American Literature. 3 hrs.**
An intensive study of selected novels, plays and poems of the period. (PR: ENG 630 or permission of the chair)
- 630 Materials and Methods of Research. 3 hrs.**
Instruction and practice in scholarly literary research. Required among first 12 hours of coursework and prior to admission to candidacy for the Master of Arts degree with a major in English.
- 631 Major American Authors. 3 hrs.**
An intensive study of selected American authors. (PR: ENG 630 or permission of the chair)
- 632 Topics in American Literature. 3 hrs.**
Concentrated study of continuing themes or influences in American literature; for example, narrative perspectives, regional influences, or conflicting agrarian and industrial values. (PR: ENG 630 or permission of the chair)
- 633 Research Methods in Applied Linguistics. 3 hrs.**
To inform students of various approaches to research in applied linguistics. To equip students with the critical skills to evaluate research with the end result of conducting their own research. (PR: ENG 575 and ENG 576)
- 634 Teaching English for Academic Purposes. 3 hrs.**
To help students understand the characteristics of academic English, and to train pre-service ESL or EFL teachers on how to teach English for academic purposes.
- 635 Major Texts. 3 hrs.**
An intensive study of a single major text from any period of British, American, or anglophone literature, leading to mastery of the text, its critical responses, and its influences. (PR: ENG 630 or permission of the chair)
- 636 Selected British Writers. 3 hrs.**
An intensive study of selected British writers such as the Metaphysical Poets, the Cavalier Poets, or the Bloomsbury Group. (PR: ENG 630 or permission of the chair)
- 637 Topics in British Literature. 3 hrs.**
A concentrated study of themes or influences in British literature; for example, narrative strategies, medievalism, the pastoral mode, or conflicting moral, social or literary values. (PR: ENG 630 or permission of the chair)
- 638 Language and Context. 3 hrs.**
Survey of genre and register analysis research from the three perspectives of ESP (English for Special Purpose), New Rhetoric, and Systemic Functional Linguistics. (PR: ENG 575 and 626)
- 639 CALL. 3 hrs.**
This graduate seminar course introduces students to general topics of Computer-Assisted Language Learning (CALL), focusing on the use and research of computer technologies in second-language teaching and learning. Students will gain updated pedagogical knowledge on the integration of CALL in language classes, and also develop competence to evaluate and conduct research in CALL.

- 640 Composition Pedagogy. 3 hrs.**
This course builds on composition theory to address the various pedagogies and strategies most commonly practiced in the beginning composition classroom. Required for graduate assistants in English. (PR: ENG 560, Composition Theory)
- 646 Topics in Rhetoric and Composition. 3 hrs.**
Study of prevailing topics in Rhetoric and Composition. Topics may include Eco-Rhetoric, Assessment, and the Rhetoric of Science, among others.
- 648 Feminist Rhetorics. 3 hrs.**
Study of the ways language shapes and is influenced by gender and identity.
- 650-653 Special Topics.**
(PR: ENG 630 or permission of the chair)
- 660 Literary Theory. 3 hrs.**
Intensive introduction to one or more literary or cultural theories, familiarizing students with the major developments, terms, premises, and debates of the theory or theories in question.
- 661 Studies in Genre. 3 hrs.**
An intensive study of one or more literary genres, familiarizing students with the major developments, terms, premises, and debates concerning the genre or genres in question. (PR: ENG 630)
- 665 Creative Writing Workshop. 3 hrs.**
An intensive multi-genre study of best practices for the writing and revising of creative writing. (PR: ENG 591, 592, 593)
- 670 Observation Practicum TESOL. 3 hrs.**
This supervised practicum engages students in classroom observation and promotes their ability to reflect on classroom practice. (PR: ENG 615 or ENG 617)
- 671 Teaching Practicum TESOL. 3 hrs.**
In this supervised practicum, students design and implement lessons in language classrooms. Students receive feedback on their teaching and engage in the practice of reflection. (PR: ENG 670)
- 675 Professional Topics in Creative Writing. 3 hrs.**
A multi-genre study of professional topics on the writing, editing/publishing, and teaching of creative writing in the current literary and job markets. (PR: ENG 591, 592, or 593)
- 681 Thesis. 1-9 hrs. CR/NC.**
- 682 Portfolio. 1-9 hrs. CR/NC.**
Extensive revision and creation of new original writing for the purposes of demonstrating knowledge and ability, as well as preparing students for further graduate study or the job market.
- 683 Comprehensive Exams. 1-9 hrs. CR/NC.**
Preparation and extensive reading for exams in three areas of study. Students are expected to demonstrate expertise in these three areas through completion of essay exams.
- 685-688 Independent Study. 1-4 hrs.**
(PR: Permission of Chair. Only one independent study may be counted toward degree without permission of Director of Graduate Programs.)
- 689 Internship. 1-4 hrs.**
Supervised work experience in English-related field. (PR: Permission of Chair)

ENVIRONMENTAL ENGINEERING (ENVE)

- 611 Air Pollution Design I: Control of Gaseous Emissions. 3 hrs.**
An introduction to adsorption, condensation, incineration, absorption, and process modification relevant to the design of abatement systems for gaseous air pollutant emissions. (PR: unit operations, thermodynamics and calculus)
- 612 Air Pollution Design II: Control of Particulate Emissions. 3 hrs.**
An introduction to equipment, processes, and basic principles relevant to the design of particulate collection systems including electrostatic precipitators, fabric filtration units, cyclones, and high energy scrubbers. (PR: ES 604 or courses in physics, fluid mechanics, and process design)
- 615 Environmental Chemistry. 3 hrs.**
Fundamental principles governing the various aspects of chemistry relevant to the environment will be addressed. The chemistry of waste treatment, cyclical processes and other applications will be evaluated. (PR: Consent)
- 616 Wastewater Treatment Facility Design. 3 hrs.**
Fundamental principles and applied practices of wastewater treatment facilities. Includes performance analysis, component selection, and system design for physical, chemical, and biological processes. (PR: ENVE 615)
- 617 Water Treatment Facility Design. 3 hrs.**
Fundamental principles and applied practices of water quality and water treatment facilities. Includes analysis of source waters, and design of physical and chemical system components. (PR: ENVE 615)
- 618 Pollution Prevention. 3 hrs.**
Introduces the student to the basic understanding and criteria required for establishing a pollution prevention program, including a review of successful industry practices. Emphasis on management strategies. (PR: undergraduate degree in science or engineering)
- 620 Solid Waste Management. 3 hrs.**
Solid waste management and minimization: options, methods, laws and regulations. Landfill design, testing, operation, monitoring, and closure. Use of composting in landfills. Incinerator design and operation. Separation and recycling approaches.
- 625 Hazardous Waste Management. 3 hrs.**
Options and methods of managing hazardous waste. Landfill design, testing, operation, monitoring, and closure. Incinerator design, testing, operation, and monitoring. Design and operation of treatment facilities. Waste reduction practices.
- 650-653 Special Topics**
Occasional special offerings in Environmental Engineering. (PR: Consent)
- 663 Environmental Permitting. 3 hrs.**
The permit process for the construction and operation of facilities, including stream crossing, wetlands, etc.; permits under Clean Air Act, Clean Water Act, NPDES, RCRA and TSCA.
- 670 Hydrology and Drainage Control. 1-6 hrs.**
The course provides an introduction to practical applications of hydrology and sedimentology including precipitation, infiltration, quantification of runoff, flow modeling, soil erosion, sediment transport, basic highway drainage concepts and design of channels and other control structures.
- 671 Hydraulic Structures. 3 hrs.**
Analysis and design of water conveyance channels and hydraulic structures, such as siphons, chutes, weirs, flumes, dams, spillways, gates, locks, storm-surge barriers, and outlet works.
- 672 Watershed Modeling. 3 hrs.**
Setup, execution, and calibration of numerical watershed models. Includes the rational method, TR-55, HEC-1, and HEC-HMS. Emphasis on watershed analysis for decision making and drainage design.

- 673 Industrial Ventilation. 3 hrs.**
The design and analysis of industrial ventilation systems, including properties of air contaminants; hood, duct and fan design; system performance; mine ventilation; air cleaning devices; testing; diagnosis; troubleshooting, cost analysis. (PR: Consent.)
- 675 Industrial Noise Control. 3 hrs.**
Physics of sound, absorption and reflection, sound level measurements and instruments, and noise control criteria; audiometry and the physiology of hearing; community noise abatement; laws and regulations. (PR: undergraduate degree in science or engineering)
- 680 Air Pollutant Dispersion and Meteorological Modeling. 3 hrs.**
Meteorological concepts with emphasis on air pollution; atmospheric dynamics, adiabatic processes; temperature profiles, behavior of stack effluent, atmospheric chemistry, attenuation of solar radiation, and climatology application to dispersion models. (PR: undergraduate course in physics, and spreadsheet capability)
- 681 Environmental Engineering Design. 3 hrs.**
Principles of engineering design of water and wastewater treatment systems and processes, including physical, chemical, and biological treatment and handling of treatment residuals. Includes coverage of relevant water quality concepts. (PR: Engineering degree or permission)
- 682 Environmental Remediation Technologies. 3 hrs.**
Decontamination or removal of pollutants from soil. Aeration of excavated soil on site. Use of solvents and surfactants as removal aids. Removal of soil for treatment at an off-site facility. (PR: ES 651)
- 683 Environmental Geotechnology. 3 hrs.**
Surface and subsurface geology; geotechnical properties of soil and rock. Geotechnical engineering design aspects of landfills, groundwater barriers, tunneling. Mechanics of ground movement; sediment and erosion control. (PR: engineering or geology degree)

ENVIRONMENTAL SCIENCE (ES)

- 514 Environmental Risk Assessment. 3 hrs.**
The course will provide a comprehensive review of currently used methods and applications of risk assessment in environmental science and engineering. The course will focus on the analysis of potential risks in all media, and will include state and federal requirements and guidelines for human health and ecological risk assessment. (PR: Consent)
- 522 Environmental Sustainability. 3 hrs.**
The course will introduce students to the ideas behind, the debates within, and the work that goes into sustainability, including a review of things we value, how nature works, and intelligent policy decisions.
- 550 Environmental Law I. 3 hrs.**
Introduction to major federal environmental legislation and related state programs, including policy issues, judicial review, and practical effects. Includes CERCLA, RCRA, Clean Water Act, Clean Air Act, NEPA, ESA, and SDWA. (PR: Consent)
- 554 Watershed Protection. 3 hrs.**
This course reviews key components of watershed structure and functions before investigating and applying concepts for managing and restoring aquatic ecosystems.
- 582-83 Special Topics. 1-4 hrs.**
Occasional offerings of current topics in environmental sciences, providing important supplementary material for participating students.
- 585 Introduction to Environmental Science. 3 hrs.**
The principles of chemistry, geology, and mathematics used in pollution analysis and control. Topographic maps, environmental regulations, field testing, and compliance. Economics of use of pollution control devices.
- 586-88 Independent Study. 1-4 hrs.**
An approved study of special interest concerning environmental science that is appropriate for the student's program of study. Carried out under the supervision of a faculty member.
- 602 A Study of the West Virginia Environment. 3 hrs.**
An overview of the diversity of the local natural environment, including the plants, insects, amphibians, reptiles, other wildlife, and the impact of human activities on the local environment.
- 603 Seminar In Current Environmental Issues. 3 hrs.**
The influence of environmental laws, common law, contract law, tort law, and regulatory interpretations, as well as the impact of citizens' groups, professional societies, and trade associations on current practice. (PR: Consent)
- 604 Air Pollution. 3 hrs.**
Major air pollution sources; meteorological concepts; physical and chemical characterization; effects on plant and animal life; and development of air pollution laws, with emphasis on West Virginia regulations. (PR: Consent)
- 605 Analytical Principles of Environmental Sampling. 3 hrs.**
Identifying and measuring contaminants in air, water, soil, and sludge. Methods of analysis including gas chromatography, nuclear magnetic resonance, colorimetry, infrared absorption, ultraviolet absorption, atomic absorption, and mass spectroscopy. (PR: Chemistry and ES 600, or equivalent experience)
- 609 Topics in Bioscience Education. 1-6 hrs**
Selected topics of interest to teachers of biology. (PR: Consent)
- 610 Environmental Sampling Practice. 3 hrs.**
Current practice in environmental testing and monitoring. Traditional wastewater (SPSY_tests, bioassay analysis, aquatic toxicity. Current procedures in gas chromatographic analysis, mass spectrometry. Sample preservation, quality control, and quality assurance. (PR: analytical chemistry and instrumental methods, or ES 605)
- 620 Environmental Management Systems. 3 hrs.**
EMS principles and elements; environmental, health and safety regulatory issues; ISO 14000 EMS specifications and guidelines; environmental auditing; environmental performance evaluation; life cycle assessment and environmental labeling.
- 626 Remote Sensing and Map Use. 3 hrs.**
Introduction to topographic, soil, and geologic maps and aerial and satellite photography as sources of environmental information. Application of various data sources to specific types of environmental problems.
- 630 Environmental Site Assessment. 3 hrs.**
Site inspection and investigation, emphasizing the "due diligence" clause of Section 107 of the Comprehensive Environmental Response Compensation Liability Act of 1980, site remediation, and data analysis and reporting.
- 640 Groundwater Principles and Monitoring. 3 hrs.**
Introduction to groundwater hydrogeology; including porosity, hydraulic conductivity, aquifers, groundwater flow, well hydraulics, groundwater geology, and water chemistry. (PR: A background in environmental science or geology is recommended)
- 645 Applied Hydrogeology. 3 hrs.**
The fundamentals of hydrogeology are utilized to implement a case study investigation of a contaminated groundwater site from the planning stage through a final report. (PR: ES 640 or equivalent experience)

- 646 Dynamics of Ecosystems. 3 hrs**
Species interaction; population, community and ecosystem ecology; productivity; nutrient cycling; physiological ecology, population dynamics; pollution and conservation; and aquatic, marine, and terrestrial ecosystems. (PR: Consent)
- 648 Vegetation of West Virginia. 3 hrs.**
Introduces the student with a minimal biology background to basic field and laboratory botany. Introduction to science of plant taxonomy and community ecology, with emphasis given to West Virginia. (PR: Consent)
- 650-653 Special Topics in Environmental Science. 1-4 hrs.**
(PR: Consent)
- 654 Environmental Microbiology. 3 hrs.**
Microbiology of the environment; ecology of the microbial cell; microbial ecosystems; the microbe's interaction with other micro-organisms and macro-organisms; how micro-organisms obtain nutrients, and the effect on the environment. (PR: General biology and general chemistry or consent)
- 655 Environmental Ethics. 3 hrs.**
Introduction to the subject of ethics, environmental ethical theory, moral reasoning, free market regulation, right to know, proprietary information, product liability, cost-benefit analysis, risk assessment, waste disposal, and resource depletion. (PR: Consent)
- 656 Preparation and Evaluation of Environmental Impact Statements. 3 hrs.**
A practical course designed to provide students with the ability to prepare and evaluate impact statements. The course is based on the concepts of the environment as a single interrelated system.
- 661 Environmental Regulations 3 hrs.**
Practical applications and concentrated study of regulations under all major federal environmental programs, including permitting, reporting, and other compliance issues. Includes discussion of procedures used in development of regulations. (PR: ES 660)
- 662 Environmental Policy 3 hrs.**
Introduction to processes for formulation and development of environmental policy, including administrative procedure and the policy process. Discussion of current environmental policy issues in relevant political, legal, social, and scientific contexts.
- 663 Environmental Law II. 3 hrs.**
Course covers three general topic areas: environmental assessment and biodiversity (NEPA and ESA), risk management and regulation of toxic substances (TSCA, FIFRA, and SDWA), and international environmental law. (PR: ES 660)
- 665 Water Resources Management. 1-6 hrs.**
Course surveys the processes that govern the earth's hydrologic cycle and the human activities which effect that cycle. It seeks to provide an integrated science/management/policy approach to water resource issues.
- 670 Sustainable Energy. 3 hrs.**
The course focuses on the technological and cost fundamentals of what is generally considered sustainable energy technologies, including solar, wind, biomass and other energy sources.
- 674 Epidemiological Health Research Techniques. 3 hrs.**
An introduction to techniques of epidemiological health research. The primary focus will be health problems in the industrial setting.
- 675 Brownfields Management. 1-6 hrs.**
Environmental management and development of abandoned, idled or underused industrial or commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.
- 680 Thesis. 1-6 hrs.**
A student completing ES 680 must defend his or her thesis in an oral examination.

EXERCISE SCIENCE AND SPORT (ESS)

- 511 Ethics in Sport. 3 hrs.**
A philosophical examination of both the fundamental ethical principles, as well as the most common ethical dilemmas and controversies found in sport.
- 516 Planning & Developing HPER & Athletic Facilities. 3 hrs.**
A course designed to familiarize students with the basic concepts of facility planning and construction. Current trends and innovative designs are reviewed. (Does not fulfill state certification requirements for a superintendent's license.)
- 524 Sport and Physical Education in the Twentieth Century United States. 3 hrs.**
The development of recreation, organized sport and physical education programs in the United States, 1900 to present.
- 525 Sport and Film. 3 hrs.**
The relationships between sports and feature motion pictures are analyzed in the historical, social, and cultural contexts.
- 530 Sport Law, 3 hrs.**
The study of the basic principles of the legal system as they operate in the environment of American sport.
- 552 Sport Performance Analysis. 3 hrs.**
This course will provide students with an understanding of basic and advanced principles of sport performance analysis and specific methods to adapt and utilize them in the practical sports fields.
- 560-564 Professional Development. (Plus title that identifies content). 1-4; 1-4; 1-4; 1-4; 1-4 hrs.**
Courses and activities designed to meet the specific inservice needs of public school personnel. Credit in these courses may be used for certificate renewal and salary upgrading if approved but not for degrees. CR/NC grading.
- 575 Seminar in Sports Management and Marketing. 3 hrs.**
This course is designed to provide students with an overview of all aspects involved in the Sports Management and Marketing field through classroom lectures, guest speakers, and field trips.
- 576 Theoretical and Practical Aspects of Coaching. 3 hrs.**
An indepth study of the principles and problems of coaching.
- 578 Exercise Metabolism. 3 hrs.**
Addresses the principles of sport nutrition and its effects on physiological systems, body composition, and human exercise performance. (PR: ESS 621 or permission)
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Approval by the department chairman, instructor and student's committee)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 593-594 Workshop in Physical Education. 1-3 hrs.**
- 600 Advanced Readings in Sports Ethics. 3 hrs.**
A critical analysis of and engagement with leading ethical thinking as applied to sport.
- 601 Advanced Exercise Testing. 3 hrs.**
Exercise testing techniques presented to determine the biological responses to exercise stress and to investigate the physiological limitations to human performance as it relates to disease and/or sport performance. (PR: ESS 621)
- 615 Legal Concern in PE and Athletics. 3 hrs.**
An indepth analysis of the legal implications of Sports and Physical Education.

- 621 Exercise Physiology I (Cardiorespiratory and Metabolic Adaptations). 3 hrs.**
Topics would include bioenergetics, integration of metabolism, metabolic response to exercise, neuroendocrine control of metabolism during exercise, cardiovascular control and adaptation during exercise and respiratory control and adaptation during exercise. (REC: ESS 201 and 345 or equivalent)
- 623 Advanced Exercise Physiology II (Neuromuscular and Environmental Adaptations). 3 hrs.**
The course is designed to study the neuromuscular and environmental adaptations to both the acute and chronic effects of exercise. Cellular and Molecular Adaptations will be explored. (PR: ESS 621)
- 624 Issues in Physical Education. 3 hrs.**
Critical selection and analysis of current controversies in physical education. Analysis includes identification of the content fostering each issue and the systematic probing of administrative tenets and philosophical positions taken by all factions. Attempts at resolution are secondary to exploration and analysis of viewpoints.
- 626 History and Philosophy of Physical Education and Sport. 3 hrs.**
An investigation of historical events, political and social climates, and personalities as well as philosophies which have influenced physical education and sport from early civilizations to the present.
- 631-634 Performance Techniques and Analysis. 3 hrs.**
Analysis of lead-up, intermediate and advanced techniques of a selected team, individual or dual sports. Emphasis given to mechanics of performance psychological stress components, psychological factors, strategies and teaching/coaching methodology.
- 636 Structural Kinesiology. 3 hrs.**
Instruction and laboratory experiences involving musculoskeletal anatomy and biomechanics as applied to human movement.
- 642 Devising and Implementing Training and Conditioning Programs. 3 hrs.**
Application of neuromuscular and physiological knowledge to the examination of the administration and content of existing exercise programs as well as the development of new programs. (PR: ESS 621)
- 643 Sport in the Social Process. 3 hrs.**
An indepth analysis of the processes by which sport evolved as a significant component of modern American life.
- 644 Cardiovascular Exercise Physiology. 3 hrs.**
Detailed study of the anatomy and physiology of the cardiovascular system and its response to acute and chronic exercise. (PR: ESS 621, ESS 623, ESS 670)
- 645 Respiratory Exercise Physiology. 3 hrs.**
Detailed study of the anatomy and physiology of the respiratory system and its response to acute and chronic exercise. (PR: ESS 621, ESS 623, ESS 670)
- 646 Neuromuscular Exercise Physiology/Plasticity. 3 hrs.**
This course is a detailed study of the structure and function of the neuromuscular system along with the etiology and functional consequences of numerous neuromuscular diseases. (PR: ESS 621, ESS 623, ESS 670)
- 651 Mechanical Analysis of Motor Skills. 3 hrs.**
Analysis of motor skills through the application of the principles of physics. (REC: ESS 321 or equivalent)
- 652 Organizational Behavior of Sport and Leisure Industry. 3 hrs.**
Examines the complexity of human behavior in organizational settings in sport and leisure industry, and the role of managers and leaders in affecting that behavior.
- 654 Contemporary and Comparative Physical Education. 3 hrs.**
A study of objectives, methods, personnel, facilities, and program uniqueness of the physical education of selected nations and world regions. National sport programs, international sport programs and competition, and international professional organizations are considered.
- 670 Research in Kinesiology. 3 hrs.**
An examination of experimental research design, laboratory methods, construction of instruments, execution of research, and presentation of research papers with an emphasis on science.
- 671 Research Methods in Sport Studies. 3 hrs.**
This course provides students with a fundamental understanding of research principles, concepts, methods, techniques, and application related to sport studies.
- 674 Sport Finance / Economics. 3 hrs.**
This course will provide students with an understanding of financial and economic principles relevant to the sport industry. The course also provides a comprehensive coverage of current economic and financial issues confronting the sport industry.
- 675 Marketing Management of Sport Industry. 3 hrs.**
Advanced level of marketing concepts in the sport industry.
- 681 Thesis. 1-6 hrs.**
- 682 Health Promotion, Disease Prevention, and Rehabilitation: Clinical Perspectives. 3 hrs.**
Examines disorder/disease prevalent in Westernized societies, with special emphasis on the rationale for intervention with exercise, nutrition, behavioral, and related strategies. (PR: ESS 621 and ESS 683)
- 683 Cardiovascular Assessment. 3 hrs.**
Considers cardiovascular assessment strategies, including EKG interpretation, related medical profile variables, patient/client/athlete screening and risk stratification. (PR: ESS 621)
- 686 Behavioral Aspects of Wellness, Disease, Rehabilitation. 3 hrs. I or II.**
Survey course to include the pathophysiology of stress, psychology of health, behavioral modification, neuromuscular relation/stress reduction techniques, program compliance improvement, and health counseling. (PR: ESS 641)
- 687 Cardiac Life Support. 3 hrs.**
Course is designed to acquaint the student with the current methods in recognizing and treating cardiac conditions. (PR: ESS 683 or permission)
- 696 Seminar in Physical Education. 3 hrs.**
A course designed for library research and discussion of critical questions in physical education. Topics to be selected will vary according to the interests of the students.

FINANCE (FIN)

- 510 Principles of Business Finance. 3 hrs.**
Business finance from the viewpoint of the financial manager. Use of financial statements, tools, and concepts for measuring and planning for profitability and liquidity. (PR: ACC 216 or ACC 510, ECN 253 or ECN 501, MGT 218, and MTH 203 or MGT 500)
- 551 Financial Planning Applications. 3 hrs.**
This course includes client interactions, time value of money, personal financial statements, cash flow and debt management, asset acquisition, overview of risk management, investment planning, business ethics, and retirement planning. (PR: ECN 501, ACC 510, MGT 501)
- 552 Investment Planning. 3 hrs.**
This course provides the student with understanding of the various types of securities traded in financial markets, investment theory and practice, portfolio construction and management, and investment strategies and tactics. (PR: FIN 551)

- 554 Insurance Planning and Risk Management. 3 hrs.**
This course introduces risk management and insurance decisions. Topics include insurance for life, health, disability, property and liability risks, as well as annuities, group insurance, and long term care. (PR: FIN 551)
- 556 Income Tax Planning. 3 hrs.**
This course focus on principles and current law and practice of income taxation and its impact on financial planning for individuals, couples and families as investors, employees and business owners. (PR: FIN 551)
- 558 Estate Planning. 3 hrs.**
Estate Planning focuses on the efficient conservation and transfer of wealth, consistent with the client's goals such as trusts, wills, probate, advanced directives, charitable giving, wealth transfers and related taxes. (PR: FIN 551)
- 560 Retirement Planning. 3 hrs.**
The retirement planning course is to provide individuals with knowledge of retirement plans such as Social Security, Medicare, Medicaid, defined benefit and defined contribution plans and their regulatory provisions. (PR: FIN 551)
- 580 Special Topics. 1-4 hrs.**
- 620 Financial Management. 3 hrs.**
An examination of business corporations practicing at the level of the individual firm with emphasis on quantitative analysis of the variables which affect liquidity and profitability. (PR: MGT 601 and full M.B.A. admission or permission of GSM academic advisor)
- 625 Financial Problems in Business. 3 hrs.**
Recognizing and solving financial problems through the use of case presentations and/or corporate annual and interim reports. (PR: FIN 620 and full M.B.A. admission or permission of GSM academic advisor)
- 626 Security Analysis and Portfolio Management. 3 hrs.**
Analytical procedures used by institutional portfolio managers to measure both past performance of holdings and anticipated market performance of current offerings. Emphasis in this course may be expected to be more centralized in the area of fundamental analysis. (PR: FIN 620 and full M.B.A. admission or permission of GSM academic advisor)
- 627 Financial Institutions and Markets. 3 hrs.**
An in-depth study of the flow of funds in aggregate financial systems, with emphasis on those in the United States. Because interest rates and bank reserve requirements of Federal Reserve System are all dynamic in character, the content of this course may be expected to vary as financial events of the future dictate. (PR: FIN 620 and full M.B.A. admission or permission of GSM academic advisor)
- 650 Special Topics. 1-3 hrs.**
(PR: Permission of the division head, full M.B.A. admission, and permission of GSM academic advisor)
- 660 Independent Study. 1-4 hrs.**
Independent study of a specific nature under the supervision of a qualified faculty member. Hours of credit are determined by the magnitude of the project. (PR: FIN 620 and permission of division head or permission of GSM academic advisor)
- 665 Portfolio Theory and Capital Markets. 3 hrs.**
A study of modern portfolio theory and capital market theory as applied to portfolio management. Real-world considerations are introduced through case studies and management of simulated portfolios. (PR: FIN 510 or permission of GSM academic advisor)

FORENSIC SCIENCE (FSC)

- 600 Cell and Molecular Biology. 3 hrs.**
A study of the molecular biology of the cell and its organelles, cell interactions, and differentiation.
- 603 Genetics-DNA Lab. 1 hr.**
Laboratory to be offered in conjunction with FSC 604 Genetics and DNA Technology stressing techniques and methods required for DNA analysis used in forensic case investigations, in CODIS laboratories and in paternity testing.
- 604 Genetics and DNA Technology. 3 hrs.**
A comprehensive lecture series that covers the genetics and biochemistry of DNA to include the analysis, ethical considerations and quality assurance techniques used to analyze DNA for identification purposes. This course serves as a core course in the forensic science curriculum.
- 605 Forensic Science Digital Imaging. 3 hrs.**
Introductory course in digital image processing. Covers techniques used in forensic laboratory to enhance, analyze, and catalog digital images. Instruction in laboratory setting.
- 606 Crime Death Investigation. 2 hrs.**
Establishes foundations and techniques for proper crime scene investigation with or without a victim's body. Logical approach for collecting evidence and documenting scene and collection process.
- 607 Bloodstain Pattern Analysis. 3 hrs.**
A comprehensive course covering bloodstain pattern analysis, bullet trajectory, courtroom testimony, and report writing. This course is taught as a combination of lectures, laboratories, and practical exercises.
- 608 Forensic Toxicology. 3 hrs.**
An in-depth analysis of both clinical and forensic aspects of toxicology from the viewpoint of the forensic and medical examiner's toxicology laboratories.
- 609 Network Forensics. 3 hrs.**
Teaches the basics of how computers and networks function, how they can be involved in crimes as well as a source of evidence.
- 610 Bioterrorism. 3 hrs.**
Course traces the historical development, current status, and future threats of bioterrorism in the U.S. and on a global scale. Issues addressed include microbiology, surveillance, detection and post-event investigation.
- 612 Introduction to Forensic Microscopy/Trace. 2 hrs.**
Introduction to various types of microscopy used in forensics, including scanning electron microscopy, light and fluorescence microscopy and polarizing microscopy.
- 615 Advanced Crime Scene Investigation. 3 hrs.**
This course addresses various areas of crime scene investigation not, or minimally, addressed in the FSC 606 introductory course. Topics include arson, explosives, body excavation, forensic entomology, advanced impression evidence and wound analysis. (PR: FSC 606)
- 617 Advanced Crime Scene Photography and Documentation. 3 hrs.**
This series of lectures and practical exercises introduces the student to sophisticated crime scene documentation techniques including sketching, surveying, photography and crime scene management techniques.
- 618 Forensic Comparative Science. 2 hrs.**
Introduction to comparative methods used by forensic scientists for analysis of fingerprints, questioned documents, and firearms.
- 622 Forensic Analytical Chemistry. 3 hrs.**
Analytical chemistry instrumentation and methods used by forensic scientists for analysis of drugs, toxicology, arson, explosives, trace evidence, and sample collection and processing.

- 623 Forensic Analytical Chemistry Lab, 1 hr.**
Laboratory practicum will develop skill set needed in the forensic analysis of physical evidence using standard methods and modern analytical instrumentation.
- 624 Biochemistry: Forensic Science. 4 hrs.**
This comprehensive course in biochemistry focuses on concepts appropriate to forensic science and designed to meet forensic science educational standards at a national level.
- 626 Forensic Drug Analysis. 2 hrs.**
Concentration on modern analytical methods used in the isolation and the identification of illicit drugs and their metabolites in biological samples and other forensic evidence. (PR: FSC 622 or permission of instructor)
- 627 Human Genetics. 2 hrs.**
Human Genetics serves as an introduction to the study of heritable traits in humans and their molecular basis; basic genetic principles, statistics, and probability; population database analysis; principles of population genetics and laws of Mendelian genetics as they relate to human identification; application of paternity testing and identification of human remains; use of single nucleotide polymorphisms (SNPs) and mtDNA profiling in forensic applications. (PR: FSC 624)
- 628 Chemical Analysis of Trace Evidence. 2 hrs.**
An emphasis on chemical analysis techniques appropriate for trace evidence, including paint, inks, fibers, and plastics. Methods include pyrolysis-GCMS, micro-FTIR, chemical microscopy, and capillary electrophoresis. Required for Forensic chemistry emphasis.
- 629 Advanced DNA Technologies. 2 hrs.**
This course will provide advanced instruction in DNA technologies to assist in the preparation for a career in a forensic DNA laboratory. (PR: FSC 603 and FSC 604)
- 630 Forensic Science Internship. 5 hrs.**
A 10-week internship in a crime lab or other forensic science-related research laboratory. Application of principles and techniques learned during first year of program. (PR: Completion of two semesters in Forensic Science program)
- 632 Foundations and Fundamentals in Digital Forensics. 3 hrs.**
The course provides fundamental information to lay the foundation for the Digital Forensics area of emphasis. A range of topics includes laws and regulations relating to stored digital data; quality assurance and ethics in a digital laboratory; basic terminology; computer hardware and various storage media; software, including operating and file systems; and basic concepts of computer security. The course is taught primarily in a lecture format. Class discussions and participation in practical exercises supplement lectures.
- 634 Digital Evidence Search and Seizure. 3 hrs.**
Topics covered in this course expand upon material covered in FSC 632. Additional areas include affidavits and warrants; national information security concepts; evidence collection, transport and preservation; computer networks; e-mail traces; imaging of original evidence; introduction to forensic tools, Windows registry; malware and spyware; virtualization; and hand-held devices. Classes are presented in a lecture format and culminate with a mock, digital crime scene exercise.
- 636 Mobile Phone Forensics. 2 hrs.**
This course addresses the complexity and structure of modern smart phones and focuses on data evidence storage and extraction for criminal case investigations.
- 639 Forensic Statistics. 3 hrs.**
Basic theory of probability and statistics, odds from Bayes' theorem for transfer evidence, likelihood ratio, population and statistical genetics, statistical issues in paternity testing and mixtures, and presenting evidence. (PR: Admission to Forensic Science program)
- 640 Firearms Toolmarks I. 1 hr.**
This course provides an enhanced learning experience designed to reduce the time to competency typical of the knowledge required component of a firearms examiner training program. FSC 640 is the first of two firearms and toolmarks examiner training courses.
- 641 Firearms Toolmarks II. 1 hr.**
This course provides an enhanced learning experience designed to reduce the time to competency typical of the knowledge required component of a firearms examiner training program. FSC 640 is the first of two firearms and toolmarks examiner training courses.
- 642 DNA Technical Assistance Program I. 2 hrs.**
The goal of the DNA Technical Assistance Program (DNA TAP) is to prepare select students for placement in host forensic laboratories for validation and evaluation research studies. The student undergoes accelerated lectures and intense hands-on laboratory exercises including analytical procedures, instrument training, and data analysis.
- 643 DNA Technical Assistance Program II. 2 hrs.**
The goal of the DNA Technical Assistance Program (DNA TAP) is to prepare select students for placement in host forensic laboratories for validation and evaluation research studies. The student undergoes accelerated lectures and intense hands-on laboratory exercises including analytical procedures, instrument training, and data analysis.
- 646 Forensic Laboratory Management. 2 hrs.**
This course provides a foundation in management theory, principles & application necessary for forensic scientists who aspire to assume future positions as crime lab supervisors, managers, technical leaders, quality managers, directors or other roles as leaders in their field. This course addresses management theory as well as its practical application to the crime laboratory setting from an ISO/IEC 17025 perspective.
- 650-653 Special Topics. 1-4 hrs.**
Present course material on special areas of research or topics which are not routinely covered in existing courses.
- 660 Independent Study. 1-4 hrs.**
Reserved for directed and independent research, problem reports, etc. (PR: Permission)
- 665 Legal Issues, Court Procedures for Forensic Scientists. 3 hrs.**
Covers the American legal system with specific emphasis on expert witnessing by forensic scientists. Both the federal and state systems of justice are addressed, plus topics such as the federal rules of evidence and discovery. Frye and Daubert considerations on admissibility of scientific evidence and expert witnessing are discussed. Mock trials provide experience in the courtroom. (PR: Consent of Instructor)
- 676 Advanced Digital Evidence Detection and Recovery. 2 hrs.**
This course will provide an overview of the advanced procedures and techniques used by investigators working with digital evidence. The course will be taught as a combination of lectures, laboratory, and practical exercises.
- 680 Seminar. 1 hr.**
Faculty, student and guest speaker presentations of topics pertinent to forensic science.
- 681 Thesis. 1-6 hrs.**
Research conducted in the laboratories at Marshall University which is focused on a problem of forensic importance. The original research problem will be written up as a formal document and submitted as part of the requirements to fulfill a Master of Science degree in the research track.
- 685 Introduction to Research. 1-6 hrs.**
Directed research which can be used to satisfy requirements for a Master of Science Degree in Forensic Science.

FRENCH (FRN)

The following courses may serve as a minor in some programs.

- 535 19th Century Literature. 3 hrs.**
The French romantic movement as exemplified in the poetry, drama, and the novel of the period. (PR: 6 hours of literature numbered 317 or above or equivalent)
- 536 19th Century Literature. 3 hrs.**
Realistic and naturalistic fiction, realism in the theatre, and selected poems of Baudelaire, the Parnassians, and the Symbolists. (PR: 6 hours of literature numbered 317 or above or equivalent)
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs. On demand.**
A course for advanced students sufficiently prepared to do constructive work in phases of the language or literature of interest to them. (PR: 6 hours of literature numbered 317 or above or equivalent and consent of instructor.)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**

GEOGRAPHY (GEO)

- 501 Historical Geography. 3 hrs.**
An examination of the spatial aspects of prominent historical patterns and processes, including demographic patterns, economic development, cultural diffusion, state formation, and urbanization.
- 502 Geography of Appalachia. 3 hrs.**
A study of the geography of Appalachia, including landforms, climate, settlement patterns, population, economics, resources, politics, and environmental changes.
- 503 Geography of Asia. 3 hrs.**
An examination of the geography of Asia focusing on contemporary issues, including climate, culture, economics, environmental change, everyday life, international relations, landforms, language, politics, population, religion, and urbanization.
- 504 Geography of Europe. 3 hrs.**
Relationship between human activities and natural environment studied by countries, with attention given to interrelation of countries.
- 505 Political Geography. 3 hrs.**
A systematic and regional survey of world political problems and international relations stressing current geopolitical conflicts.
- 506 Population Geography. 3 hrs.**
This course introduces students to the key spatial features, characteristics, and patterns of population geography, with an emphasis on international population issues and trends.
- 507 Geography of SubSaharan Africa**
An exploration of the geography of Sub-Sahara Africa, its land and people, with a focus on contemporary issues that challenge Africans in the twenty-first century.
- 508 Geography of South and Middle America. 3 hrs.**
A study of settlement, transportation, manufacturing, agriculture, geopolitics, and natural resources of South and Middle American countries.
- 509 Geography of North Africa and the Middle East. 3 hrs.**
A geographical study of agriculture, transportation, manufacturing, settlement, geopolitics, and natural resources of the North Africa and Southwest Asia realm.
- 510 Urban Geography. 3 hrs.**
Study of the evolution, morphology and land use, functions, and problems of urban areas, with emphasis on governance, planning, and the social and environmental impacts of urbanization.
- 511 Health and Medical Geography. 3 hrs.**
An examination of contemporary issues and problems in health and medical geography, including the spatial aspects of global health, health care policy, and disease origins, diffusion, and ecology.
- 512 Geography of Russia. 3 hrs.**
Geographical appraisal of cultural, political, and economic aspects of Russia.
- 514 Principles and Methods of Planning. 3 hrs.**
An examination of contemporary planning focusing on principles, methods, techniques, and tools; and the political, legal, and ethical contexts of planning.
- 515 Urban Land Use Planning. 3 hrs.**
Application of principles, methods, and tools of planning; and overview of government policy, code of ethics, and the constitutional basis of contemporary urban land use planning. (PR: GEO 514 or permission of instructor)
- 516 Environmental Issues in Planning. 3 hrs.**
An examination of the role the natural environment plays in urban and rural land use planning with an emphasis on consequences of land use change and applications of planning techniques.
- 517 Coal Industries Studies: Past & Present. 3 hrs.**
An interdisciplinary study for all facets of the coal industry within a historic perspective. Emphasis is placed upon coal industry of West Virginia and the tri-state region.
- 518 Geography for Teachers. 3 hrs.**
A study of the elements of geography education focused on meeting the content standards and objectives for the elementary and secondary school levels.
- 519 Geography of Gender. 3 hrs.**
An examination of contemporary gender issues and problems from a geographic perspective, including the spatial aspects of equality, health, poverty, human rights, and economic and political participation.
- 520 Geographic Field Research. 3 hrs.**
Course focuses on the development of individual research projects based on data collected in the field.
- 522 Environmental Geography. 3 hrs.**
Geographical survey of environmental changes caused by human activities. Focus on resource availability and use; pollution of air, water, and biosphere; energy problems, and human interaction with natural environment.
- 525 Climatology. 4 hrs.**
A study of elements of weather and climate, methods of climatic classification, and distribution and characteristics of world climatic regions.
- 526 Principles of GIS. 4 hrs.**
Introduction to Geographic Information Systems (GIS) principles, techniques, and applications for the social and natural sciences with emphasis on foundational geographic principles in a lecture/lab format.

- 529 Principles of GIS 2 - Vector Analysis. 4 hrs.**
Continuation of GEO 526, Principles of GIS, including additional principles like data management, cartographic design, and geocoding; and vector analyses like spatial patterns analysis, spatial autocorrelation, and network analysis.(PR: GEO 526 or GEO 530 or permission)
- 530 GIS - Raster Analysis. 4 hrs.**
GIS raster analysis, including local, neighborhood, and zonal operations; terrain analysis; building raster databases; distance modeling, and surface interpolation. (PR: GEO 526 or GEO 529 or permission)
- 531 Principles of Remote Sensing and Photogrammetry. 3 hrs.**
Scientific study of the earth using images and data captured using satellite- or aircraft-borne sensors, with emphasis on issues of acquisition, photogrammetric interpretation, spatial analysis, and application. (PR: GEO 526 or GEO 529 or GEO 530 or permission)
- 532 Enterprise GIS. 3 hrs.**
Principles and techniques for planning, implementing, and managing Geographic Information Systems technologies in a firm or agency. (PR: GEO 526 or GEO 529 or GEO 530 or GEO 531 or IS 645 or the equivalent undergraduate courses)
- 533 GPS and Mobile Geospatial Technologies. 3 hrs.**
An analysis of the design and deployment of Global Navigation Satellite Systems such as GPS (Global Positioning System) and their application to mobile map services. (PR: GEO 526 or GEO 529 or GEO 530 or GEO 531 or IS 645 or the equivalent undergraduate courses)
- 540 Spatial Statistics and GIS. 4 hrs.**
Statistical methods applied to problem solving in geography and using GIS for display and analysis. Primary focus on descriptive and inferential spatial statistics, mapping, and spatial analysis of data.
- 580-584 Special Topics. 1-4 hrs.**
Selected geography subjects to cover unusual geography topics not in the regular course offerings of the department
- 585-588 Independent Study. 1-4 hrs.**
- 607 Economic Geography. 3 hrs.**
Topics in economic geography, including industrial location, transportation systems, economic development, international trade relationships, and globalism.
- 610-614 World Regions. 3 hrs.**
In-depth investigation of the cultural, physical, economic, and political aspects of a world region as defined by instructor expertise and interest.
- 615 Geographic Thought and Methods. 3 hrs.**
Survey of the history, literature, prominent individuals, major concepts and paradigms in geography. The course emphasizes the integration of methods of geographic inquiry with each student's research focus and writing.
- 616 Geographical Research. 1-6 hrs.**
Geographical research methods stressed with special attention given to the development of a viable research proposal.
- 617-619 Seminars in Geography. 1-3 hrs.**
Selected geography subjects/topics not included in the regular course offerings of the department are considered, using a seminar approach to learning.
- 620 Problems in Environmental Geography. 3 hrs.**
Presents elements of conservation education in the specific areas of soil, water, and human conservation.
- 623 Regions of North America**
This seminar course examines regional geographies of North America with an emphasis on the research and methods for delineation of regions.
- 631 Applied Geographic Information Systems Projects. 3 hrs.**
Use of advanced GIS techniques to solve community-service research problems.
- 679 Applied Project. 1-3 hrs.**
- 681 Thesis. 1-6 hrs.**
- 690 Internship in Geography. 3 hrs. I, II. CR/NC.**
Professional work experience in applied geography with an approved agency.

GEOLOGY (GLY)

- 518 Invertebrate Paleontology. 4 hrs. II. Alternate years (odd numbers)**
Taxonomy, morphology, and paleoecology of body and trace fossils representing the major invertebrate phyla; analysis and interpretation of faunal assemblages; theories on evolution and extinction of species.
- 521 Petrology. 4 hrs. I. Alternate years (even numbers)**
Identification and classification of igneous, sedimentary and metamorphic rocks; their origin and occurrence; their geologic and economic importance. 3 lec-2 lab. (PR: GLY 200, 314 or consent)
- 522 Economic Geology. 4 hrs.**
Origin, distribution and economics of the metallic and nonmetallic ore deposits. 3 lec-2 lab. Course taught on a demand basis only. (REC: GLY 201, 314, or equivalent)
- 523 Sedimentary Petrography. 4 hrs. I., Alternate years (odd numbers)**
Megascopic and microscopic identification and a depositional and post-depositional interpretation of the sedimentary rocks. 3 lec-2 lab (PR: GLY 201 and 314 or consent)
- 525 Geochemistry. 4 hrs. II., Alternate years (odd numbers)**
Introduction to the principles of geochemistry. The application of chemistry to the study of the Earth and to geologic problems. Laboratory work includes analysis of rocks, soils, and waters. 3 lec - 2 lab (PR: GLY 200, CHM 211 & 217 or permission)
- 526 Geophysics. 4 hrs.**
Development of seismic, gravity, magnetism, electrical and thermal methods to study the structure and dynamics of the earth. 3 lec-2 lab. Course taught on a demand basis only. (PR: GLY 200, PHY 201, MTH 229)
- 527 Fossil Fuels. 4 hrs. II, Alternate years (even numbers)**
The origin and occurrence of petroleum, coal, and natural gas; the relationships of accumulations to depositional environments and structural history; methods used in exploration, evaluation and recovery. 3 lec-2 lab. (PR: GLY 313, 325 or consent)
- 530 Computer Methods in Geology. 4 hrs. II. Alternate years (odd numbers).**
The computer will be used for compilation, reduction, data analysis and modeling from a wide range of geological problems. Existing and student-developed programs will be used. 3 lec-2 lab. (PR: 12 hrs. GLY and MTH 130.)
- 551 Principles of Geomorphology. 4 hrs. I., Alternate years (odd numbers).**
Identification and analysis of the earth's surficial features in terms of stratigraphy, structure, processes, tectonics, and time. 3 lec-2 lab.
- 555 Hydrogeology. 3 hrs. I, Alternate years (odd numbers)**
The properties of water, the hydrologic cycle with emphasis on surface and groundwater processes. The uses, needs and problems associated with water resources. 3 lec. (PR: GLY 200; CR: GLY 555L for geology majors)
- 555L Hydrogeology Laboratory. 1 hr. I, Alternate years (odd numbers)**
A two hour laboratory of practical hydrogeologic problem solving. (PR: GLY 200; CR: GLY 555, required of majors, non-majors elective)

- 556 **Environmental Geology. 4 hrs. II. Alternate years (even numbers)**
Consideration of risks posed by natural geo-hazards and from physical/chemical contamination of geologic media.
- 557 **Engineering Geology. 4 hrs. I, alternate years (even numbers).**
Consideration of geotechnical problems faced by geologists and engineers. Major topics include mechanics and classification of soil and rock, and geotechnical aspects of groundwater.
- 585-588 **Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 640 **Physical Aspects of Geology. 1-4 hrs. I, II.**
- 641 **Biological Aspects of Geology. 1-4 hrs. I, II.**
- 642 **Chemical Aspects of Geology. 1-4 hrs.**
- 681 **Thesis. 1-6 hrs. I, II, S.**

HEALTH CARE ADMINISTRATION (HCA)

- 600 **The Health Care System. 3 hrs.**
This course is designed to provide managers with in-depth knowledge of the current health care system, covering the structure and delivery of care, the providers and payers, and the various players in the system. The internal and external forces impacting the system are discussed. Problems in the health care system are explored and evaluated with respect to the issues of access, cost, and effectiveness. (PR: GSM admission or permission of GSM academic advisor)
- 610 **Health Care Financial Management. 3 hrs. I.**
Course provides an overview of health care financial management, with special emphasis upon the aspects of financial systems in hospitals that differ from typical financial systems. It includes analysis of capital formation, cash flow management and determination of working capital requirements. (PR: HCA 600)
- 615 **Health Care Economics. 3 hrs. II.**
The health care industry is unique. Unlike in other markets, the consumer finds it difficult to evaluate quantity, quality, and pricing. Traditional market forces are modified by government, third-party payers, and professional interests. This course applies economic principles to this unique environment. (PR: HCA 600)
- 620 **The Ethical Dimension of Health Care Management. 3 hrs. II.**
Emphasis in this course is on the way managers in health care settings incorporate ethical dimensions into their decision-making. It looks at the wide variety of ethical issues faced by these managers, focusing on those related specifically in the decisions they make about their organization, personnel, and services. Specifically covered are issues regarding the allocation of scarce resources, the type and availability of care for special populations, and conflicts of interest. (PR: HCA 600)
- 622 **Utilization of Health Services Research. 3 hrs.**
Course provides an introduction to methods of undertaking research and program evaluation within health services organizations and delivery systems. Recommended for students who will be involved in policy research, social science research, or program impact evaluation within health delivery systems. (PR: HCA 600, MKT 511)
- 630 **Legal Issues in Health Care Management. 3 hrs. I.**
This course provides students with a legal framework to analyze health care organizations and their operations. The federal and state legal systems are reviewed and regulatory programs and their requirements discussed. Topics include: tax exemptions, antitrust laws, corporate liability, provider-patient legal issues (contracts and negligence), patient rights, facilities licensure and accreditation, and reimbursement issues. Court cases, as well as governmental agency rulings and findings, are analyzed for their applications to health care management. (PR: HCA 600)
- 640 **The Health Care Professional. 3 hrs.**
This course presents an overview of various professional and managerial topics relevant to the health care professional. Each offering of the course focuses on a particular health profession. Emphasis is on defining the profession, understanding its historical development and evolution, examining professional roles, tasks, responsibilities, and accountabilities in current practice, studying the interaction with other professionals, delineating the parameters of the professional in ethical decision-making, and recognizing and responding to challenges faced in contemporary practice and in planning for the future. (PR: HCA 600)
- 650 **Comparative Health Systems. 3 hrs.**
A survey of health care provision systems throughout the world. (PR: HCA 600)
- 651 **Health Care Operations Management. 3 hrs.**
An investigation of the use of operations management techniques and methodologies that are useful in the health care industry. (PR: HCA 600)
- 652 **Health Care Finance. 3 hrs.**
An examination of the various financial systems present within the American health care systems. Special emphasis placed upon the management of assets, cost control, and budgeting. (PR: HCA 600)
- 653 **Integrated Health Care Delivery Systems. 3 hrs.**
An investigation of managed care systems within the United States. Emphasis placed on identifying practices that promote quality care at an affordable cost. (PR: HCA 600)
- 654 **Human Resource Management in Health Care. 3 hrs.**
An investigation of the human resource function found within contemporary health care provision systems. Discussion of future challenges facing the function in this turbulent environment. (PR: HCA 600)
- 655 **Health Care Marketing. 3 hrs. II.**
An investigation of the role of marketing in today's health care organizations. Specific topics include market segmentation, consumer behavior, promotion, and environmental analysis. (PR: HCA 600)
- 656 **Management of Medical Technology & Information Systems. 3 hrs. I.**
An investigation of the place technology, primarily hard technology, plays in the formulation of health care policy and strategies. Special emphasis placed on the management of medical information systems. (PR: HCA 600)
- 657 **Health Care Law & Public Policy. 3 hrs.**
An examination of the legal, regulatory, and policy-making interactions between government, society, and health care organizations and providers. (PR: HCA 600)
- 658 **Long Term Care. 3 hrs.**
An examination of the range of health and social services that are needed to compensate for the functional disabilities of people. Review of available services and governmental policies and regulations. (PR: HCA 600)
- 659 **Health Care for Rural and Underserved Populations. 3 hrs.**
An investigation of how health care is provided to rural Americans. Special attention given to the health care systems that provide medical care to the peoples of Appalachia. (PR: HCA 600)
- 671 **Health Care Practicum. 1-6 hrs.**
Project-oriented experience in health care operations and organizations. Intended for those students with insufficient experience in the field. (PR: Permission of program director and HCA 600)

- 695 Field Research in Health Care Management. 3 hrs. S.**
In this course, each student selects an in-depth organizational research project on a particular management problem in a health care organization. In this “hands-on” project, the student serves as a consultant to the health care organization, conducting research, analyzing data, and making recommendations for the solution(s) to the management problem. Projects focus on such topics as strategic planning, productivity, quality assurance, risk management, and joint ventures. Field research projects are selected in conjunction with the program coordinator during the semester prior to course enrollment. (PR: Permission of academic advisor)
- 697 Special Topics in Health Care Management. 3 hrs.**
The course is designed to allow group study of selected topics of current interest in health care management. (PR: Consent of instructor)
- 698 Independent Study in Health Care Management. 1-3 hrs.**
The course is designed to facilitate individual study of selected topics of interest in health care management. (PR: HCA 600 and permission of program director)

HEALTH PROFESSIONS (HP)

- 605 The Role of EHR and PHR. 3 hrs.**
Students will be introduced to the main concepts and software applications of Electronic Health Records and Personal Health Records.
- 615 Health Quality and Safety. 3 hrs.**
To provide students with principles of major health care quality and safety measurement, as well as practical case studies involved in the health care system.
- 620 Legal and Regulatory Environment for Health Care and Informatics. 3 hrs.**
The course will introduce students to IT governance and health information ethical and legal requirements to improve health care processes, customer response and business competitiveness.
- 630 Research Methods and Data. 3 hrs.**
The course will introduce a compendium of methods for evaluation of IT-based systems and solutions within health care. Students will acquire knowledge in research processes.
- 650 Health Informatics Practicum. 3 hrs.**
Provide an experience to prepare students to work effectively in professional positions, and bridge the learning gained in coursework and the world of practice.
- 685-688 Independent Study. 1-4 hrs.**
Independent study relates to projects that do not fall specifically within an individual department's curriculum.

HEALTH SCIENCE (HS)

- 505 Sport Psychology. 3 hrs.**
An examination of theory, research, and application of psychological principles related to sport and exercise.
- 512 Foundational Clinical Skills in Athletic Training. 3 hrs.**
Taping, bracing, spine boarding, airway and oxygen administration, and other advanced emergency and practical care techniques used in athletic training. (PR: program admission; CR: HS 515)
- 515 Athletic Training Clinical Experience I. 1-3 hrs.**
To develop evaluation and treatment skills of the student under the direction of a BOC-certified Athletic Trainer. Requires completion of clinical hours and assigned competencies. (CR: HS 512)
- 522 Orthopedic Skills and Procedures. 3 hrs.**
Orthopedic skills and procedures used by athletic trainers to assess patients to determine baseline physical and fitness data and the best course of action for injury prevention, treatment, and rehabilitation.
- 523 Orthopedic Assessment of the Upper Extremity for the Athletic Trainer. 4 hrs.**
Orthopedic evaluation of the neck and upper extremity for the Athletic Trainer.
- 524 Orthopedic Assessment of the Lower Extremity for the Athletic Trainer. 4 hrs.**
Orthopedic evaluation techniques of the lower extremity for the Athletic Trainer.
- 525 Athletic Training Clinical Experience II. 3 hrs.**
To continue developing athletic training evaluation and treatment skills under the direction of a BOC-certified Athletic trainer. Requires 225 clinical hours. (PR: grade of B or higher in HS 515 and 75 clinical hours)
- 526 Curriculum in Health Education. 3 hrs. I.**
A study of principles, objectives, and procedures in curriculum construction for elementary and secondary programs. Historical and philosophical perspectives. Study of existing curricular patterns. (PR: HE 220, HE 221, HE 321 and HE 325)
- 530 Health Issues in Physical Education and Athletics. 3 hrs.**
A survey of current health issues such as sanitation, contagious diseases, substance abuse, ergogenic aids, and diet/nutrition in PE and athletics. (PR: HE 201, 215, 221, 435.)
- 548 Therapeutic Interventions I. 4 hrs.**
Students In this course will be instructed in therapeutic modalities used in the initial stages of injury, and therapeutic exercise rehabilitation of the lower extremity and lumbar spine. Special emphasis is given to the decision making processes involved with modality and exercise selection and parameter adjustment based upon patient pathologic responses and desired patient outcomes. (PR: HS 512, 515, 524 and 525)
- 549 Therapeutic Interventions II. 4 hrs.**
Students in this course will be instructed in electrical stimulation modalities and therapeutic exercise rehabilitation of the upper extremity and cervical spine. Post surgical rehabilitation for both upper and lower extremities and the spine will be incorporated. Special emphasis is given to the decision making processes involved with modality and exercise selection and parameter adjustment based upon patient pathologic responses and desired patient outcomes. (PR: HS 512, 515, 524, 525, 523, 548, and 635)
- 560-564 Professional Development (Plus title that identifies content). 1-4; 1-4; 1-4; 1-4; 1-4 hrs.**
Courses and activities designed to meet the specific in-service needs of public school personnel Credit in these courses may be used for certificate renewal and salary upgrading if approved but not for degrees.
- 565 Pathomechanics. 3 hrs.**
An investigation into normal and abnormal human movement patterns in sport, the workplace, and in activities of daily living.
- 566 Biomechanical Analysis of Movement. 3 hrs.**
The purpose of the course is to provide an advanced study of biomechanical concepts and their application to human movement and sport skills.
- 580-583 Special Topics in Health Education. 1-4; 1-4; 1-4; 1-4 hrs.**
An in-depth examination of selected Health Education topics through a course, seminar or workshop.
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 591-592 Workshop in Health Science. 1-3 hrs.**
- 609 Organization and Administration in Athletic Training. 3 hrs.**
This course will investigate current trends in administration and organization in the field of athletic training. Focus will be placed on current state/federal practice laws and the financial management of running an athletic training clinic.

- 610 Advanced Biomechanics. 3 hrs.**
An advanced investigation into Newtonian mechanics and their application their uses in human movement analysis.
- 615 Mechanical Analysis of Activity. 3 hrs.**
An investigation into the instrumentation used in biomechanical research and the effective use of it in biomechanical research. (PR: HS 610 Advanced Biomechanics or equivalent, Fundamental Physics and Linear Algebra)
- 620 Substance Abuse and the Athlete. 3 hrs.**
An indepth study of commonly abused substances by athletes as well as current trends in drug testing of athletes. (PR: ESS 621, permission)
- 623 Medical Aspects in Sports. 3 hrs.**
Emphasis on the development of skills in recognition of symptoms of illness, injuries and proper procedures of medical care.
- 625 Evidence-Based Practice in Therapeutic Electrophysical Agents. 3 hrs.**
An in-depth understanding of therapeutic modalities with an emphasis on evidence-based literature.
- 630 Seminar in Athletic Training. 3 hrs.**
A course designed to emphasize the use of scientific literature to enhance the knowledge base of certified athletic trainers.
- 634 Athletic Training Externship. 3 hrs.**
Approved allied health externship supervised by an MD, EMT, PT, PA, or ATC. Requires 225 clinical hours, of which 75+ must be in a non-orthopedic setting. (PR HS 515, 525, 645, and 655)
- 635 Research Methods in Biomechanics. 3 hrs.**
This course is designed to provide an understanding of technology use in biomechanics, effective methods development, and analysis of collected data. (PR: HS 615 or equivalent, Fundamental Physics and Linear Algebra)
- 639 Examination of General Medical Conditions. 3 hrs.**
A study of common general medical conditions and illnesses of physically active individuals and the proper methods of evaluating these complaints.
- 640 Health Evaluation for the Athletic Trainer. 3 hrs.**
An indepth study of common problems and complaints of athletes and the proper method of evaluating those complaints.
- 645 Athletic Training Clinical Experience III. 3 hrs.**
To continue developing athletic training evaluation and treatment skills under the direction of a BOC-certified athletic trainer and/or other qualified allied health professionals. (PR: grade of B or higher in HS 525 and 225 clinical hours)
- 646 Athletic Training I. 3 hrs.**
Training in the diagnosis of injuries in athletics. The student will be expected to participate in diagnostic techniques under the supervision of a trainer.
- 647 Athletic Training II. 3 hrs.**
Professional aspects of trainer-doctor and doctor-athlete relations will be taught and exploration of how to professionally handle injuries and cooperation with physicians.
- 650 Human Gait. 3 hrs.**
An investigation into normal and abnormal human gait patterns in activities of daily living. (PR: ESS 564)
- 655 Athletic Training Clinical Experience IV. 3 hrs.**
To continue developing athletic training evaluation and treatment skills under the direction of a BOC-certified athletic trainer and/or other qualified allied health professionals. (PR: grade of B or higher in HS 645 and 225 clinical hours)
- 660 Internship. 3-6 hrs.**
Practical experience in a clinical setting. (PR: ESS 682, 683, 684)
- 679 Trends in Athletic Training. 3 hrs.**
To provide an in-depth analysis of current trends with regard to evidence-based practice, current practice position statements, and current research methods being utilized in athletic training.
- 681 Thesis. 1-6 hrs.**

HISTORY (HST)

- 501 History of Appalachia. 3 hrs.**
This course will explore the historical and historiographical development of Appalachia and the economic, political, and cultural forces that have shaped the lives and communities of mountaineers.
- 504 American Diplomacy, 1789-1900. 3 hrs.**
American foreign policy from colonial times to 1900 emphasizing the gradual development of the United States and its achievement of membership in the family of nations.
- 505 American Diplomacy. 1900-Present. 3 hrs.**
American foreign relations in the in the 20th-21st centuries. The gradual retreat from isolation in the period between World Wars I and II and modern American involvement in international commitments will be stressed.
- 506 Tudor and Stuart England, 1450-1688. 3 hrs.**
A history of England under the Tudors and Stuarts, focusing primarily on demographic, social, cultural, and political developments.
- 508 History of LGBT Peoples. 3 hrs.**
A survey of gay, lesbian, bisexual and transgender history in the United States from the colonial period to the present.
- 509 American Revolution. 3 hrs.**
A varied view of the American Revolution and its impact on the American people.
- 511 U.S. Social and Cultural History. 3 hrs.**
A study of the changes and continuities in American Social and Cultural History.
- 513 History of the Old South, 1492-1860. 3 hrs.**
The History of the Old South is a study of the political, economic, social, and cultural conditions in the South that led to the development of the South as a distinct section in the United States.
- 514 Civil War and Reconstruction. 3 hrs.**
The course will include a discussion of the economic, political, social, and cultural differences leading to the Civil War, the war itself, and an analysis of the political and economic importance of reconstruction.
- 515 History of the New South, 1877 to the Present. 3 hrs.**
The History of the New South is a study of the political, economic, social, and cultural changes in the South after Reconstruction that explain conditions in the contemporary South.
- 521 The Era of the Renaissance and Reformation. 3 hrs.**
The impact of the Renaissance upon esthetic, economic, and political developments especially in the 15th and 16th centuries. The decline of Catholicism and the growth of the Protestant movement, and the influence of the two movements upon each other is stressed.
- 523 U.S. Latin American Relations. 3 hrs.**
An appraisal of political, economic, and cultural relations of the U.S. and Latin America in a historical context with emphasis on the period since 1945.

- 524 U.S. Science and Technology. 3 hrs.**
A study of the development and impact of science and technology in the U.S.
- 525 European History 1814-1914. 3 hrs.**
A century of European political, economic, and social history. Its relationship to and influence upon the history of other world areas is noted. The impact of imperialistic rivalry is emphasized.
- 526 European History 1914 to Present. 3 hrs.**
The impact of World War I upon Europe, the era between two world wars, the search for world peace, World War II and its aftermath are major topics of consideration.
- 527 The World at War. 3 hrs.**
This course explores the Second World War. It probes the nexus of diplomacy, politics, ideology, military strategy and operation, economics, and technological innovation that generated a truly global "total war."
- 528 Intellectual and Cultural History of Modern Europe. 3 hrs.**
A survey of the main currents in European thought and culture in the 19th and 20th centuries.
- 529 Russia to 1917. 3 hrs.**
A survey of Russian history to 1917 which examines Russia before the Russians, Kievan Russia, Appanage Russia, Muscovite Russia and Imperial Russia. Emphasis is on Imperial Russia.
- 530 Soviet Russia and Beyond. 3 hrs.**
The rise and fall of the Soviet Union, with emphasis on political and economic changes and Soviet foreign policy, and including an examination of the aftermath of the Soviet Union's collapse.
- 533 In Our Time-America Since 1945. 3 hrs.**
A study of America since World War II focusing mainly on domestic politics, foreign affairs, the civil rights movement, the rise of minorities, and the fragmentation of American society.
- 534 The American Experience in Vietnam. 3 hrs.**
A study of the origin and escalation of American involvement in Vietnam, the domestic impact of the war within the United States and the collapse of the South Vietnamese government.
- 535 Modern Japan. 3 hrs.**
Begins with an overview of nineteenth century Japan and stresses the twentieth century rise of Japan to the position of world power.
- 536 Modern China. 3 hrs.**
This course will provide an overview of Chinese history in the modern era (1600 to the present), including the major political, cultural, social, and intellectual events and trends of this period.
- 537 Introduction to Public History. 3 hrs.**
Introduction to the basic theories, ideas, and approaches to the application of historical theory or methods to projects presented to non-student publics; local and economic development applications and projects emphasized.
- 538 Material Culture and History. 3 hrs.**
The course investigates the rich potential of "things" – objects, landscapes, buildings, household utensils, furniture, foods, works of art, clothing, etc. as sources of insight about American history and culture.
- 539 Modern China Through Film. 3 hrs.**
Through a combination of films, lectures, readings, discussions, and writings, the course will show how China took its unique path to modernization.
- 540 West Virginia History. 3 hrs.**
An interdisciplinary study of the state, its people and its institutions within the national context.
- 541 Women in Social Movements. 3 hrs.**
The course explores factors affecting the emergence, growth, structure, impact of social movements as they attempt to transform social relationships and reshape social values.
- 543 20th Century U.S. Women's History. 3 hrs.**
This course explores the lives and experiences of U.S. women in the 20th century, but always with an eye on power.
- 545 Arab-Israeli Conflict. 3 hrs.**
This course will examine the historical developments of the modern Arab-Israeli conflict, with emphasis placed on political, socioeconomic, and cultural change and the prospects for peace.
- 546 The Rise of the Atlantic World, 1400-1800. 3 hrs.**
Expansion of Western Europe from 1400s to Africa, Latin America and other parts of the Atlantic world.
- 547 Film and Empire. 3 hrs.**
This course explores the nature and importance of empire through the reading of key texts and the study of selected films.
- 548 British History in Film. 3 hrs.**
This course explores selected aspects of British history through the study of films and key texts.
- 553 The Kennedy Assassination. 3 hrs.**
This course explores the events surrounding the assassination of President John F. Kennedy.
- 558 Spies in History. 3 hrs.**
This course explores the role played by spies and espionage in modern history.
- 580-583 Special Topics. 1-4 hrs.**
- 585-588 Independent Study. 1-4 hrs.**
- 600 Methodology: Seminar in Historical Methods. 3 hrs.**
A research and writing seminar in which students are taught and must exhibit the skills and methodologies of practicing research historians.
- 601 Tudor England 1485-1603. 3 hrs.**
In this course, students will examine in-depth several selected themes in Tudor history through reading, class discussions, examinations, and a research paper.
- 602 Stuart England, 1603-1714. 3 hrs.**
An analysis of the Social, Intellectual, Economic, Cultural, and Political History of England in the Stuart Century.
- 605 American Colonial History. 3 hrs.**
A study of the English colonies in America with emphasis on slavery, minorities, and social and economic change.
- 607 Problems in European History, 1890-1923. 3 hrs.**
An analysis of the politics, diplomacy and military strategy of the period of the First World War. Special emphasis is given to the origin of the war, the war itself, the peace settlement and the Russian Revolution and its aftermath.
- 610 Readings in History. 2-3 hrs.**
Readings in topics fitted to the need of the individual student. They may deal with any graduate area. This course is ordinarily restricted to off-campus students and is used sparingly.
- 620 Seminar in American Historical Biography. 3 hrs.**
A reading and research course in which a student investigates biographical topics regarding the men and women whose lives illuminate the American experience. The course will cover a wide range of activities, including the social, political, cultural, and economic development of the United States and the region.

- 625 Rebirth of Europe, 1939-Present. 3 hrs.**
Background and course of World War II, European politics since 1945, developments in international affairs with emphasis on Cold War, economic and social trends, thought and culture.
- 632 Seminar in Reconstruction. 3 hrs.**
A reading and research course in which each student investigates a specific issue related to the reunification of the nation after the Civil War.
- 633 Problems in American History, 1877-1917. 3 hrs.**
A research course in which the student probes a selected problem within the chronological span, 1877-1917.
- 634 Problems in American History Since 1917. 3 hrs.**
A research course in which a student probes a selected problem within the period since 1917.
- 635 Oral/Local History Seminar. 3 hrs.**
The course examines the field of oral history. Students will apply oral methodology and other primary sources documentation in researching a local topic.
- 636 Seminar in Women's History. 3 hrs.**
A reading and research course in which the student investigates selected topics related to the history of women in America or Europe.
- 640 Seminar in Archives and Special Collections. 3 hrs.**
The Seminar will introduce the student to current practices and procedures used in the creation of archives and manuscript collections through extensive hands-on work, including the physical processing of a manuscript collection. The emphasis will be improvement of the student's historical research skills.
- 650-651 Special Topics. 1-4; 1-4 hrs.**
(PR: Permission of Instructor)
- 677 Thesis Writing Seminar I. 3 hrs.**
A writing seminar in which students present their written work on their M.A. theses to the class members, who will read, analyze and critique each submission.
- 678 Thesis Writing Seminar II. 3 hrs.**
A continuation of HST 677. Students present their written work on their M.A. theses to the class members, who will read, analyze, and critique each submission.
- 679 Problem Report. 1-3 hrs.**
- 680 Public History Internship. 1-6 hrs.**
Internship in an approved setting in Public History, Archives, Museum, Oral History, or Historical Preservation. Interns will be supervised by on-site staff and History Faculty.
- 681 Thesis. 1-6 hrs.**

HOME ECONOMICS (See Family and Consumer Sciences)

HUMANITIES (HUMN)

- 530 Technology and the Humanities. 3 hrs.**
This course surveys the effects of electronic media on the humanities and how they are taught in the postmodern society. Content will subsume both philosophical/theoretical issues and technical matters.
- 560-63 Staff Development. 1-4 hrs. S/U.**
Courses and activities designed to meet specific needs of public school personnel. Credit may be used for certificate renewal and salary upgrading if approved but not in degree programs.
- 600 Introduction to Study in Humanities. 3 hrs.**
Interdisciplinary core course addresses questions/concepts central to the humanities. Texts from philosophy, history, literature, the arts and the sciences provide insights into selected historical periods. Open to non-degree students.
- 601 Literary Theory and Criticism. 3 hrs.**
Core course introduces modern critical approaches, concepts and methods of research and scholarship in the broad field of literature. Open to non-degree students.
- 602 Historical Studies. 3 hrs.**
Core course acquaints students with problems of historical knowledge, changes in the interpretation of history, nature of historical forces, and methods of historical research. Open to non-degree students.
- 603 History and Theory of the Arts. 3 hrs.**
Core course provides chronological survey of the arts, emphasizing the social, political and/or religious motives that underlie artistic production. Emphasis on theories of modern art. Open to non-degree students.
- 604 Expository Writing for Research. 3 hrs.**
This core writing course develops proficiency in writing for research. Note: a degree student may demonstrate competency through an alternative assessment to have the requirement waived. Open to non-degree students.
- 605 Western Traditions and Contemporary Cultures. 3 hrs.**
Using primary materials from different cultural periods, as well as contemporary critical analyses, this core course explores epistemological questions that underlie conflicts between cultures. Open to non-degree students.
- 650 Selected Topics. 1-9 hrs.**
- 680 Independent Research Symposium. (formerly 701), 3 hrs.**
Prerequisite: 24 credit hours, required courses, and comprehensive examination. A pro-seminar required of all Humanities degree students who are beginning the thesis or final project. S-U grade.
- 681 Independent Research Symposium. (formerly 702), 3 hrs.**
Prerequisite: Humanities 680. A continuation of the pro-seminar for students electing the thesis option. The student will produce a thesis suitable for submission to a committee. S-U grade.

HUMANITIES: ARTS AND SOCIETY (A & S)

- 500 Study of Periods and Movements in Western Art and Music. 3 hrs.**
The course relates major periods, schools, and movements to the culture of the place and time. May be repeated for a maximum of 6 hours.
- 501 Studies in Non-Western Art and Music. 3 hrs.**
Studies emphasizing non-Western art or music (e.g., Chinese art; art of the Middle East). May be repeated for a maximum of 6 hours.
- 510 Comparative Arts. 3 hrs.**
Study of artistic movements and specific stylistic features in art, music and literature. May be repeated for a maximum of 6 hours.

- 550 Sunrise Internship. 3 hrs.**
A specially designed project under the guidance of specialists at Sunrise Museums (requires special permission from the program director and Sunrise Museums).
- 560 Film Art and the Popular Media (formerly Media 560). 3 hrs.**
A consideration of films as the successor to earlier popular literatures. Relevant aspects of media history and techniques will be examined.
- 600 Selected Topics in Arts and Society. 1-6 hrs.**
Selected topics in arts and society. The specific topic will be announced in the schedule of classes. Students may take up to nine hours in selected topics.
- 620 Selected Topics in Decorative Arts. 1-6 hrs.**
Selected topics in history and practices of decorative arts (e.g., interior design, furniture styles, architecture).

HUMANITIES: CULTURAL STUDIES (CULS)

- 500 Studies in Thought and Culture. 3 hrs.**
Basic concepts and cultural expressions in words, principally of area or period studies, such as classical Western, medieval Western, modern European and American.
- 530 Fundamental Approaches to Communication Criticism. 3 hrs.**
Course examines the theoretical approaches to criticism across the broad range of media, with focus on the philosophy behind each and on their various applications.
- 540 World Religions. 3 hrs.**
Study of several religions as they developed within their individual times and cultures.
- 550 Ethics. 3 hrs.**
A critical examination of ethical theories as seen in a detailed examination of several works. Theories may include naturalism, intuitionism, non-cognitivism, utilitarianism, and natural law.
- 560 History of Ideas. 3 hrs.**
A study of the efforts of philosophers to construct general conceptions of the world. Recent approaches in the investigation of ontology and cosmology will be examined.
- 600 Selected Topics in Cultural Studies. 1-6 hrs.**
Selected topics in an area of cultural studies. The specific topic will be announced in the schedule of classes. Students may take up to nine hours in selected topics.
- 610 Seminar in Appalachian Culture. 3 hrs.**
Exploration of selected aspects of culture (e.g., art, music, folklore, history, literature), emphasizing regional culture from an interdisciplinary perspective.
- 611 Appalachian Studies: Themes and Voices. 3 hrs.**
This interdisciplinary course orients students to the significant issues and research in Appalachian studies. Important political, social, and cultural issues will be considered. Research areas are introduced. (This core course in the Graduate Certificate in Appalachian Studies may be taken by degree students in Humanities.)
- 612 Time and Place in Appalachia. 3 hrs.**
This interdisciplinary course orients students to the importance of geography, topography, and geology to the history and development of the Appalachian region. (This core course in the Graduate Certificate in Appalachian Studies may be taken by degree students in Humanities.)
- 620 Women, Men, and Cultural Change. 3 hrs.**
A study of gender differences from sociological and philosophical perspectives. Topical areas covered include communications, law, literature, popular culture, ethics, and business.
- 650 Classical Foundations in Communication Studies. 3 hrs.**
Course surveys major contributions to rhetorical theory during the classical period and the development of rhetorical criticism in the centuries since. Philosophers/writers will include Plato, Aristotle, Cicero and Quintilian.
- 652 Communication and Social Movements. 3 hrs.**
Course examines the role of communication in successful social movements. Contemporary reform movements are analyzed to determine communication strategies, organizational issues, leadership concerns and rhetorical focus.
- 653 Media and the Political Process. 3 hrs.**
An introduction to the study of political rhetoric, the course relates rhetorical theory to political communication and considers the impact of political communication in government, the electoral process, and society.

HUMANITIES: HISTORICAL STUDIES (HIST)

- 580 Ethnic History of West Virginia. 3 hrs.**
This course focuses on the contributions that individuals and groups with diverse ethnic backgrounds have made to the economic, social, and cultural history of the state.
- 585 Coal Mine Life, Work and Culture in West Virginia. 3 hrs.**
This course provides students with a better understanding of the continuing economic, political, environmental and cultural impact which the extraction of coal has had on West Virginia.
- 600 Selected Topics in Historical Studies. 1-6 hrs.**
Selected topics in history. The specific topic will be announced in the schedule of classes. Students may take up to nine hours in selected topics.
- 601 Historic Preservation. 3 hrs.**
Course broadens historical awareness and provides practical applications of historical knowledge. It covers the built environment and focuses on the history, processes and legal basis of the historic preservation movement.
- 620 Civil War and Reconstruction. 3 hrs.**
This course examines the complex causes and lasting effects of the American Civil War. Issues such as slavery, sectionalism, emancipation and Reconstruction will receive attention.

HUMANITIES: LITERARY STUDIES (LITS)

- 510 Comparative Approaches to Literature. 3 hrs.**
Exploration of literature via literary movements, themes, genres, or relationship to other disciplines. Specific works will be read and discussed as examples of the announced approach.
- 520 Creative Writing and Practical Criticism. 3 hrs.**
Exploration of the possibilities for communication and expression in contemporary writing with emphasis on comprehension of structure, technique and self-criticism of the writing experience.
- 522 Selected Topics in Writing. (formerly Media 522), 3 hrs.**
The study of selected topics in writing (e.g., the expository essay, screen-writing, techniques of editing, etc.)

- 540 Studies in Mythology/Folklore. 1-6 hrs.**
Selected topics in mythology and folklore (e.g., folk drama, folk tale, folk art). May be repeated for a maximum of 6 hours.
- 580 Literature for Teachers. 3 hrs.**
Study and appreciation of selected works with special reference to the high school curriculum.
- 600 Selected Topics in Literary Studies. 1-9 hrs.**
- 615 Modern Southern Literature. 3 hrs.**
Course surveys important figures in Southern literature since the Southern Literary Renaissance of the 1920s and the Agrarian and Fugitive Movements.
- 625 Updating Shakespeare: Text, Stage, and Film. 3 hrs.**
Focusing on selected Shakespearean plays, this course considers recent critical interpretations and explores how these have influenced stage and film productions. Contemporary adaptations of the plays will also be considered.
- 636 Literature and Society in Late 18th C. England. 3 hrs.**
This course examines biographies, social, political and scientific writings, literary texts and the arts from 1750-1800 to understand English culture and the eighteenth-century world.
- 660 Modern Irish Novel. 3 hrs.**
This course examines the subject matter, techniques, and critical background of the modern Anglo-Irish novel. Students will study representative examples by major novelists from the Republic and Northern Ireland.
- 662 Twentieth-Century Irish Drama. 3 hrs.**
From the founding of the Abbey Theatre to the present, this course traces the development of Irish drama as art form and cultural artifact.
- 670 Contemporary World Fiction. 3 hrs.**
Contemporary works of shorter fiction from around the world offer opportunities to apply cultural critiques and comparative literary perspectives, while considering the different national and cultural traditions represented.

HUMANITIES: STUDIO ART (ARTS)

- 500 Selected Topics in Studio Arts. 1-6 hrs.**

HUMAN RESOURCE MANAGEMENT (HRM)

- 600 Development of Labor Relations. 3 hrs. I.**
An historical survey of the organized labor movement in the United States and review of legislation affecting the American worker. Attention is given to the industrial relations system of the United States as it relates to those of Western Europe and other nations. (PR: GSM admission or permission of GSM academic advisor)
- 605 Human Resource Economics. 3 hrs. I.**
Economic issues in the employment and compensation of labor. Topics emphasized include labor force composition and growth, structure and functioning of labor markets, unemployment, wage theories, wage levels and structures, the economic influence of unions, income distribution, and human capital models. (PR: ECN 501 plus GSM admission)
- 610 Collective Bargaining, Negotiation and Dispute Resolution. 3 hrs. I.**
A comprehensive survey of labor and management relationships with special emphasis given to philosophy, structure, and the processes of collective bargaining, negotiations and dispute resolution in both union and nonunion settings. Arbitration, fact finding and mediation are also examined. (PR: HRM 600)
- 615 Arbitration and Grievance Procedures. 3 hrs.**
A study of grievance procedures and arbitration as formalized in labor-management relations, including an analysis of principles and practices of complaint handling, review of concepts and methodology in such grievance handling, review of the role of arbitration as a dispute resolution mechanism, utilization of factfinding and mediation as alternate mechanisms, the preparation and handling of materials in briefs or oral presentations, and the function or role of the arbitrator, impartial chairman, umpire, or similar neutral. (PR: HRM 600)
- 625 Human Resource Information Systems and Knowledge Management. 3 hrs.**
The development, use, and impact of Human Resource Information Systems and the management of organizational knowledge including knowledge management systems, procedures, policies, and other issues.
- 630 Employment Law. 3 hrs.**
A survey and analysis of the labor relations law; examination of the extent to which the law regulates and protects concerted action by employees in the labor market; considerations and analysis of the legal framework within which collective bargaining occurs; and analysis of major aspects of employer-employee law, such as wrongful discharge, discrimination, and safety and health law. (PR: HRM 600)
- 640 Structural Issues in Union Management Relations. 3 hrs.**
A study of the organizing structure found in various types of unions, their operating procedures, governing bodies, and the interrelationships existing at the local, international, and federation levels. Review of the dual role of unions as both societal institutions and employee agents. Discussion of trade union philosophy from early beginnings to the present. Consideration is given to the different philosophical, political, and structural characteristics of American unions and European/Asian unions. (PR: HRM 600 and GSM admission)
- 650 Industrial Psychology. 3 hrs.**
Survey of the applications of psychological principles and of research methodologies to the various human problems in industry, such as personnel selection and appraisal; the organizational and social context of human work; the job and work situation; human errors, accidents, and safety; and the psychological aspects of consumer behavior. (PR: GSM admission)
- 660 Compensation and Benefits. 3 hrs. S.**
The development and administration of wage and salary programs, and an analysis of both private and public health, welfare and pension plans. Topics investigated include motivation theory, factors influencing compensation levels, forms of compensation, including incentive plans and fringe benefits, a critical examination of financing, administration, and general effectiveness of the plans, special issues of managerial compensation, comparable worth, special and related issues. (PR: MGT 620 and GSM admission)
- 670 Personnel Selection and Testing. 3 hrs.**
A study of the personnel employment and selection processes. Emphasis is placed on the rationale for selection and placement; the procedures and problems in recruitment and selection; and the use of tests, interviews, and other selection devices. Special attention is given to the criterion problem and legislation and/or governmental regulations affecting selection procedures. (PR: GSM admission)
- 671 Human Resource Internship. 3 hrs.**
Project-oriented experience in Human Resources. Intended for those students with insufficient experience in the field. (PR: Permission of program director and HRM 600)
- 675 Human Resource Development and Training. 3 hrs.**
This course teaches students how to develop management training modules and materials. Students also learn and use advanced techniques in training design and group facilitation. (PR: GSM admission)

- 680 Labor and Employee Relations in Public Employment. 3 hrs.**
An examination of the development, practices and extent of collective bargaining between federal, state, and local governments and their employees. Emphasis is on the public issues related to sovereignty, unit determinations, impact on budgetary and financing processes, representation procedures, unfair practices, scope of bargaining, impasse resolution, and the strike. Some attention is devoted to the legal and ethical problems inherent in these issues. (PR: HRM 600)
- 697 Special Topics in Industrial Relations. 3 hrs.**
Selected topics of current interest in industrial relations. (PR: HRM 600 and permission of program director)
- 698 Independent Study. 1-4 hrs.**
Independent study of a specific nature under the supervision of a qualified faculty member. Hours of credit are determined by the magnitude of the project. (PR: Permission of division head or GSM academic advisor)

INFORMATION SYSTEMS (IS)

- 580-83 Special Topics. 1-4 hrs.**
Occasional offerings of current topics in information systems, providing important supplementary material for participating students.
- 585-88 Independent Study. 1-4 hrs.**
An approved study of special interest concerning information systems that is appropriate for the student's program of study. Carried out under the supervision of a faculty member.
- 600 Management Information Systems. 3 hrs.**
The course examines personal, work group, and enterprise information systems with respect to their value, their components, and the processes of developing them.
- 603 Programming for Artificial Intelligence. 3 hrs.**
An introduction to programming for artificial intelligence applications using Prolog.
- 605 Systems Analysis Techniques. 3 hrs.**
Introduction to information systems from system implementor's viewpoint; information systems life cycle; techniques of analysis; data dictionaries and data flow diagrams; computer-oriented system description. (PR: Admission to program)
- 610 Systems Design. 3 hrs.**
Physical design of information systems; hardware selection; software design, database considerations; program development; software structuring techniques; cost/ performance trade-offs; system implementation; evaluation and optimization techniques. (PR: IS 605)
- 615 System Simulation. 3 hrs.**
An introduction to discrete-event computer modeling and simulation. Probability distributions, model verification and validation, input data collection, output analysis. Simulation languages and software. (PR: programming capability and quantitative skills)
- 618 Computer Applications in Engineering and Science I. 3 hrs.**
Computational and algorithmic methods in engineering and science, optimization and numerical analytic techniques including gradient and search methods, linear programming, simulation, and data base mechanics. (PR: Admission to the program)
- 620 Introduction to Operating Systems. 3 hrs.**
General principles of managing jobs, processes and storage (real, virtual, auxiliary) in multiprogramming operating systems; interconnection and management of processors in multi-processing and distributed computing system configurations; operating systems comparison. (PR: IS 621 and IS 630, or consent)
- 621 Information Structures I. 3 hrs.**
Representation and manipulation of numeric and non-numeric information, linear lists, strings, multilinked structures; sorting and searching; storage management; data structures in programming languages. Relevant aspects of discrete mathematics. (PR: IS 510 or equivalent)
- 622 Information Structures II. 3 hrs.**
A continuation of IS 621. Tree, graph, and set structures; file structures for secondary storage; aspects of discrete mathematics. (PR: IS 621)
- 623 Database Management. 3 hrs.**
Review of information structures and of relationships among data elements and objects. Relational database theory; design and organization of databases, retrieval structures, and query mechanisms. (Prerequisite: IS 622 or consent)
- 624 Data Warehousing. 3 hrs.**
A hands-on introduction to the concepts and techniques of data warehousing and data mining. (PR: IS 623 or instructor's permission)
- 625 Software Engineering. 3 hrs.**
The process of developing complex software products. Includes the software life cycle, methods and tools for life cycle phases. Application of concepts, methods, and tools in a class project. (PR: IS 510 or permission)
- 630 Computer Architecture and Assembly Language. 3 hrs.**
An introduction to the composition and operation of electronic digital computers and to assembly language programming. (PR: IS 510 or equivalent)
- 631 Information Security. 3 hrs.**
This course provides foundation knowledge in information security, including protecting information assets, risk mitigation strategies, response to security incidents, and designing secure systems. (PR: IS 600, 620, 656, 610)
- 635 Computer Graphics. 3 hrs.**
An introduction to the areas of computer graphics that are necessary to understand, evaluate, and develop graphics applications. (PR: Admission to program)
- 640 Programming Languages. 3 hrs.**
Definition of program environment, program sequence and control, subroutines and other secondary sequences; statement structures, parsing, grammars, etc.; classes of programming languages. (PR: IS 622 or consent)
- 645 Geographic Information Systems. 3 hrs.**
Covers the elements of GIS hardware, software, data and infrastructure needs. Input data issues; data types, sources, error, preprocessing, manipulation and analysis, GIS tools and applications. (PR: Consent)
- 646 Computer Systems Security. 3 hrs.**
This course is designed to provide the technical and analytical skills to implement computer security. Students review how to manage computer security, current security technologies, and incident response. (PR: IS 656 and instructor permission)
- 647 IT Disaster Planning & Recovery. 3 hrs.**
This course provides the skills necessary to manage IT disaster recovery planning. The course focuses on the protection of information. Students will analyze risk, design a plan and explore available technologies. (PR: instructor permission)
- 650-653 Special Topics. 1-4 hrs.**
Occasional offerings of current topics in information systems, providing important supplementary material for participating students.
- 655 Multimedia and Electronic Information Dissemination. 3 hrs.**
Components of multimedia, such as data, voice, pictures, animations, and videos, and their production, manipulation, dissemination processes. Technologies, processes, and services for electronic dissemination. Applications and current trends. (PR: TM 660 or permission)

- 656 Communication and Network Technologies. 3 hrs.**
Different transmission media, digital communications, telecommunications services, types of networks and topologies, network protocols, components, and applications. (PR: IS 622, or TM 660, or permission)
- 660 Models of Computation. 3 hrs.**
Switching algebra and relationship to computers; finite automata; Turing machines; recursion; computability and unsolvability. (PR: IS 622, math maturity)
- 670 Language Translators and Concepts. 3 hrs.**
Formal language concepts, syntactic analysis; types of translators; detailed review of assemblers, interpreters, and compilers, and techniques of their construction. (PR: IS 622)
- 680 Social Issues in Information Systems. 3 hrs.**
Aspects of the interaction of computer systems and society including such topics as system security, respect of privacy, changing job requirements, ergonomics, and moral and ethical considerations. (PR: completion of core, or consent of instructor)
- 681 Thesis. 1-6 hrs.**
Investigate a research problem of theoretical interest and practical value under mentorship of a information systems and computer science faculty. (PR: Permission of instructor)
- 685-88 Independent Study. 1-4 hrs.**
An approved study of special interest concerning information systems that is appropriate for the student's program of study. Carried out under the supervision of a faculty member.
- 690 Principles of Artificial Intelligence. 3 hrs.**
A survey of the fields of artificial intelligence and expert systems. Students will work together designing and implementing a project. (PR: Permission)
- 691 Comprehensive Project. 3 hrs.**
Develop expertise in an emerging area of information systems through guided study under faculty mentorship. (PR: Permission of instructor)
- 692 Image Processing for Forensics. 3 hrs.**
Image processing focuses on the application of technology to scientific analysis of images. Topics include: measurement techniques; scientific methods of reconstruction and interpretation of images; enhancement of images and video. (PR: Permission of instructor)
- 695 Expert Systems. 3 hrs.**
A review of expert systems techniques and applications. Participants will develop small expert systems using several different personal computer expert systems development programs (shells).

The following courses do not count for credit toward the master's degree:

- 500 Computer Systems and Structured Programming I. 3 hrs.**
Introduction to programming; survey of computer information systems. (PR: Facility with algebra)
- 501 Introduction to Programming Languages. 3 hrs.**
An introduction to a high level language such as BASIC, C, COBOL, FORTRAN, LOGO and PASCAL. The course assumes a knowledge of at least one other high level language.
- 510 Computer Systems & Structured Programming II. 3 hrs.**
A continuation of IS 500. Topics include algorithm development, manipulation of arrays and an introduction to dynamic data structures. (PR: IS 500 or consent.
- 551 Computer Programming in Education. 3 hrs.**
Programming with educational applications. S-U grade.
- 565 Computers in Management. 3 hrs.**
Basic computer concepts, equipment, and use of applications programs (word processor, spreadsheet, data base).

INSTRUCTIONAL TECHNOLOGY AND LIBRARY SCIENCE (ITL)

Certification endorsement program for those with teaching certification

- 501 Libraries and the Learning Process. 3 hrs.**
The role of the school library in the learning process through instruction collaboration, and curriculum support. Study of information literacy, learning styles, and models and assessment of learning outcomes.
- 502 Library Materials for Adolescents. 3 hrs.**
Addresses the selection and promotion of library materials in support of a school curriculum and issues of service, diversity and balance in the school library collection.
- 580-583 Special Topics. 1-4 hrs.**
- 585-588 Independent Study. 1-4 hrs.**
- 625 Library Organization and Administration. 3 hrs.**
Principles of administration for elementary and secondary school library media centers, including personnel, facilities, budgets, program planning and evaluation, publicity and public relations, audiovisual equipment and materials, computer hardware and software, and methods and materials for teaching library skills.
- 627 Cataloging and Reference for the School Librarian. 3 hrs.**
This course is a study of cataloging for the school library professional and the basic reference services for school libraries. Emphasis is on MARC records, circulation software, materials evaluation, the reference interview, and research strategies.
- 631 Technology and the Library. 3 hrs.**
An introduction to the function, management, and the issues of computer and non-computer technology in the library. Students learn to use technology as an educational tool in the classroom.
- 650 Library Practice (Field Work). 3 hrs.**
Experiences in the application of techniques of library service, adapted as far as possible to the student's needs.

INTEGRATED SCIENCE AND TECHNOLOGY (IST)

- 580-583 Special Topics. 1-4 hrs.**
Courses on special topics not listed among the current course offerings.
- 585-588 Independent Study. 1-4 hrs.**
(PR: Permission)

JOURNALISM AND MASS COMMUNICATIONS (JMC)

- 500 Digital Imaging II. 3 hrs.**
Advanced methods of taking and editing still and video images for print, broadcast and online publication. (PR: JMC 360)
- 501 Multi-Media Writing. 3 hrs.**
Principles and techniques of cross-media news writing for graduate student reporters and public relations professionals who have no prior experience in news writing.
- 502 Law of Mass Communication. 3 hrs. I, II, S.**
Legal aspects of mass communication as they apply to the professional journalist.
- 504 History of American Journalism and Mass Communications. 3 hrs. II.**
The development of the press in the United States, the contributions of American journalists, the rise of radio and television, and the relationship of communication developments to political, economic and social trends in America.
- 508 Strategic Communications Research. 3 hrs. I.**
The course will include lectures, readings, discussions and projects on the resources and techniques used to obtain information by strategic communications decision-makers for advertising and public relations program planning.
- 510 Magazine Editorial Practices. 3 hrs.**
Study of the organization and functions of the magazine editorial department, with practice in planning magazine content, laying out pages and establishing production procedures.
- 514 Reporting Public Affairs. 3 hrs. II.**
Instruction in reporting local, state and federal government; politics, finance and labor; social and environmental issues and other matters, with emphasis on background and interpretation. Course includes field trips and guest speakers.
- 515 Advertising Strategy and Execution. 3 hrs.**
Analyzing advertising problems in a case-study approach, proposing a strategic solution, and implementing the strategy. Students must write and produce advertisements for a variety of media.
- 525 Advertising Campaigns. 3 hrs. II.**
Students function as an advertising agency to plan, prepare, and present local and national advertising campaigns. Problems of the advertiser and the agency are considered.
- 528 Supervision of School Publications. 3 hrs.**
A comprehensive study of advising and producing school publications, with emphasis on methods, for teachers of journalism.
- 530 Magazine Article Writing. 3 hrs. I.**
Fundamentals of researching and writing factual articles for popular magazines; techniques of selling articles to magazines.
- 532 Corporate and Instructional Video. 3 hrs.**
Development of the use of video for communication and instruction in business, agencies, and education. Production and use of video units for specific objectives.
- 533 Radio-Television Programming. 3 hrs.**
Principles of programming, including audience analysis, production, purchase, and scheduling of various formats.
- 534 Advanced Video. 3 hrs.**
Development of the elements necessary for the production of detailed video projects. Students study the creation and production of public affairs, educational and creative video programming. (PR: JMC 332 or equivalent)
- 535 Radio-Television Law and Regulation. 3 hrs.**
Development and current status of the legal structure of broadcasting in the United States.
- 536 International Mass Communications. 3 hrs.**
Development of various systems of mass communications and comparison with the United States.
- 537 Public Relations Writing. 3 hrs. I.**
Theory and practice of various writing challenges encountered by public relations practitioners. Some consideration of publications design. (PR: JMC 201, 241 and 330 or equivalent)
- 538 Public Relations Case Studies. 3 hrs. I.**
Examination of the handling of public relations problems and opportunities by business, educational, governmental, and social organizations, with particular emphasis on public relations analysis and problem solving. (PR: JMC 330 or equivalent)
- 539 Public Relations Campaign Management. 3 hrs. II.**
Applying the four-step public relations process to an organization's program or campaign. Includes execution of public opinion research and development of original communication tools. Competitive agency model generally used. (PR: JMC 537 and 538)
- 545 Advertising in Modern Society. 3 hrs.**
An examination of issues and problems affecting the advertising industry and a study of advertising's impact on and responsibility to society.
- 550 Contemporary Issues in Radio and Television. 3 hrs.**
An examination of the current political, social, economic and legal issues affecting the decision-making process in the newsrooms and programming centers of the electronic media.
- 551 Television Reporting I. 3 hrs.**
Students report, shoot, edit write, produce, and anchor "MU Report," a student-produced newscast. The class makes use of university broadcast facilities and West Virginia Public Television as available. (PR: Graduate standing and permission)
- 552 Advanced Television Reporting. 3 hrs.**
Students report, shoot, edit write, produce, and anchor "MU Report," a student-produced newscast, on a more advanced level. The class makes use of university broadcast facilities and West Virginia Public Television as available. (PR: JMC 551 and permission)
- 555 Race, Gender and Mass Media. 3 hrs.**
A seminar that explores the portrayals and participation of women and people of color in the mass media.
- 562 Web Design for Mass Media, 3 hrs, I, II.**
Creative and practical aspects of typography, design and interactivity of online communications for the mass media.
- 575 Documentary Journalism. 3 hrs.**
Students will produce an original 15-minute film, defend their filmmaking technique in an oral presentation and perform an in-depth written and oral presentation on one filmmaker.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs. I, II, S.**
- 590 Journalism and Mass Communications Internship I. 1-3 hrs. I, II, S.**
Supervised journalistic work with the professional media. Course is for students without substantial professional media experience. Arrangements must be made in advance with the school's internship director.
- 591 Journalism and Mass Communications Internship II. 1-3 hrs., I, II, S.**
Supervised journalistic or mass communications work with professional media including newspapers, magazines, radio, television, advertising and public relations departments or agencies. Students must have completed a previous internship. (PR: Permission and JMC 590)

- 600 Proseminar in Graduate Studies. 3 hrs.**
Course teaches basic knowledge and fundamental skills of communication theory and research for graduate students. It provides a general survey of theories, methods, research construction and presentation, and graduate education.
- 601 Theory of Mass Communication. 3 hrs. I, II.**
Major theoretical concepts in mass communications are studied as a basis for understanding the communication process and the institutional impact of the mass media on the individual and on society. Required of all majors.
- 602 Mass Communications Research and Methodology. 3 hrs. I, II.**
Research techniques applied to problems of mass communication including computer applications, with emphasis on mastery gained by participation in specialized research projects. Required of all majors.
- 603 Media Management. 3 hrs.**
An in-depth examination of the process and practice of media management.
- 604 Journalism and Mass Communications Law and Ethics. 3 hrs.**
The course examines the legal framework of American media from an ethical perspective. It also offers a basic framework of both the law and ethics. (PR: JMC 402 or equivalent)
- 605 Master's Network. 3 hrs.**
This course cultivates brainstorming and critiquing methods and incubates ideas in a collaborative setting. Students will build useful networks, and formulate a creative process tailored to their Master's Initiative Projects.
- 606 Narrative Reporting. 3 hrs.**
In-depth narrative reporting, with emphasis on thorough research, documentation and use of multimedia storytelling tools for publication.
- 609 Seminar in Public Relations. 3 hrs.**
Theoretical and practical aspects of public relations, with special projects and readings to provide skills and insights requisite to success in the profession. Seminar discussions and research projects.
- 612 History of Mass Communication, Specialized Study. 3 hrs.**
Analysis of mass media development in the United States and of current media problems, with emphasis on research.
- 620 Public Relations in Health Care. 3 hrs.**
This JMC course examines public relations practices and techniques used in health care.
- 630 Seminar in Media Criticism. 3 hrs.**
Intensive critical analysis of broadcasting programs and programming procedures from the sociocultural, literary, political and industry points of view.
- 632 Seminar in Public Broadcasting. 3 hrs.**
Examination and evaluation of the unique content, policies, and prospects of public broadcasting.
- 640 Design Thinking. 3 hrs.**
This course engages students in the human-centered design thinking process for the innovative transformation of products and services.
- 641 Web/Online Strategies for Journalism and Mass Communications. 3 hrs.**
A seminar that analyzes Web strategies in news and strategic communications contexts. Students will examine online media trends; content development; and legal and ethical issues.
- 643 New Media Cultures. 3 hrs.**
This course investigates the political, economic, and cultural influences of new communications technologies, both in history and in today's world.
- 650-651 Special Topics. 1-3 hrs.**
- 678 Organizational Storytelling in Public Relations. 3 hrs.**
This course examines storytelling within organizations. Emphasis is on the theory behind storytelling and applying theory to practical internal and external scenarios using storytelling as a tactic in organizational PR.
- 681 Thesis. 1-6 hrs. (PR: Consent of advisor)**
- 682 Master's Initiative. 6 hrs.**
Creation of a digital thesis in an applicable professional or scholarly subject through intensive research and creative technique. (PR: JMC 605)
- 685-688 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Permission of dean)

LATIN (LAT)

- 501 Cicero: Speeches. 3 hrs.**
A close reading in Latin of a selection of the political and/or court speeches of Cicero with attention paid to cultural and literary contexts, as well as a modern scholarship.
- 503 Roman Comedy. 3 hrs.**
(PR: 6 hours of Latin literature numbered 304 or above or equivalent)
- 504 Roman Elegy: Propertius and Tibullus. 3 hrs.**
Close readings in Latin of selections from elegies of Propertius and Tibullus. (PR: 6 hours of Latin literature numbered 304 or above or equivalent)
- 505 Readings in Vergil. 3 hrs.**
Introduction to the poetry of Vergil, especially Vergil's Aeneid, and to the culture and ideology of the Augustan principate. (PR: 6 hours of Latin literature numbered 303 or above, or equivalent)
- 506 Horace: Odes, Epodes, Epistles. 3 hrs.**
A close reading in Latin of selections from Horace's non-satirical poetry, with special attention to its literary context. (PR: 6 hours of Latin literature numbered 303 or above, or equivalent)
- 507 Livy's History of Rome. 3 hrs.**
A close reading in Latin of selections from Livy's history poetry, with special attention to its literary and cultural contexts. (PR: 6 hours of Latin literature numbered 303 or above, or equivalent)
- 509 Roman Satire: Horace, Martial, Juvenal. 3 hrs.**
Close readings in Latin of selections from the satires of Horace and Juvenal and the epigrams of Martial. (PR: 6 hours of Latin literature numbered 304 or above or equivalent)
- 510 Tacitus (Selections From): Annals, Agricola. 3 hrs.**
(PR: 6 hours of Latin literature numbered 304 or above or equivalent)
- 580-583 Special Topics in Latin. 1-4; 1-4; 1-4; 1-4 hrs. I, II.**
(PR: 6 hours of literature numbered 304 or above or equivalent and consent of instructor)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 625 History and Development of the Latin Language. 3 hrs.**
This course examines the linguistic, geographic, cultural and material concerns that influenced the development of the Latin language.
- 640 Advanced Prose Composition. 3 hrs.**
A close study of advanced Latin grammar and style through composition in Latin.

- 660-665 Special Author in Latin Literature. 3 hrs.**
A detailed study of Latin of a single author. Special attention will be given to style, genre, literacy and cultural contexts, and study of secondary sources on the author.
- 681 Thesis. 1- 6 hrs.**
Students will develop an extensive body of knowledge on a particular topic, author, or issue. This knowledge will cover primary and secondary sources, and secondary sources will include current theoretical approaches. Students will synthesize this knowledge in a comprehensive paper, the development of which will include drafting, revision, redrafting, final copy and presentation. Students will work with a thesis director and a committee throughout the process. (PR: Instructor Permission)
- 682-683 Special Topics in Latin Literature. 1-4 hrs.**
These courses are designed to provide instruction to students in Latin authors or topics that are not part of the regular curriculum. (PR: Instructor Permission)
- 685-688 Independent Study in Latin Literature. 1-4 hrs.**
These courses are designed to provide instruction to students in Latin authors or topics that are not part of our regular curriculum. (PR: Instructor Permission)

LEADERSHIP STUDIES (LS)

- 510 The Principalship. 3 hrs.**
The Principalship is a study of school management as it relates to ethical behavior, and to support services, information systems, fiscal matters, and facility utilization and maintenance.
- 515 Instructional Leadership. 3 hrs.**
This course is designed to develop skills in instructional leadership, including instructional supervision, instructional strategies, program development, instructional evaluation, and human relations.
- 520 Administration of Elementary, Middle and Secondary Schools. 3 hrs.**
This course addresses the concerns of the school leader, including instruction, learning, communication, discipline, parental involvement, instructional organization, climate, facilities, professional development, and personnel practices. Emphasis is placed on the physical, social/emotional, and cognitive/intellectual characteristics of children and the implications for developmentally appropriate school administration.
- 530 Human Relations. 3 hrs.**
This course assesses and develops students' knowledge and skills in interpersonal relations and ethical practices. It provides structured experiences in group processes, verbal and non-verbal communications, leadership styles, and team building.
- 535 Technology and the Classroom. 3 hrs.**
This course is designed to examine the effects of technology, both pedagogical and practical, on the educational process.
- 550 Schools as Systems. 3 hrs.**
This course assesses and develops students' knowledge and skills in change strategies, school cultures, systems theory, and understanding of the school in relation to other systems, agencies and organizations.
- 561-563 Professional Development. 1-4 hrs.**
These courses and activities are designed to meet the specific in-service needs of public school administrators. Credit in these courses may be used for certificate renewal and salary upgrading but not in degree programs.
- 580 Special Topics in Leadership. 1-9 hrs.**
To provide faculty an opportunity to pilot a new course on a trial basis.
- 585-588 Independent Study 1-4 hrs.**
Approval of Program Director and permission of chair. Student must have GPA of 3.0 to take the class. (PR: permission)
- 600 School Personnel Administration 3 hrs.**
This course offers an examination of personnel functions including recruitment, selection, orientation, evaluation, and retention with particular emphasis on staff development.
- 606 Planning, Research and Evaluation for School Leaders. 3 hrs.**
This course is designed to avail potential school administrators with an understanding of planning strategies, academic research, action research, and program evaluation methods, with the intent of their being able to write a cogent, data-based school improvement plan.
- 610 Leadership for School Improvement. 3 hrs.**
Leadership preparation for developing and implementing a shared vision and strategic plans focused on teaching and learning, implementing change, applying leadership theory and acting with understanding of society's influences.
- 612 Education Technology for Administrators. 3 hrs.**
This course provides the requisite knowledge and skill for effective use of educational technology in instruction leadership including leadership and vision; learning and teaching; productivity and professional practice; support, management and operations; assessment and evaluation; and social, legal, and ethical issues.
- 615 Leadership in the Public Sector. 3 hrs.**
This course will enable potential leaders in the public sector to define and evaluate personal and organizational goals and to develop strategies to achieve shared goals.
- 616 Governance of Higher Education. 3 hrs.**
This course is designed to develop an understanding of the structure of governance of multi-campus public higher education systems.
- 617 Student Affairs Administration in Higher Education. 3 hrs.**
This course surveys the purpose and functions of student personnel administration in higher educational institutions and the administrative procedures developed to accomplish these purposes.
- 618 History of American Higher Education. 3 hrs.**
This course will present a historical overview of the factors that influence the development of higher education in America.
- 621 Public Policy Analysis for Higher Education. 3 hrs.**
This course will introduce students to the process of developing federal and state public policy for higher education and examine legislation related to governance, finance, and oversight.
- 625 Human Resources Management. 3 hrs.**
This course develops knowledge of the major functions and tasks necessary for the development of human resources.
- 626 Fundraising Management. 3 hrs.**
This course will provide students with an overview of the fundamentals of fundraising including such vehicles as major campaigns, donor research, management practices and ethical issues.
- 628 Leading Nonprofit and Public Sector Organizations. 3 hrs.**
Nonprofit and public sector organizations constitute a significant part of every community and this course is designed to examine the major leadership issues they encounter.
- 630 School and the Community. 3 hrs.**
This course provides students the opportunity to study the concept of community, to examine relationship patterns, to explore the possibilities for

- combining the resources of the school and community in the interest of school improvement, and to evaluate communication strategies designed to enhance the school-community relationship.
- 632 Human Relations in the Public Sector. 3 hrs.**
This course is designed to assist leaders in the public sector to establish and maintain positive relationships with the organization's staff and volunteers, as well as with its constituents.
- 635 Organizational Theory. 3 hrs.**
This course analyzes leadership theories and their application to leadership and management in nonprofit and public-sector organizations.
- 640 Legal Issues for Nonprofit and Public Sector Organizations. 3 hrs.**
This course provides students with an overview of federal and state laws governing nonprofit and public sector organizations, current legal trends, and legal issues affecting CEOs, staff, governing boards.
- 645 Community Collaborative Planning and Management. 3 hrs.**
Students will be provided with the opportunity to analyze the nature of collaboration among state, local, and federal agencies; business, and community organizations to address an array of complex issues facing non-profit and public agencies. The importance of networking and social entrepreneurship are among other concepts that will be explored.
- 647 Adult and Continuing Education Administration. 3 hrs.**
This course develops an understanding of the principles, concepts, and processes involved in planning learning experiences for adults within the framework of higher education.
- 655 Externship. 1-9 hrs.**
This is a field-based course designed for practicing professionals. (PR: Consent)
- 660 Internship - School Mangement 2.**
- 675 Legal and Policy Issues. 3 hrs.**
This course examines the principal's role and responsibility related to law and administrative policy.
- 685 Internship: Portfolio Assessment. 3 hrs.**
This course provides training and assessment experiences for students seeking initial certification as a school principal. The student's degree portfolio and capstone assessment will be completed. (PR: Completion of degree/certification courses and consent)
- 690 Leadership Capstone Course. 3 hrs.**
This course represents a culminating experience and an opportunity to demonstrate a broad mastery of learning across the respective program curriculum.
- 691 The Attendance Director. 3 hrs.**
This course is designed to develop the skills needed for the school attendance director to manage attendance programs, policies, and programs.
- 692 Internship: School Social Services. 3 hrs.**
This course will require school social service workers and attendance directors to demonstrate proficiency in those administrative and leadership skills required for managing school social services and student attendance programs.
- 693 School Law for Support Personnel. 3 hrs.**
This course provides the student with a working knowledge of school law and other legal matters as they pertain to the attendance director. The focus of this course is on those laws dealing with mandatory school attendance and juvenile matters. (PR: Admission into the Social Services/Attendance program)
- 700 Superintendency. 3 hrs.**
This course examines the roles, relationships, behaviors and competencies which characterize school superintendents and their staffs.
- 703 Research Design. 3 hrs.**
The purpose of this doctoral research methods course is to prepare College of Education and Professional Development doctoral students to design and carry out research at the doctoral level.
- 704 Leadership for Special Populations. 3 hrs.**
This course identifies and explains the laws and policies that serve students with special needs. School leaders will learn to apply these laws to ensure they meet students' needs which making the best decisions for their schools. (PR: Admission to doctoral program)
- 705 Administrative Theory. 3 hrs.**
This course analyzes administrative theories and their application to organizational leadership and management.
- 707 Ethical Theories. 3 hrs.**
The course focuses on the primary ethical theories and the ethical reasoning processes which are representative of each, providing students opportunities to analyze decisions against existing ethical models and reinforce or reform those decisions in light of moral principles.
- 710 Principles of Leadership. 3 hrs.**
This course is a study of the characteristics and behaviors of leaders. Emphasis is on the development of understandings and abilities which will work in different situations.
- 714 Administration and Organization of Higher Education. 3 hrs.**
This course is a survey of higher education with attention to administrative functions at the campus level.
- 719 Introduction to Doctoral Studies. 1 hr.**
This course is designed to introduce students to the tasks and processes involved in the completion of the doctoral requirements. (PR: Admission to the Doctoral Program)
- 720 Public School Finance. 3 hrs.**
This course examines concepts in the financing and economics of public education.
(PR: Principal or supervisor certificate or consent)
- 724 Organizational Analysis. 3 hrs.**
This course is an interdisciplinary approach to the study of organizational structure, relationships, and functions focusing on problems and alternatives for solving them.
- 725 Higher Education Finance 3 hrs.**
This course examines basic concepts in the financing and economics of higher education.
- 730 Facility Planning and Management. 3 hrs.**
This course teaches the systematic collection and utilization of data in planning for educational facilities. (PR: Principal or supervisor certificate or consent)
- 740 Public School Law. 3 hrs.**
This course presents the effect of case, statutory, and constitutional law as adjudicated in state and federal courts on public school operation. (PR: Principal or supervisor certificate or consent)
- 745 Higher Education Law. 3 hrs.**
This course presents the effect of case, statutory, and constitutional law as adjudicated in state and federal courts on higher education operation.
- 755 Internship: Administration in Higher Education 3 hrs.**
This course provides a field experience in higher education administration. (PR: Consent)
- 756 Current Issues in Higher Education. 3 hrs.**
This course focuses on current and emerging problems of higher education. It deals with both societal and internal factors which impinge on the administration of colleges and universities.

- 760 Politics of Education. 3 hrs.**
This course explores the social process of governance in the public schools including higher education. The milieu of federal, state, and local inputs will be explored.
- 762 The Politics of Higher Education. 3 hrs.**
This course is designed to develop an understanding of the complex internal and external forces and the political processes that affect higher education institutions.
- 764 Advanced Research I. 3 hrs.**
This course will develop knowledge about and skills in using quantitative and qualitative methods in educational research. It will further prepare doctoral candidates for comprehensive exams as well as dissertation research.
- 765 Advanced Research II in Leadership Studies. 3 hrs.**
This is an advanced research course directed toward the preparation of a thesis or dissertation. (PR: Consent)
- 770 Practicum. 3 hrs.**
This is a highly individualized cooperative educational administration experience between the college and another public agency. (PR: Consent)
- 771-772 School District Leadership 3-6 hrs.**
This is an individualized cooperative field experience in district level school administration. (PR: Consent)
- 775 Seminar. 3 hrs.**
This course is a concentrated analysis of current problems in educational administration. (PR: Consent)
- 776 Computer Analysis in Doctoral Research. 3 hrs.**
This course provides the development of skills and competencies in data analysis and management. It is designed for doctoral students in the data analysis stage of dissertation preparation. (PR: Consent)
- 780 Special Topics. 1-12 hrs.**
This course requires study, reading and research in an approved area of education and supervision. (PR: Consent)
- 787 Contemporary First Amendment Issues in Education. 3 hrs.**
This course will examine contemporary first amendment issues as they relate to education in public education and higher education. (PR: Admission to Ed.S or Ed.D. program)
- 797 Doctoral Research. 1-12 hrs.**
Dissertation research is the purpose of this course. (PR: Consent)

LEGAL ENVIRONMENT (LE)

- 691 Government and Business Relationships. 3 hrs.**
Preparing business executives for dealing with problems of the firm in its relationships with government. Applies case analysis to the board categories of antitrust, trade regulation, and agency regulation. (PR: GSM admission)

MANAGEMENT (MGT)

- 500 Analytical Methods and Techniques. 3 hrs.**
Provides competency in some of the basic quantitative skills necessary for analytical work in business administration. Required of all candidates who have had little or no undergraduate background in mathematics.
- 502 Research Methods. 3 hrs.**
This course provides the student with the necessary knowledge to perform business research. Emphasis is placed on applicable research techniques. In addition, several statistical techniques are covered including multiple regression and analysis of variance. (PR: MGT 500)
- 520 Operations Management. 3 hrs.**
An examination of the design and operation of systems for the creation of goods and services in both manufacturing and non-manufacturing organizations. Emphasis is placed upon the application of quantitative and conceptual decision tools for the planning and control of production systems. (PR: MGT 500 or MTH 203 and MGT 218; and MGT 320 or MKT 511; and ECN 253 or ECN 501)
- 601 Quantitative Methods for Business. 3 hrs.**
The use of quantitative methods for managerial decision making. A review of basic calculus and statistics as required in business. Other topics include decision analysis, linear programming, and queuing. (PR: M.B.A. admission)
- 620 Human Resource Management. 3 hrs.**
The study of policies, methods, and techniques utilized in personnel management and human relations. Specific attention is given to problems of recruitment, selection, compensation, motivation, communications, training, service and benefit programs, performance evaluation, safety, discipline, business ethics, and community relations. (PR: GSM admission or permission of GSM academic advisor)
- 630 Management and Supervisory Skills Development. 3 hrs.**
An analysis and application of personal and organizational skills associated with the effective management of both public and private sector organizations. Skills to be developed or refined include time management, decision making, delegation, stress management, oral and written communication, team-building and others. Applied exercises, case studies, simulation, role play, films, and other learning methods are emphasized. (PR: MGT 672)
- 650-651 Special Topics. 1-3; 1-3 hrs.**
(PR: Permission of the division head and full M.B.A. admission or permission of GSM academic advisor)
- 660 Independent Study. 1-4 hrs.**
Independent study of a specific nature under the supervision of a qualified faculty member. Hours of credit are determined by the magnitude of the project. (PR: permission of division head or GSM academic advisor)
- 671 Business Administration Internship. 3 hrs.**
Project-oriented experience in business operations and organizations intended for those students with insufficient experience in the field. (PR: Full admission and permission of program director)
- 672 Organizational Behavior. 3 hrs.**
Basic ideas and concepts for the effective management of an organization. Major topics include motivation, communication and decision-making processes, group dynamics, leadership study, conflict management, work and organizational design, and organization development. Emphasis on organizational behavior and theory. (PR: GSM admission and MKT 511)
- 673 Problems in Personnel Management. 3 hrs.**
Principles and procedures of the personnel system in the firm; selected areas of recruitment and selection; training and development; performance appraisal and evaluation; general communications system, and role of government in manpower administration. (PR: GSM admission)
- 674 Production/Operations Management. 3 hrs.**
A study of operations management methods used in production, manufacturing, services, and other business operations. Includes project management, capacity planning, and transportation problems. (PR: Permission of GSM academic advisor and MGT 500)
- 675 Problems in Labor-Management Relations. 3 hrs.**
Comprehensive coverage of the development of the field of industrial relations. The impact of organized labor and federal social legislation of management decision. Alternative directions for future developments are studied. (PR: GSM admission)

- 676 Organization Theory and Design. 3 hrs.**
An analysis of organizational systems and subsystems incorporating traditional, behavioral, and situational approaches to organizational and work unit design. Emphasizes environmental interface and interdependencies as functions of internal systems phenomena (PR: M.B.A. admission)
- 680 Entrepreneurship. 3 hrs.**
The management of small business emphasizes how they are started and financed, how they produce and market their products and services and how they manage their human resources. (PR: GSM Admission)
- 692 Ethics and Global Aspects of Business. 3 hrs.**
An examination of the administrator's social, ethical, and environmental responsibilities to his employees, customers, and the general public and other external factors which management must be cognizant of in modern society. (PR: GSM admission)
- 696 Administrative Policy and Strategy. 3 hrs.**
Capstone graduate business course for Master of Science students (Human Resource Management and Health Care Administration). Emphasis on policy and strategy issues in a service and/or public setting instead of within a "for-profit" environment. (PR: Permission of GSM assistant director)
- 699 Business Policy and Strategy. 3 hrs.**
The study of administrative decision making under conditions of uncertainty. Policy construction at top administrative levels with emphasis on strategy and ethics with consideration of major functions of the business organization. (PR: Permission of GSM academic advisor)

MANAGEMENT INFORMATION SYSTEMS (MIS)

- 678 Management Information Systems. 3 hrs.**
To familiarize students with the characteristics and functions of management information systems, as well as the benefits, limitations, and applications for advanced management information systems. (PR: GSM admission)
- 680 Health Care Communications Technology and Telematics. 3 hrs.**
A presentation and analysis of the primary and emerging technological means of communication, collaboration, and information search and retrieval within the healthcare and medical fields.
- 685 Business Intelligence and Analytics. 3 hrs.**
Introduction to methods to improve fact-based managerial decision making. Focus on analytics types and data manipulation to discover patterns and generate information associated with products and services. (PR: MIS 678)

MANAGEMENT PRACTICE IN NURSE ANESTHESIA (MPNA)

- 700 Introduction to Health Care Systems: Health Policy and Delivery. 3 hrs.**
This course is designed to provide the student with an overview of the development of health policy and delivery in the United States. Emphasis is placed on the evolution of the structure, financing and function of the current delivery system in America and how these aspects compare to those of other countries. (PR: Admission to DMPNA program)
- 710 Financial Management for Health Care Professionals. 3 hrs.**
Application of financial management techniques to decision making for health care providers. Focus is on financial statement analysis, working capital management, capital budgeting, evaluating financial risk and return, long-term debt financing, and developing a financial portfolio. (PR: Admission to DMPNA program)
- 711 Marketing and Management for Health Care Professionals. 3 hrs.**
This course will provide an overview of the basic components of marketing such as the marketing mix and SWOT analysis. It will also enlighten the students regarding the various established basic management theories. (PR: Admission to DMPNA program)
- 715 Health Economics. 3 hrs.**
Economic analysis applied to the health services sector. Traditional concepts such as efficiency, production and distribution are discussed within the context of the unique health care environment. The micro/macro economic impacts of health insurance, government participation, credentialing and regulation are analyzed. (PR: Admission to DMPNA program)
- 721 Evidence-Based Research Methods I. 3 hrs.**
To provide the student with the necessary foundation to participate in the design, implementation and evaluation of field and/or clinical research. Upon completion of this course, the student will understand the basics of the scientific method and its application to research design. The role of the Institutional Review Board, including the Belmont Report, will be discussed. Students will be IRB certified by the end of the course. (PR: Admission to DMPNA program)
- 722 Evidence-Based Research Methods II. 3 hrs.**
To provide the student with an understanding of the appropriateness, benefits and limitations of statistical methods when applied to field and/or clinical research. Upon completion of the course, the student will understand the theory behind parametric and nonparametric statistical techniques. At this point, students will begin to conceptualize their research projects. (PR: Admission to DMPNA program)
- 723 Statistical Methods for Field and/or Clinical Research. 3 hrs.**
To provide the student with the skills necessary to apply the appropriate statistical techniques for field and/or clinical research. Topics include analysis of variance, correlation and regression, chi-square, t-tests, etc. (PR: Admission to DMPNA program)
- 730 Medical/Legal Issues in Health Care. 3 hrs.**
Legal aspects of corporate liability, medical malpractice, informed consent, patient rights, privacy, fraud and abuse, plus governmental regulation of health professionals and health facilities. The legislative process, legislative oversight and regulatory agencies are discussed in depth. (PR: Admission to DMPNA program)
- 741 Health Care Clinical Practicum. 3 hrs.**
Forty eight (48) total hours of course credit for nurse anesthesia clinical practice awarded in 3, 6, or 9 hour increments per semester covering 33 months of time. (PR: Admission to DMPNA program)
- 741B Regional Anesthesia 1 hr.**
Clinical pharmacology of local anesthetics, anatomy of peripheral nervous system, block administration techniques, drug doses; indications and contraindications for subarachnoid epidural, brachial plexus, ankle and other regional procedures.
- 741D Pediatric Anesthesia 1hr.**
In-depth study of the specialty of pediatric anesthesia. Subject matter will include: anatomy, physiology, and pathophysiology of the pediatric patient, preoperative evaluation and preparation, airway management, implications of rare pediatric disorders, and management for painful procedures.
- 741H Geriatrics 1 hr.**
Management decisions related to complex anesthesia situations including but not limited to: unusual co-existing disease, uncommon operative procedure, adverse complications or unexpected events.
- 743 Management and Leadership. 5 hrs.**
The application of management and leadership principles via clinical job rotation, implementation of advanced management principles to the delivery of nurse anesthesia patient care in various settings. (PR: NUR 741)
- 745A Advanced Principles: Pediatrics for Nurse Anesthetists I. 1 hr.**
In-depth study of the specialty of pediatric anesthesia. Subject matter will include: anatomy, physiology, and pathophysiology of the pediatric patient, preoperative evaluation and preparation, airway management, implications of rare pediatric disorders, and management for painful procedures.

- 745B Advanced Principles: Obstetrics for Nurse Anesthetists II. 1 hr.**
Course takes an in-depth look at the normal physiological changes associated with pregnancy. It will investigate management issues starting from the basic advancing to the complex. Issues include maternal fetal physiology, fetal monitoring, anesthetic techniques, high-risk pregnancy, emergency management, and fetal and neonatal resuscitation.
- 745C Advanced Principles: Clinical Case Study Seminar III. 1 hr.**
Management decisions related to complex anesthesia situations including but not limited to: unusual co-existing disease, uncommon operative procedure, adverse complications or unexpected events. Study of the anesthetic care of specialized patient populations requiring advanced planning, decision making and case management proficiency.
- 753 Management of Complex Health Care Organizations. 3 hrs.**
Emphasis is placed on the management of complex health care institutions representing the organizational spectrum from horizontally integrated group practices to large integrated health centers. (PR: Admission to DMPNA program)
- 755 Marketing Goods and Services in a Medical Environment. 3 hrs.**
An investigation of the role of marketing in today's health care environment. Topics include traditional marketing concepts such as segmentation and promotion blended with unique issues like health services marketing, direct to consumer pharmaceutical advertising, mass media ethics, the role of the Internet in health product/services marketing, etc. (PR: Admission to DMPNA program)
- 756 Clinical and Administrative Information Systems. 3 hrs.**
Foundations of clinical information use starting with information collection, process, problem solving, decision making and recording. Special emphasis on the clinician's work to support enterprise-wide health care delivery and management information systems. A closer look at technological innovations in the health care field and its impact on health care delivery and costs (PR: Admission to DMPNA program)
- 772 Organizational Behavior in Health Care. 3 hrs.**
Advanced level theories of effective organization management as they relate to health care organizations will be provided. Topics will include issues related to managing diverse work groups in the American health care system, planning and organizing, decision making models, various leadership styles, and controlling and evaluating management effectiveness. (PR: Admission to DMPNA program)
- 777 Moral Management. 3 hrs.**
A discussion of the concept of Moral Management. Guidelines for how to make ethical decisions and tough choices are included. Cases relevant to ethical/unethical scenarios will be analyzed. Students will view ethics videos and write a Credo term paper. (PR: Admission to DMPNA program)
- 796 Administrative Policy, Strategy and Entrepreneurship. 3 hrs.**
The study of administrative decision making under conditions of uncertainty. Policy construction at top administrative levels with emphasis on strategy and ethics with consideration of major functions of an organization. Includes developing a business plan, assessing the environment, evaluating markets, securing financing, marketing services, analyzing and negotiating managed care, and insurance contracts. (PR: Admission to DMPNA program)
- 799 Research Project. 1-9 hrs.**
This is a 9 credit hour sequence of three (3 credit hours) courses. The student is required to apply the principles of scientific research methods to a field and/or clinical investigation. Students are required to design, implement, evaluate and present (written and oral) a research project approved and guided by the student's research project committee. Each student will have a research project committee chair and two other designated committee members. (PR: Admission to DMPNA program)

MARKETING (MKT)

- 511 Marketing and Management. 3 hrs.**
A comprehensive survey of the fundamental principles of management and marketing applicable to all organizations. Provides the student with a basis for analyzing appropriate situations in a management/marketing framework.
- 580-581 Special Topics. 1-4; 1-4 hrs.**
- 625 Marketing Strategy for Hospitality and Tourism. 3 hrs.**
Examination of marketing principles and the unique aspects of services marketing for the purpose of strategic decision making, marketing management and developing market plans in the tourism and hospitality industry.
- 650-651 Special Topics. 1-3; 1-3 hrs.**
(PR: Permission of the division head and full M.B.A. admission)
- 660 Independent Study. 1-4 hrs.**
Independent study of a specific nature under the supervision of a qualified faculty member. Hours of credit are determined by the magnitude of the project. (PR: MKT 682 and permission of division head and academic advisor)
- 682 Advanced Marketing Management. 3 hrs.**
An integrated approach to marketing from a managerial point of view: making use of economic, quantitative, and behavioral concepts in analyzing and developing a framework for the decision-making and implementation of the firm's marketing program. (PR: M.B.A. admission or permission of GSM academic advisor)
- 683 Advanced Marketing Research. 3 hrs.**
A study of research methods and procedures used in the marketing process; emphasis will be given to the sources of market data, sampling, preparation of questionnaires, collection and interpretation of data. (PR: MKT 682)
- 684 Global Marketing. 3 hrs.**
This course provides a decision-oriented approach to global marketing; focus will be placed on market entry strategies, segmentations techniques, and marketing mix decisions in a multi-national environment. (PR: GSM advisor's permission)
- 685 Marketing Problems. 3 hrs.**
Determination of the marketing mix within the framework of the problem-solving and decision-making process. (PR: MKT 682)
- 686 Integrated Marketing Communications for Professional Services. 3 hrs.**
The importance and application of integrated marketing communications in marketing professional services are examined. Information is drawn from business and other areas of study and experiential learning activities are incorporated. (PR: MKT 501)
- 687 Seminar in Marketing. 3 hrs.**
An advanced study of basic concepts of current problems in Marketing. Seminar discussions and research projects. (PR: MKT 682)
- 688 Advanced Transportation. 3 hrs.**
Current national transportation problems and a review of the various modes including history of the modes. (PR: MKT 682)
- 689 Advanced Physical Distribution. 3 hrs.**
A study of activities concerned with efficient movement of products from the sources of raw materials supply, through production to the ultimate consumer. These include freight transportation, warehousing, order processing, forecasting, etc. (PR: MKT 682)

MATHEMATICS (MTH)

- 500 Structure of Algebra. 3 hrs.**
Informal development of modern elementary algebra. Recommended for pre-service middle school teachers and for elementary and secondary in-service teachers. May not be used for a 5-Adult (or 5-12) mathematics specialization. May not be used for any degree offered by the Department of Mathematics.

- 501 Structure of Modern Geometry. 3 hrs.**
Informal development of geometry with an exploration of probability and statistics. Recommended for pre-service middle school teachers and for elementary and secondary in-service teachers. May not be used for a 5-Adult (or 5-12) mathematics specialization. May not be used for any degree offered by the Department of Mathematics.
- 527 Advanced Calculus I. 3 hrs.**
A rigorous study of the real number system, continuity and differentiability of functions of a single variable, integration of functions of a single variable, infinite series.
- 528 Advanced Calculus II. 3 hrs.**
A rigorous development of algebra and topology of Euclidean spaces, differentiability and integrability of functions of several variables. (PR: MTH 527)
- 548 Modern Geometries. 3 hrs. I.**
Finite geometries, basic background material for the modern development of Euclidean Geometry, other geometries.
- 549 Projective Geometry. 3 hrs.**
Projective geometry using both synthetic and algebraic methods. (PR: MTH 300)
- 550 Modern Algebra I. 3 hrs.**
Structure of the abstract mathematical systems; fields, rings groups, with illustrations and applications from number theory.
- 552 Modern Algebra II. 3 hrs.**
Continuation of MTH 550. (PR: MTH 550)
- 580-583 Special Topics in Mathematics. 1-4; 1-4; 1-4; 1-4 hrs.**
Courses on special topics not listed among the current course offerings. (PR: Permission)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
(PR: Permission)
- 589 Graduate Mathematics Seminar. 1 hr. CR/NC.**
A seminar on topics relevant to graduate students in mathematics, including college-level teaching, conducting research, professional ethics, and mathematics careers. This course does not satisfy any degree requirements.
- 610 Advanced Modern Algebra. 3 hrs.**
Advanced topics in algebraic structures, applications, and related topics beyond a first-year course in modern algebra. (PR: MTH 552)
- 613 Mathematical Modeling. 3 hrs.**
Students will work in teams to construct mathematical models of various real-world situations. Problems to be modeled will be drawn from diverse areas of application and will use a wide range of undergraduate mathematics.
- 615 Partial Differential Equations. 3 hrs.**
Elementary partial differential equations. Heat equation, Laplace's equation, separation of variables, Fourier series, vibrating strings, eigenvalue problems, finite differences, Bessel functions, Legendre polynomials.
- 616 Advanced Differential Equations. 3 hrs.**
Differential equations are studied qualitatively. Topics include the existence and uniqueness of solutions and the behavior of solutions including the stability of nonlinear systems, periodic solutions, and approximation using perturbation methods.
- 630 Topology I. 3 hrs.**
First course in topic of topology. Basics of point-set topology: metric and topological spaces, continuity, connectedness, compactness, products, quotients. Surfaces and simplicial complexes, Euler characteristics.
- 631 Topology II. 3 hrs.**
First course in algebraic topology. Homotopy, fundamental group, simplicial homology. (PR: MTH 630 and MTH 550)
- 632 Advanced Topology. 3 hrs.**
Advanced topics in topology, applications, and related topics beyond a first year course in topology. (PR: MTH 631)
- 635 Graph Theory and Combinatorics. 3 hrs.**
The course is designed to introduce students in mathematical sciences to the theorems, techniques and applications of graph theory and combinatorics. (PR: Permission)
- 640 Complex Variables I. 3 hrs.**
Complex numbers, analytic functions, properties of elementary functions, integrals, series, residues and poles, conformal mapping.
- 641 Complex Variables II. 3 hrs.**
Continuation of MTH 640. (PR: MTH 640)
- 642 Numerical Linear Algebra. 3 hrs.**
Direct and iterative methods for numerical solution of linear systems of equations. Eigenvalues and eigenvectors. Error analysis and norms. Related Topics. (PR: MTH 643)
- 643 Numerical Analysis. 3 hrs.**
The theory and technique of numerical computation involving the difference calculus, the summation calculus, interpolation methods, solutions of equations, and methods of solution of ordinary differential equations.
- 650 Real Variables I. 3 hrs.**
A study of measure and integration and related topics. (PR: MTH 528)
- 651 Real Variables II. 3 hrs.**
Continuation of MTH 650. (PR: MTH 650)
- 655 Number Theory. 3 hrs.**
A survey of some basic properties of the integers: divisibility (prime numbers, factorization, perfect numbers), congruences (modular arithmetic, linear and quadratic congruences, the Chinese Remainder Theorem), and Diophantine equations.
- 667 Numerical Partial Differential Equations. 3 hrs.**
Finite difference methods for elliptic, parabolic, and hyperbolic PDEs. Study of properties such as consistency, convergence, and stability. Computer implementation.
- 670 Independent Study. 1-4 hrs.**
An independent program of study of advanced topics not normally covered in other courses. The topics are chosen upon mutual agreement between the student and the instructor. (PR: Permission)
- 681 Thesis. 1-6 hrs.**
- 690-693 Special Topics. 1-4 hrs.**

MICROBIOLOGY, IMMUNOLOGY AND MOLECULAR GENETICS (MCB)

- 622 Current Topics in Molecular Biology. 1 hr.**
Critical discussion of current literature/concepts. Participants present published research papers on topic(s) with a molecular biology component. Presentations are followed by discussion/evaluation of the contribution of the research.

- 631 Medical Microbiology I. 3 hrs.**
This course will present the major aspects of the field of microbiology with emphasis on selected pathogenic organisms. (PR: BMS 600 or equivalent)
- 632 Medical Microbiology II. 3 hrs.**
This course will present a continuation of the major aspects of the field of medical microbiology with emphasis on the major pathogenic organisms. (PR: BMS 600 and MCB 631)
- 643 Principles of Immunology. 3 hrs. I.**
Basic principles of the immune response system of humans and related mammals. Concepts of B & T cell function and interrelationships emphasized. (PR: Cellular and Molecular Biology)
- 648 Molecular Aspects of Pathogenesis. 3 hrs.**
An in depth study of molecular mechanisms of bacterial, viral, and immune mediated disease processes. Course Requirements: BMS 600 and BIC 620

MECHANICAL ENGINEERING (ME)

- 515 Vehicle Dynamics. 3 hrs.**
Deals with ground vehicle stability and control. Contribution of tire lateral force, stiffness, and aligning torque to stability. Effects of suspension geometry, chassis stiffness, and roll stiffness. (PR: Graduate status)
- 520 Introduction to Computational Fluid Dynamics. 3 hrs.**
This course covers governing equations, ordinary differential equations (ODEs), numerical integration; finite difference and finite volume methods for parabolic, elliptic, hyperbolic partial differential equations (PDEs), numerical linear algebra; turbulence.
- 530 Renewable Energy. 3 hrs.**
Basic principles and technical details of various renewable energy technologies for the sustainable future. Process design, energy analysis, engineering economics and environmental assessment of renewable energy systems. (PR: Graduate status)
- 545 Nano-Material. 3 hrs.**
Covers fundamentals of nanomaterial and nanotechnology. Unique properties of nanomaterials. Synthesis methods of various nanomaterials. Nano and microfabrication techniques. Applications of nanomaterials in various technologies, environmental science, biotechnology and biomedicine. (PR: Graduate status)
- 560 Automation and Control. 3 hrs.**
This course provides an overview of the principles of automation and concept of system control, including instrumentation, control, human interface, and communication subsystems. (PR: Graduate status)
- 601 Advanced Engineering Analysis I. 3 hrs.**
The core of this course is to learn advanced analytical and computational methods to solve multi-dimensional conduction, convection-advection, mechanical vibration, and elasticity equations. (PR: Knowledge of ordinary differential equations, linear algebra and multivariable calculus is assumed.)
- 602 Advanced Engineering Analysis II.**
This is the second course in a two-course sequence to learn advanced analytical and computational methods to solve multidimensional diffusion, heat, biharmonic, and elasticity equations. (PR: ME 601)
- 604 Research Methods. 3 hrs.**
Research methods in engineering conducting critical reviews of research literature, preparing pre-proposal, and initiating background research on a thesis topic. Student is expected to submit a thesis pre-proposal. (PR: graduate status)
- 617 Additive Manufacturing. 3 hrs.**
Additive manufacturing (AM), rapid prototyping, rapid tooling, joining processes, direct digital manufacturing to form 30 parts with applications ranging from prototyping to production in aerospace, defense, and biomedical industries. (PR: Graduate status)
- 621 Corrosion Engineering. 3 hrs.**
Covers the causes and mechanisms of aqueous corrosion, electrochemistry and thermodynamics of corrosion. Materials selection, design for minimization of corrosion, and corrosion protection. Case studies are discussed. (PR: Graduate status)
- 625 Tribology. 3 hrs.**
Detailed coverage of the mechanisms of friction, material wear, and major lubrication techniques - liquids, solids, and gases - with traditional and modern applications. Coverage of micro/nanotribology, MEMS, and magnetic surface storage applications. (PR: Graduate status)
- 628 Applied Biomaterials. 3 hrs.**
Covers the knowledge needed to select and design biomaterials used in medical devices with emphasis on metallic, ceramic, polymeric, and composite biomaterials. Explains the difference between materials science and materials engineering. (PR: Graduate status)
- 630 Manufacturing Systems. 3 hrs.**
This course covers tool design and metal cutting theory, CAD/CAM, CIM, CNC m/c, CNC programming, fixture design, metal forming, gear manufacturing, non-traditional machining, PLC, flexible manufacturing, robotics, rapid prototyping/tooling. (PR: Graduate status)
- 635 Advanced Vibrations. 3 hrs.**
Modeling of vibratory motion of advanced mechanical and structural systems, including continuous systems, nonlinear systems and systems with random excitations. (PR: Graduate status)
- 640 System Modeling. 3 hrs.**
Overview of modeling and simulation of complex systems with mechanical, hydraulic, thermal and/or electrical elements. Frequency response analysis, stability, and numerical analysis of system modeling. (PR: Graduate status)
- 645 Nonlinear Dynamics. 3 hrs.**
Nonlinear dynamical systems, including concepts of chaos, fractal and classic dynamics equations, one dimension systems, two dimension systems, phase plane, limit cycle, bifurcation, Lorenz equation, and fractals.
- 649 Sustainable Energy Management. 3 hrs.**
Sustainable energy management; provides an overview of mechanical and control systems within buildings with sub-systems which possess a visible energy signature in terms of energy usage, inefficiency, and impact. (PR: Graduate status)
- 650-653 Special Topics. 1-4 hrs.**
Subject matter to be selected from topics of current interest. (PR: Graduate status)

MINE SAFETY (MSF)

- 510 Survey of Mining. 3 hrs.**
An overview of mining to provide the participant with a general understanding of mining history, development systems terminology, procedures, methods and safety and health activities.

- 511 Mine Safety Program Analysis. 3 hrs.**
This course prepares the participant for the effective analysis of safety programs and provides some specific applications in the mining environment.
- 512 Mine Safety and Health Legislation. 3 hrs.**
A survey of the legislation that has affected safety and health in mining with special emphasis of the Federal Mine Safety and Health Act of 1977.
- 513 Mine Safety and Health Management. 3 hrs.**
This course covers the principles, functions and philosophies of mine management.
- 514 Hazard Control in Mining. 3 hrs.**
A study of how to recognize accident potential throughout the mining industry.
- 525 Statistics/Biostatistics, Epidemiology and Industrial Hygiene. 3 hrs.**
Statistics/Biostatistics, Epidemiology and Industrial Hygiene as these subjects relate to health hazards in the mining environment. (PR: Module #1 of the Advanced Industrial Hygiene Program)
- 526 Industrial Toxicology and Airborne Contamination in Mining Environments. 3 hrs.**
Principles of Toxicology: biochemistry, biological monitoring, biological transformation and chemical hazards. Properties, behavior and measurement of airborne particles. Special topics: sampling and evaluating airborne asbestos dust. (PR: Module #1 of the Advanced Industrial Hygiene Program)
- 527 Physical and Biological Health Hazards in Mining and Milling Operations. 3 hrs.**
Physical hazards: heat, noise and radiation. Biological hazards: atmospheric transport of microorganisms that cause disease. (PR: Module #1 of the Advanced Industrial Hygiene Program)
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
A study of special topics not offered in regularly scheduled courses.
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 591-594 Workshop (Selected Topics). 1-4; 1-4; 1-4; hrs.**
- 621 System Safety Engineering in the Mining Industry. 3 hrs.**
A study of the analytical tools used in the recognition, evaluation and control of exposure to hazards in the Mining Industry.
- 622 Accident Prevention in the Mining Industry. 3 hrs.**
A survey course which discusses why and how mining accidents occur, factors in successful safety programs and the recognition, evaluation, and control of accident causes.
- 624 Mine Haulage and Transportation. 3 hrs.**
A study of the operation of hoisting haulage equipment used in the mining industry.
- 625 Philosophical Concepts of Mine Safety and Health. 3 hrs.**
An analysis of the philosophies of mine safety and health; application of these philosophies to actual mining situations.
- 626 Safety and Health Research in the Mining Industry. 3 hrs.**
An analysis and study of selected works of national and international authors concerning mine safety and health.
- 627 Health Hazards in Mining. 3 hrs.**
A broad spectrum approach to the mine health field which includes: the principles for recognition, evaluation and control of health hazards in mining.
- 628 Man, Machines and the Environment in the Mining Industry. 3 hrs.**
A study of the interactions of man, machines and the environment. The role of these interactions in causing or in preventing accidents.
- 629 Problem Analysis and Consultation in Mine Safety and Health. 3 hrs.**
A study of the rational process of problem solving decision making consultation with emphasis on realistic case studies.
- 631 Mine Accident Investigation and Reporting. 3 hrs.**
A study of the principles, techniques and procedures of investigations of mine accidents including attendance in court and report writing.
- 635 Sampling, Industrial Ventilation, and Respiratory Protective Equipment for Mining and Milling Operations. 3 hrs.**
Gas, vapor and particulate sampling - industrial ventilation for control of health hazards. Use of respiratory protective equipment to control health hazards. (PR: Module #1 of the Advanced Industrial Hygiene Program)
- 636 Threshold Limit Values: Sampling and Analytical Techniques. 3 hrs.**
Threshold limit values and material safety data sheets. Hands-on experience in collecting industrial hygiene samples and subsequent laboratory analysis of the samples. (PR: Module #1 of the Advanced Industrial Hygiene Program)
- 637 Stress and its Impact on Safety and Health in Mining. 3 hrs.**
A study on stress and its impact of safety and health in mining. Activities will be scheduled to enable the student to apply, in a work setting, some of the basic stress concepts.
- 679 Problem Report. 3 hrs.**
- 681 Thesis. 1-6 hrs.**
Individual research on a specific problem of concern to the student and of significance to mine safety.
- 690-692 Seminar. 1-4 hrs.**

MUSIC (MUS)

- 501 Graduate Music History Review 1. 2 hrs.**
Review of the history of Western music from 1750 to the present for entering graduate students who are deficient or wish to review their content knowledge.
- 502 Graduate Music History Review 2. 2 hrs.**
Review of the history of Western music from 1750 to the present for entering graduate students who are deficient or wish to review their content knowledge.
- 503 Choral Union. 1 hr.**
Large choral ensemble available to university and regional singers without audition.
- 504 University Chorus. 1 hr.**
A mixed chorus of 60-90 singers open to all university students without audition. Public performances of a variety of music are given each semester. Three rehearsals per week.
- 505 Music Technology Review. 3 hrs.**
Review of music software and DAW hardware for classroom instruction, assisted practice, notation, MIDI and recording.
- 506 Opera Workshop. 1 hr.**
Preparation and performance of opera scenes and full operas. Membership open to students as singers, pianists, and technical personnel. Roles assigned by audition. Two rehearsals per week plus private coaching. (PR: Audition with Director)
- 507 Chamber Choir. 1 hr.**
Advanced, auditioned choral ensemble open to all university students. Repertoire performed locally and on tour includes great chamber literature of the past five centuries. Three rehearsals per week. (PR: Audition with Director)
- 508 Marshall University Orchestra. 1 hr.**
The Marshall Orchestra is open to all university students, faculty, and interested musicians in the community with permission of the instructor. Concerts are presented each semester. (PR: Audition with Director)

- 510 Introduction to World Music. 3 hrs.**
This course will survey native musics of Africa, Asia, and the Americas as an aspect of culture. No formal background in music is required, as students will learn techniques for listening and articulating responses to music.
- 511 Orff-Schulwerk. 3 hrs.**
Experiences in Orff-Schulwerk include use of poetry, rhymes, games, songs, and dances in teaching music. Singing, movement, and instrument playing and the spoken word are the primary learning tools. (PR: Graduate standing and one course in elementary music methods)
- 512 Advanced Jazz Pedagogy and Conducting. 3 hrs.**
Advanced study of methods and materials for jazz curriculum. Ensemble organization, rehearsal and conducting techniques. Selection of literature and equipment. Organization and presentation of public performances.
- 513 Advanced Jazz Styles and Analysis. 2 hrs.**
Advanced study of structural forms used in jazz. Detailed analysis of extended forms. Techniques for solo transcriptions. Harmonic practices in specific styles. In-depth study of significant jazz composers, performers, genres.
- 526 American Music and Its Influences. 3 hrs.**
Musical and cultural influences of European, West Africa, Caribbean, and Native American societies on United States music from 1650-1920. Specific application to concert music. (PR: Graduate standing or permission of instructor)
- 532 Electronic Music Composition. 2 hrs.**
The theory and practice of electronic media used for musical composition. History, Synthesis, and Digital Audio processing will be emphasized. (PR: Graduate standing in music)
- 540 Graduate Theory Review. 3 hrs.**
Review of undergraduate music theory for entering graduate students who are deficient or wish to review music theory skills.
- 545 Piano Ensemble. 1 hr.**
Study and perform a wide variety of musical styles for multiple pianists on 1-5 pianos. (PR: Instructor Audition)
- 550 Guitar Literature. 2 hrs.**
A survey of the literature for guitar from c. 1400 to the twentieth century; to expose the guitarist to many of the important composers and their works.
- 551 Guitar Pedagogy. 2 hrs.**
A survey of guitar pedagogy materials, and a practicum in teaching classical guitar.
- 552 Cello Ensemble. 1 hr.**
Cello students will rehearse and perform works from the major literature for cello ensemble.
- 553 Guitar Ensemble. 1 hr.**
An ensemble for guitar majors and qualified guitar elective students; focus on sight reading skills, ensemble accuracy and position playing.
- 554 Flute Ensemble. 1 hr.**
Performs a wide variety of musical styles from full choir to quartets, trios, etc. (PR: Audition)
- 555 String Ensemble. 1 hr.**
Chamber ensemble experience for string players.
- 556 Woodwind Ensemble. 1 hr.**
Chamber ensemble experience for woodwind players.
- 557 Percussion Ensemble. 1 hr.**
An ensemble dedicated to performing a wide variety of musical styles on instruments in the percussion family.
- 558 Brass Ensemble. 1 hr.**
Chamber ensemble experience for brass players.
- 559 Jazz Ensemble. 1 hr.**
Study and performance of traditional and progressive jazz repertoire in a big band ensemble. Open to all university students by audition. (PR: Audition with Director)
- 560 Jazz Improvisation Ensemble. 1 hr.**
Ensemble improvisation from duet to tetet. Emphasis on music sight reading, recognition and application of chord/scale relationships in a performance setting. Ensemble playing skills. May be repeated for credit.
- 565 Symphonic Band. 1 hr.**
The Marshall University Symphonic Band rehearses twice a week and presents two concerts each semester. Symphonic Band performs a varied repertoire of music from wind band staples to contemporary works.
- 566 Marching Band. 1 hr.**
The Marching Thunder rehearses three times a week and performs a varied selection of music at every home game as well as at exhibitions around the country.
- 567 Wind Symphony. 1 hr.**
A select, auditioned group of wind and percussion players who study and perform original and transcribed works for wind orchestra and works for smaller mixed chamber ensembles (PR: Audition)
- 568 Pep Band. 1 hr.**
The Marshall University Pep Band performs at all home men's and women's basketball games. Pep band provides music to enhance the overall game experience for players and fans.
- 569 Contemporary Music Ensemble. 1 hr.**
Performance of contemporary music in various media.
- 570 Music Production Practicum. 1 hr.**
Specialized practical training in aspects of performance production, preparation, and execution. May be repeated once.
- 571 African Drum and Dance Ensemble. 1 hr.**
Ensemble devoted to the performance of traditional African drumming and dance.
- 572 Fife and Drum Corps. 1 hr.**
Performing/marching/uniformed ensemble devoted to the music of the American Revolution and Chief Justice John Marshall. Instruments featured include fifes and drums. (PR: Permission or Audition Required)
- 574 Irish Ceili Band. 1 hr.**
Ensemble devoted to the performance of Irish Ceili and dance music.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 591-594 Workshop. 1-4; 1-4; 1-4; 1-4 hrs.**
- 601 Orchestral Literature. 3 hrs.**
A survey of orchestral literature from the 17th century to the present.
- 602 Band and Wind Ensemble Literature. 2 hrs.**
A comprehensive survey of the literature for concert band and wind ensemble.
- 604a Keyboard Literature. 2 hrs.**
A survey of keyboard literature from the 14th to the 20th century. Emphasis is on stylistic developments and formal procedures.

- 604b Chamber Music Literature. 2 hrs.**
A survey of chamber music literature from the Baroque Era to the 20th century. Analysis of form emphasized in the study of string quartet trio, quintet, and various other combinations.
- 604c Song Literature. 2 hrs.**
The song literature of Western Europe and America, also including contemporary material from other countries; interpretation, song study, program building, languages, and interpretation of accompaniments. For singers and accompanists.
- 604d Choral Literature. 2 hrs.**
A comprehensive study of the forms and styles of Choral Composition from Renaissance to present day.
- 604f Percussion Literature. 2 hrs.**
A survey of instructional and performance literature for solo brass instruments and brass ensembles.
- 604g String Literature. 2 hrs.**
A survey of instructional and performance literature for solo violin, viola, cello, bass, guitar, and string ensembles.
- 604h Woodwind Literature. 2 hrs.**
A survey of instructional and performance literature for flute, oboe, clarinet, bassoon and/or saxophone in both solo and ensemble settings.
- 604i Brass Literature. 2 hrs.**
A survey of instructional and performance literature for solo brass instruments and brass ensembles.
- 610 History and Philosophy of Music Education. 3 hrs.**
Historical study and philosophical analysis of objectives, rationales and justifications for the study of music in the public schools.
- 611 Music Psychology and Learning Theory. 3 hrs.**
Theories of learning, neuromuscular, and psychological processes applied to musical development, and their applications to teaching, performance and curriculum development.
- 612 Projects and Problems in Music. 3 hrs.**
Detailed investigation of problems and/or projects in the student's area of specialization.
- 614 Seminar in Teaching Music Appreciation. 2 hrs.**
Methods and materials for teaching music appreciation. Required of all graduate assistants teaching MUS 142, Music Appreciation. May be repeated for credit.
- 615 Advanced Techniques for Marching Band. 3 hrs.**
Advanced methods, materials, and techniques for training and administering a marching band program, including show planning, drill writing, arranging, and administration.
- 616 Music Curriculum and Administration. 3 hrs.**
Study of the organization of the school music program including budget, scheduling, organization and curriculum design.
- 617 Seminar in Music Education. 3 hrs.**
Specialized study of advanced concepts and current problems in music education.
- 618a Administration of Instrumental Music. 3 hrs.**
The planning and operation of the instrumental program and the details of programming the work in a school system.
- 618b Administration of Choral Music. 3 hrs.**
A study of the organization of choral music programs including; recruitment, auditions, scheduling, rehearsal arrangement, programming, touring, and budget.
- 619a Seminar in Vocal Pedagogy. 2 hrs.**
A study of the techniques of singing and their application to private and class instruction. Emphasis placed upon diagnosis of problems, and teaching under supervision.
- 619b Seminar in Piano Pedagogy. 2 hrs.**
An analytical survey of developments in piano techniques and pedagogical procedures with open discussions on various facets of piano teaching.
- 620a Instrumental Techniques and Materials. 3 hrs.**
Advanced study of the methods and materials of instrumental music instruction at all levels
- 620b Choral Techniques and Materials. 3 hrs.**
Advanced study of the methods and materials of choral music instruction.
- 621 Music Research Methods. 3 hrs.**
Introduction to bibliographic sources, historical, analytical and empirical research methods applied to music and music education.
- 622 Styles and Analysis. 3 hrs.**
Identification of structural principles and compositional idioms characteristic of historical eras and representative composers from the Ars Antiqua to the present day.
- 629 Choral Conducting and Interpretation. 3 hrs.**
Advanced study in literature, conducting techniques, score preparation and analysis, interpretation, rehearsal planning and execution for the choral ensemble. May be repeated for credit three times.
- 630 Instrumental Conducting and Interpretation. 3 hrs.**
Advanced study in conducting techniques, score preparation and analysis, interpretation, rehearsal planning and instrumental ensemble literature. May be repeated for credit three times.
- 631 Advanced Jazz Improvisation. 2 hrs.**
Advanced skills, techniques, and performance practices for jazz improvisation. Continued study of bebop, post-bebop, extended forms, contemporary, and non-Western styles and improvisation techniques. Transcription and performance of representative literature. (PR: Jazz Improv IV)
- 640a Music Theory. 3 hrs.**
Analytical and writing techniques of 19th and 20th Century music.
- 640b Music Theory. 3 hrs.**
Continuation of Music 640a.
- 641 Advanced Counterpoint. 3 hrs.**
An intensive study of contrapuntal techniques, styles, and forms through composition and analysis.
- 642 Procedures and Techniques for Elementary Music (Grades K-6). 3 hrs.**
Fundamentals of Music; experience in keyboard, guitar, recorder and autoharp. Survey of materials and methodology to aid in establishing program in school music. Non-majors only.
- 645 Original Composition. 2 hrs.**
- 646 Advanced Choral Arranging. 3 hrs.**
Techniques of choral composition and arranging with emphasis on the mixed choir. Arrangements and original works sung by choral groups and conducted by students.
- 647 Advanced Band Arranging. 3 hrs.**
A study of the scoring for modern concert and marching bands, the transcription of works for other media as well as original works; analysis of band literature, harmonic and formal.
- 648 Advanced Orchestration. 3 hrs.**
Scoring compositions from other media for modern orchestras of various sizes.

- 649 Advanced Jazz Arranging and Composition. 3 hrs.**
Comprehensive techniques and analysis of jazz masterworks applied to composing and arranging in various instrumental and vocal jazz styles. Techniques of orchestration and composition for both large and small ensembles.
- 650 Music of the Middle Ages. 3 hrs.**
The historical and stylistic study of music of the Middle Ages, ca. 600 to ca. 1400.
- 651 Music of the Renaissance. 3 hrs.**
The historical and stylistic study of music of the Renaissance, ca. 1400 to ca. 1600.
- 652 Music of the Baroque Era. 3 hrs.**
The historical and stylistic study of music of the Baroque Era, ca. 1600 to ca. 1750.
- 653 Music of the Classical Era. 3 hrs.**
The historical and stylistic study of music of the Classical Era, ca. 1720 to ca. 1820.
- 654 Music of the Romantic Era. 3 hrs.**
The historical and stylistic study of music of the Romantic Era, ca. 1800 to ca. 1900.
- 655 Music ca. 1900 to the Present. 3 hrs.**
The historical and stylistic study of music ca. 1900 to the present.
- 656 Seminar in Performance Practice. 2 hrs.**
Students will prepare and perform music from a selected style period using editorial methods and research as appropriate to the chosen period. May be repeated for credit.
- 657 Jazz History. 3 hrs.**
Comprehensive study of the development of jazz and related forms from inception to recent trends. Relationships between aesthetic, technological, and social changes and their effects. Study of historic recordings.
- 670 Current Trends in Music Education (PreK-5). 3 hrs.**
Methods and materials that engage children in musical learning experiences from an infancy through grade 5, including curriculum development, designing age-appropriate activities; study of current research in music learning.
- 675 Music in Early Childhood (Birth to Age 5). 3 hrs.**
Methods and materials for music learning in earliest childhood to include developmentally appropriate curriculum and activities, ways that babies and toddlers learn, and current trends in early childhood music education.
- 679 Problem Report. 1-3 hrs.**
- 681 Thesis. 1-6 hrs.**

Applied Music

- 680 Saxophone. 1-2 hrs.**
- 682 Flute. 1-2 hrs.**
- 683 Oboe. 1-2 hrs.**
- 684 Clarinet. 1-2 hrs.**
- 685 Bassoon. 1-2 hrs.**
- 686 French Horn. 1-2 hrs.**
- 687 Trumpet. 1-2 hrs.**
- 688 Trombone. 1-2 hrs.**
- 689 Euphonium. 1-2 hrs.**
- 690 Tuba. 1-2 hrs.**
- 691 Violin. 1-2 hrs.**
- 692 Viola. 1-2 hrs.**
- 693 Cello. 1-2 hrs.**
- 694 String Bass. 1-2 hrs.**
- 695 Piano. 1-2 hrs.**
- 696 Voice. 1-2 hrs.**
- 697 Organ. 1-2 hrs.**
- 698 Percussion. 1-2 hrs.**
- 699 Guitar. 1-2 hrs.**

NURSING (NUR)

Graduate nursing courses are open only to those students admitted to the nursing program.

- 580-584 Special Topics in Nursing. 1-4 hrs.**
Program of study not normally covered in other courses. Topics vary from semester to semester. (PR: Permission of instructor)
- 585-588 Independent Study in Nursing. 1-4 hrs.**
Courses taught by tutorials; directed independent readings or research; problem reports, and other activities designed to fill needs of individual students.
- 591-594 Nursing Workshop. 1-4 hrs.**
Practical, participatory courses for advanced students. Experience in new techniques and application of new knowledge.
- 602 Theoretical Foundations in Nursing. 3 hrs.**
Provides students with opportunity to relate a philosophical and theoretical base to concepts and processes inherent in nursing. Emphasis is on analysis of nursing theories and their relationship and application to research and practice.
- 604 Leadership in Nursing. 3 hrs.**
Explores the theoretical basis for effective leadership in nursing. Emphasis is placed on analysis of leadership, characteristics and behaviors of leaders, and the role of the nurse leader.
- 606 Advanced Nursing Research. 3 hrs.**
Provides the opportunity to develop a research approach to nursing situations. Focus is upon the development of a research proposal. (PR: or concurrent NUR 602 or Perm)
- 608 Issues in Health Care. 3 hrs.**
Explores and evaluates concerns germane to contemporary nursing. Focus is upon the role of nursing in addressing health issues affected by social, economic, political, and technological forces.
- 616 Curriculum Development in Nursing. 3 hrs.**
Introduces the various component in the curriculum development process. Emphasis is on philosophy, objectives, curriculum designs, and program evaluation. Factors influencing curriculum development, implementation, evaluation, and nursing curriculum patterns are examined.
- 618 Teaching in Nursing. 3 hrs.**
Investigates the responsibilities of the educator in contemporary nursing. Emphasis is upon the instructional process. Practicum allows student to practice the role of the teacher in a variety of educational experiences.

- 619 **Practicum: Teaching in Nursing. 6 hrs.****
Guided experience in didactic teaching of nursing clinical teaching, supervision and evaluation of students.
- 620 **Advanced Pathophysiology I. 2 hrs.****
Advanced knowledge of body systems altered by disease and/or injury. The body systems or diseases studied will include: cell, cardiovascular, pulmonary, digestive, musculoskeletal, neurologic and reproductive across the lifespan. (PR: Permission of instructor)
- 621 **Advanced Pathophysiology II. 2 hrs.****
Advanced knowledge of body systems altered by disease and/or injury including hematologic genes, immunity, cancer, endocrine, renal, urologic, and integumentary across the lifespan. (PR: NUR 620)
- 622 **Advanced Physical Assessment. 5 hrs.****
Introduction to knowledge and skills essential for comprehensive health assessments, analysis of data, formulation of diagnoses, development of the therapeutic plans, and implementation of health promotion and maintenance activities. Practicum included. (PR or concurrent: NUR 602, NUR 604)
- 624 **Advanced Family Nursing Practice I. 5 hrs.****
Provides advanced knowledge and nursing management of common and acute self-limiting health problems of individuals and families of various age groups. Includes pathology and therapeutic modalities related to specific health problems. Practicum included. (PR: NUR 622, PR or concurrent: NUR 606)
- 626 **Advanced Family Nursing Practice II. 5 hrs.****
Provides advanced knowledge of chronic illness and the long-term nursing management of health care problems. Includes pathology and therapeutic modalities related to management of chronic health problems. Practicum included. (PR: NUR 624)
- 642 **Organizational Dynamics in Nursing. 3 hrs.****
Focus is upon the organizational dynamics as they apply to the nurse manager role in health care delivery systems.
- 644 **Financial Strategies in Nursing Administration. 3 hrs.****
Examines the financial management role of the nurse administrator in relation to economic, political, and societal trends.
- 646 **Nursing Management in Health Care Settings I. 6 hrs.****
Focuses on the application of theories and principles related to nursing management. Practicum included. (PR or concurrent: NUR 604, NUR 606; PR: NUR 642, NUR 644)
- 648 **Nursing Management in Health Care Settings II. 6 hrs.****
Practicum focuses upon the application of the role components of the nurse manager in selected health care settings. Seminars included. (PR: NUR 646)
- 663 **Advanced Pharmacology I. 2 hrs.****
Focus on the science of drugs and the application to patient care across the lifespan. Principles of pharmacology covered include infectious diseases, fluids and electrolytes, peripheral nervous and cardiovascular systems. (PR: instructor permission)
- 664 **Advanced Pharmacology II. 2 hrs.****
Focus is on the science of drugs and application to patient care across the lifespan. Drugs affecting the blood, respiratory, gastrointestinal, central nervous and endocrine systems. Anti-inflammatory, anti-allergic and immunologic drugs. (PR: NUR 663)
- 679 **Problem Report in Nursing. 1-3 hrs.****
The preparation of a written report on a research problem or field of study in nursing.
- 681 **Thesis. 1-6 hrs.****
Individual research in a selected area of nursing under direction of a faculty member. (PR: NUR 606)
- 690-693 **Seminar in Nursing. 1-3 hrs.****
Topics in nursing not covered in other courses; topics will vary.
- 695 **Internship: Advanced Family Nursing. 6 hrs.****
Focus is upon the role of the family nurse practitioner using the case management approach in a supervised contractual work study arrangement with a health care agency. (450 hrs. minimum) (PR: NUR 626)
- 720 **Advanced Pharmacology for Nurse Anesthesia 1. 3 hrs.****
- 721 **Advanced Pharmacology for Nurse Anesthesia 2. 3 hrs.****
- 741 **Advanced Health Care Clinical Practicum/Physical Assessment. 6 hrs.****
The Introduction to Health Care Clinical Practicum provides the student with a beginning knowledge and proficiency in all phases of anesthetic management (pre-anesthesia, induction, maintenance, post-anesthesia)
- 741A **Health Care Practicum. 5 hrs.****
The Clinical Practicum prepares the student for the full scope of current practice and requires a minimum of 550 clinical cases including a variety of procedures, techniques, and speciality practice. (PR: NUR 741)
- 741B **Nurse Anesthesia Professional Practice. 3 hrs.****
Continuation of NUR 741. (PR: NUR 741)
- 741C **Health Care Practicum. 5 hrs.****
Continuation of MPNA 741A. (PR: NUR 741B)
- 741E **Health Care Practicum. 5 hrs.****
Continuation of NUR 741C. (PR: NUR 741C)
- 741G **Health Care Practicum. 5 hrs.****
Continuation of NUR 741E. (PR: NUR 741E)
- 741I **Health Care Practicum. 5 hrs.****
Continuation of NUR 741G. (PR: NUR 741G)
- 741J **Health Care Practicum 6 hrs.****
Continuation of NUR 741I. (PR: NUR 741I)
- 741K **Health Care Practicum. 6 hrs.****
Continuation of NUR 741J. (PR: NUR 741J)
- 744 **Regional Anesthesia. 1 hr.****
Continuation and conclusion of materials started in NUR 741.

PARK RESOURCES AND LEISURE SERVICES (PLS)

- 500 **Leisure and Aging. 3 hrs.****
A course presenting an overview of leisure services for the elderly. Topics include research results, theories, and modern day trends. A wellness model will be included.
- 501 **Administration of Parks and Recreation. 3 hrs.****
Considers administrative practice and various organizational structures. Includes administrative processes, supervision of personnel, budgeting, and public relations. Requires conducting a case study of an existing park and recreation department, including fiscal and personnel policies and an analysis of the effectiveness of such policies.

- 502 Assessment and Evaluation in Recreation and Leisure Services. 3 hrs.**
Theoretical and practical approach to evaluation as applied to recreation and leisure services. Emphasis will be upon developing sound assessment and evaluation methodology applicable to recreation and leisure studies. (PR: PLS 101 or permission)
- 505 Park/Recreation Ecology. 3 hrs.**
The course is designed to help students identify and evaluate the level of resource impact, understand factors that cause resource impacts, and suggest appropriate management actions to minimize impacts under given conditions.
- 510 Recreation Area and Facility Maintenance. 4 hrs.**
A study of the knowledge and skills necessary to supervise and administer the general development and maintenance of park and recreation areas and facilities.
- 511 Recreation Areas and Facilities. 3 hrs.**
Basic considerations in the planning and design of recreational and sport areas, facilities, and structures including associated amenities.
- 521 Recreation for Special Populations. 3 hrs.**
Study of the use of recreation activities with disabled persons. Techniques in programming and adaptation to meet the leisure needs of special groups in today's society. In association with a therapeutic recreation institution, student must develop a new/revised procedure for providing recreation programs at that institution. (PR: PLS 120 or permission)
- 522 Therapeutic Recreation in Institutional Settings. 3 hrs.**
Designed to acquaint students with the role and practice of therapeutic recreation in treatment centers. Requires preparation of an annotated bibliography of current literature in this field and conducting of a case study of therapeutic recreation programmatic offerings in such an institution. (PR: PLS 120 or permission)
- 530 Environmental Interpretation. 4 hrs.**
Principles and techniques of environmental interpretation as practiced in federal, state, and private agencies. Student must develop an interpretative brochure and evaluate both a facility and a program. 3 lec.-2 lab.
- 531 Forest Recreation Planning. 4 hrs.**
Utilizes the functional planning approach based upon demand and site capability analysis. Student conducts an in-depth recreation capability analysis in an existing park facility, presents this in written form; reviews the current literature on forest recreation development, and makes a final oral report. 3 lec.-2 lab.
- 533 GIS/RS in Natural Resources. 3 hrs.**
Focusing on natural resource management, the course will explore techniques and procedures required for spatially explicit data analysis in parks and protected areas.
- 550 Introduction to Off-Highway Vehicle Recreation. 3 hrs.**
A course designed to integrate off-highway vehicle recreation concepts, experiences, research trends, supply and demands, and management issues.
- 551 Planning, Design, and Construction of Off-Highway Vehicle Trail System. 3 hrs.**
Planning methodologies typically used by federal, state, and local governments. Includes assessment of resource and social value conflicts and partnership creation.
- 552 Construction of OHV Trail Systems. 3 hrs.**
A course designed to instruct students in contemporary methods and techniques of constructing OHV trails and related facilities.
- 553 Operation and Management of OHV Trail Systems. 3 hrs.**
Diagnosis of OHV problems and development of solutions based upon recognized trail standards and typical resource impacts.
- 580-583 Special Topics in Recreation. 1-4; 1-4; 1-4; 1-4 hrs.**
Study of an advanced topic not normally covered in other courses. 3 lec.-2 lab. (PR: Permission of Chairman)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
Requires conducting of individual survey/research projects beyond the requirements for undergraduates. Such projects will be individualized to meet the needs of students while accomplishing some practical need in the field. (PR: Permission)

PATHOLOGY (PTH)

- 620-621 Human Pathology. 7; 7 hrs., I, II.**
General principles of pathology, systemic pathology, and holistic integration with laboratory medicine and autopsy-clinical-and-cytologic material. (PR: Consent of instructor)

PHARMACOLOGY (PMC)

- 610 Introduction to Pharmacology. 3 hrs., I.**
An indepth presentation of the history and introductory principles of pharmacology. Designed to acquaint students with pharmacology as a scientific discipline and provide the basis for more advanced courses. (PR: Consent of instructor)
- 621 Medical Pharmacology I. 6 hrs.**
This course will encompass the core pharmacology concepts as well as drugs used in the treatment of infectious diseases, cancer, hematological matters, nervous system agents and cardiovascular drugs. (PR: BMS 600 or equivalent; REC: PHS 629 desirable)
- 622 Medical Pharmacology II. 2 hrs.**
This course will encompass the core pharmacology concepts as well as drugs used in the treatment of pulmonary, gastrointestinal, endocrine, renal and musculoskeletal diseases, drugs specific for men's and women's health, dermatological agents and toxicology. (PR: BMS 600 or equivalent; REC: PHS 629 desirable)
- 625 Drug Metabolism. 3 hrs., I.**
Topics will include a discussion of the metabolizing enzymes, enzyme induction and inhibition, toxic metabolites, prodrugs, metabolic disorders and analytical methods for studying drug metabolism. (PR: consent of instructor)
- 630 Chemical Aspects of Pharmacology. 3 hrs., I.**
An introduction to the chemical principles of pharmacology. The chemical classification, acid- base chemistry and stereochemical properties of drugs and the reactivity of drugs with biological systems will be discussed. (PR: organic chemistry, consent of instructor)
- 635 Neuropharmacology. 3 hrs., I.**
A study of the actions of drugs on the nervous system.
- 640 Behavioral Pharmacology. 3 hrs., I.**
Behavioral methods for assaying drug action. (PR: consent of instructor)
- 643 Introductory Cardiopulmonary Pharmacology. 3 hrs.**
A general overview of the principles of pharmacology and the mechanisms and effects of cardiovascular and respiratory drugs. (PR: PHS 629 or BSC 522, consent of instructor)
- 645 Advanced Cardiopulmonary Pharmacology. 3 hrs., I.**
An in-depth presentation of pharmacological aspects of cardiovascular and pulmonary systems. Current knowledge, principles and methods used in cardiopulmonary research will be discussed. (PR: PMC 620 or PMC 643; consent of instructor)

- 650 General Toxicology. 3 hrs., I.**
An in depth presentation of the general principles and methods of toxicology. Mechanism, distribution and organ system responses to toxins and methods of toxicological evaluation will be discussed. (PR: consent of instructor; PMC 610 or PMC 621 highly recommended)
- 655 Toxicology Reviews. 1 hr.**
This course will provide a presentation and discussion of current literature in the area of toxicology. Fundamental principles and new discoveries will be emphasized.
- 676-677 Special Topics. 1-4 hrs.**
Material on special areas of research of topics which are not routinely covered in existing courses.

PHARMACY (PHAR)

- 511 Clinical Immunology. 1 hr.**
Skill development in vaccine administration, patient counseling, and maintaining appropriate record management. The student will acquire knowledge regarding individual vaccines and the vaccination process. This knowledge will be reinforced through laboratory and simulation activities. Skill development will culminate with the student providing immunizations in patient settings. (PR: P1 standing)
- 521 Integrated Laboratory I. 2 hrs.**
This is a laboratory course to provide hands-on experience that complements didactic presentations in PHAR 531 and PHAR 532. (PR: PHAR 531; CR: PHAR 532)
- 522 Fundamentals of Medical Chemistry. 2 hrs.**
An introductory course providing the fundamental basics of drug action. Specifically, the course will cover the physicochemical properties of drugs, basic principles of medicinal chemistry and structure activity relationships, including drug-receptor interactions theories of drug action and drug metabolism. (PR: P1 standing)
- 531 Biopharmaceutics I. 3 hrs.**
Topics covered include the physiochemical principles of pharmacy, such as acid-base theory, solubility, physical states of drugs, thermodynamics, drug stability, excipients, surfactants, dispersions, polymers, drug delivery, chemical compatibility and interactions of drugs in various dosage forms. (PR: P1 status)
- 532 Biopharmaceutics II. 3 hrs.**
Topics covered include mechanisms of both immediate and sustained drug release in formulations involving solid and semi-solid systems; introduction to novel drug delivery systems; drug pre-formulation, the drug approval processes, and regulations governing the pharmaceutical industry; drug preparation, liberation, absorption and stability of dosage. (PR PHAR 531; CR: PHAR 521)
- 541 Pharmacy Practice I. 4 hrs.**
Begin professional development understanding the responsibilities of a registered pharmacist providing patient care. Professional conduct, personnel management, personal conduct, pharmacy calculations, immunizations, legal issues, and team dynamics are stressed. (PR: P1 status)
- 542 Immunology and Microbiology. 4 hrs.**
Topics covered include an introduction to the classification, morphology and physiology of microorganisms, primarily organisms that can cause human pathology, such as bacteria, viruses, fungi, protozoans, parasites, and worms; the body's immune response and mechanisms of defense at the cellular and humoral (molecular) level will also be covered in the context of pathogenic organisms, tissue transplants, and autoimmune diseases. (PR: P1 status)
- 543 Pharmacy Practice II. 4 hrs.**
Continued professional development of the pharmacy practitioner. Sterile products, top 200 medications, laboratory values, SOAP notes, documentation, medication safety, patient counseling and technology, communication, and public service are stressed. (PR: PHAR 541)
- 544 Principles of Disease and Drug Action. 4 hrs.**
Topics covered include the concepts and mechanisms of the basic processes underlying disease and pathophysiology; the general principles underlying drug action and therapeutics, including receptor pharmacology, enzyme inhibition and pharmacology; the relationship between drug concentration at the target tissue and drug effect; and concepts in pharmacogenomics and pharmaceutical genetics as they relate to drug action and individual variation in response to drug action, nutrition, and biochemical processes. (PR: P1 status)
- 545 Therapeutics I. 4 hrs.**
Students will learn about the therapeutic use, human physiology, and pharmacologic and chemical properties of over-the-counter medication and non-medication interventions for both treatment and prevention of disease. (PR: PHAR 541; CR: P1 status)
- 546 Pharmaceutical Biochemistry. 4 hrs.**
This course is designed to provide biochemistry fundamentals to Pharm.D. students. Topics covered include structures and properties of water and biomolecules (proteins, carbohydrates, lipids, and nucleic acids), enzymes and enzyme kinetics, membranes, receptors, transporters, signaling, human metabolism, hormonal regulation of metabolism, and the basics of genomics, gene regulation, and proteins synthesis. Examples of basic principles covered in this class will be illustrated by use of the top 200 drugs. (PR: P1 status)
- 611 Integrated Laboratory II. 1 hr.**
Practical hands-on experience in modern scientific methods used in biochemistry, pharmaceuticals, pharmacology, pharmacometrics; and analytical methods employed to detect, characterize, and quantitate naturally occurring substances and drug molecules. (PR: P2 standing)
- 612 Therapeutic Drug Dosing. 1 hr.**
Application of the basic principles of pharmacokinetics and pharmacodynamics to practice settings. Simulation and case-based methods are used to allow integration of pharmacy practice and skills learned during the PHAR 631 course. (PR: P2 standing)
- 621 Pharmacy Law and Ethics. 2 hrs.**
An applied analysis of federal and West Virginia state law and ethical standards in the practice of pharmacy and pharmaceutical care.
- 622 Drug Information and Communication Skills. 2 hrs.**
Topics covered include basic skills in obtaining and utilizing drug information references, and foundational skills required in patient counseling, such as the Indian Health method of counseling. (PR: P2 standing)
- 631 Pharmacometrics. 3 hrs.**
Topics covered include the basic theory of pharmacokinetics and pharmacodynamics; processes and mechanisms controlling the rate and extent of drug absorption and systemic availability; bioavailability and bioequivalence.
- 632 Pharmacy Practice Management I: Leadership. 3 hrs.**
Provides students with a working knowledge of important and fundamental aspects of pharmacy practice leadership including, but not limited to: management, strategic planning, motivational theories, and employment issues.
- 633 Patient Care Skills Lab. 3 hrs.**
Application of physical assessment, triage, patient counseling, and communication skills. Assessment of individual patient, acuity, responsible therapeutic plan, documentation, conflict resolution, and team building are stressed.
- 634 Pharmacy Practice Management II: Finance. 3 hrs.**
The contemporary practice of pharmacy in the health care system as it fits into the business environment. Health care systems, pharmacoeconomics, planning, evaluating, and decision-making through financial report analysis/case study are stressed.

- 635 Bridging Research Outcomes and Patient Care. 3 hrs.**
The fundamentals of clinical and outcomes research will be discussed and applied to patient care. Students will gain an understanding of study design, research methods, statistical analysis, and pharmacotherapy.
- 661 Therapeutics II. 6 hrs.**
This course discusses clinical microbiology and principles of anti-infective therapy as well as the pathophysiology, associated pharmacology, and therapeutic approaches to infectious diseases and conditions of the integumentary system.
- 671 Therapeutics III: Cardiovascular, Renal, Pulmonary Diseases and Electrolyte Homeostasis. 7 hrs.**
Students will learn about the therapeutic use of medication and non-medication interventions for both treatment and prevention of cardiovascular diseases, renal diseases, pulmonary diseases, and associated electrolyte disorders.
- 711 Medication Therapy Management. 1 hr.**
The student will learn to resolve medication-related problems to reduce costs and improve outcomes. (PR: P3 standing)
- 712 The Pharmacist and Patient-Centered Diabetes Care. 1 hr.**
Diabetes care capstone. (PR: P3 status)
- 721 Therapeutics 7: Special Populations. 2 hrs.**
This course will emphasize the unique needs and differences in therapeutic recommendations for patients at the extremes of ages, diverse cultural backgrounds, and those with co-morbidities and other health conditions. (PR: P3 standing)
- 722 Pharmacy Practice Management III: Patient Safety. 2 hrs.**
Further professional development in the management of patient safety policies and procedures. Areas covered include robotics, medication reconciliation, discharge planning, risk management, and other methods of improving patient safety. (PR: P3 standing)
- 731 Case Studies. 3 hrs.**
Students will apply the principles of patient care, practice management, and public health to drug therapy issues through student-centered, problem-based instructional processes. (PR: P3 standing)
- 741 Therapeutics 5 - Endocrine Diseases, Genitourinary Diseases and Reproduction. 4 hrs.**
Students will learn about the therapeutic use of medication and non-medication interventions for reproduction, and treatment and prevention of endocrine and genitourinary diseases. (PR: P3 standing)
- 751 Neurologic and Psychiatric diseases. 5 hrs.**
Students will learn treatment and prevention of neurological and psychiatric diseases including the physiology, pathophysiology, pharmacology and therapy. This course emphasizes the pharmacist as a health care provider. (PR: P3 standing)
- 761 Hematology, Oncology, Nutrition, Hepatic and Musculoskeletal Disorders. 6 hrs.**
Students will learn treatment/prevention of hematology, nutrition, hepatic and musculoskeletal diseases including the pathophysiology, pharmacology and therapy. This course emphasizes the pharmacist as a health care provider. (PR: P3 status)
- 781 Veterinary Pharmacy. 3 hrs.**
To instruct students in the administration, clinical pharmacology, clinical applications, diseases, medication safety and comparative dosing of veterinary medications that a pharmacist may encounter in the community pharmacy setting. (PR: P3 status)
- 801 Special Topics I. 1-6 hrs.**
An opportunity for individual students to gain advanced experiences in practice, research, or service. Students will identify a faculty mentor and jointly develop individualized learning outcomes and a learning plan. (PR: P1 or greater standing in the School of Pharmacy with good academic standing. Development of a learning plan with learning outcomes must accompany request for enrollment. Learning plan requires approval of the associate dean of academic and curricular affairs.)
- 802 Special Topics II. 1-6 hrs.**
An opportunity for students to didactically explore advance topics within the profession of pharmacy. (PR: P3 standing)
- 811 Introductory Pharmacy Practice Experience in Community Setting I (IPPE 1). 1 hr.**
Introduction to community pharmacy practice in a supervised setting. Students are exposed to the role and responsibilities of the community pharmacist, including effective communication and application of laws governing pharmacy. (PR: WVBOP Intern Licensure; CR: P1 status)
- 812 Introductory Pharmacy Practice Experience in Institutional Settings. I (IPPE 2). 1 hr.**
Introduction to community pharmacy practice in a supervised setting. Students are exposed to the role and responsibilities of the community pharmacist, including effective communication and application of laws governing pharmacy. (PR: WVBOP Intern Licensure; CR: P1 status)
- 813 Introductory Pharmacy Practice Experience in Community Settings 2 (IPPE 3). 1 hr.**
Builds on the foundations of the Community Pharmacy 1 Experience. The student will demonstrate critical thinking and problem solving skills, topical compounding skills, and professional attitude and behaviors. (PR: P2 Standing)
- 814 Introductory Pharmacy Practice Experiences in Institutional Settings 2 (IPPE 4). 1 hr.**
Builds on the foundations of the Institutional Pharmacy 1 Experience. The student will demonstrate critical thinking and problem solving, document professional practice activities, and parenteral compounding abilities. (PR: P2 Standing)
- 815 Ambulatory Care Skills (IPPE 5). 1 hr.**
Introduces pharmacist student to the ambulatory care setting. Student will demonstrate the ability to develop a therapeutic plan that includes the selection of appropriate drug therapy based on patient characteristics. (PR: Intern licensure; CR: P3 standing)
- 816 Inpatient Clinical Skills. 1 hr.**
Introduces the pharmacy student to the clinical skills needed to be successful in an institutional setting. Student will demonstrate appropriate drug dosing and drug selection based on patient characteristics. (PR: Intern licensure per policy; CR: P3 standing)
- 817 Introductory Pharmacy Practice Experiences in Practice Management (IPPE 7). 1 hr.**
Students are exposed to the role and responsibilities of a pharmacy team leader, manager, or director and the application of management strategy, tools, and responsibilities. (PR: Intern licensure per policy; CR: P3 status)
- 818 Introductory Pharmacy Practice Experiences in Education (IPPE 8). 1 hr.**
The pharmacist student will develop and present continuing education programs or active learning exercises, apply instructional as well as learning techniques, and demonstrate mentoring skills. (PR: P3 standing, intern licensure per policy)
- 819 Introductory Pharmacy Practice Experiences in Longitudinal Care of the Patient. 1 hr.**
This course will provide the student with pharmacy care of a patient over an extended period of time. Students will be exposed to the role and responsibilities of the pharmacist. The student will demonstrate knowledge of the medical regimen and understanding of why the regimen was or was not modified over a period of time. (PR: P1 status)
- 881 Advanced Pharmacy Practice Experience (APPE 1) - General Medicine. 5 hrs.**
Provides students pharmacy experience in a clinical, inpatient, acute care and team-based environment. Students will be expected to utilize multiple abilities learned throughout the curriculum in order to collect patient-specific information, evaluate and monitor drug therapy, educate patients and/or caregivers, respond to drug information inquiries and function effectively within a team. (PR: P4 status)
- 882 Advanced Pharmacy Practice Experience (APPE 2) - Ambulatory Care/Primary Care. 5 hrs.**
The Ambulatory Care/Primary Care APPE provides students experience in an out-patient care, clinically focused practice environment. Students will be expected to utilize abilities learned previously throughout the curriculum in order to perform the following tasks: collect patient-specific information, evaluate and monitor drug therapy, educate patients and caregivers, drug information tasks, and other requirements. (PR: P4 status)

- 883 Advanced Pharmacy Practice Experience (APPE 3) - Advanced Community. 5 hrs.**
The Advanced Community Pharmacy APPE is a 5-week required advanced pharmacy practice experience in a community pharmacy setting that focuses the student experience enhancing a student's ability to provide patient-centered pharmacy care services such as disease management, medication therapy management (MTM), preventative health screening, immunizations, specialty compounding, patient education, or other advanced patient care activities in a community/retail pharmacy setting. (PR: P4 status)
- 884 Advanced Pharmacy Practice Experience (APPE 4) - Advanced Institutional. 5 hrs.**
The Advanced Institutional Pharmacy Practice Experience (APPE) is a required 5-week experiential rotation in an approved health system that prepares the student to function within a hospital or health-system of integrated pharmacy services. Particular emphasis is placed on the preparation, distribution, and control of medications, medication monitoring, and the ability to communicate with other healthcare professionals. This rotation develops competence to practice in a hospital staffing position. It integrates problem-solving and clinical skills with the basics of inpatient medication distribution, monitoring and control. (PR: P4 status)
- 885 Advanced Pharmacy Practice Experience (APPE 5) - Geriatrics. 5 hrs.**
The Geriatrics APPE is a 5-week experiential rotation that focus on provision of clinical pharmacy services in a variety of settings with a focus on care to the elderly population. These sites may include community pharmacies, specialty clinics, rehabilitation hospitals, skilled nursing facilities (SNFs), home-based consult services, and assisted living facilities (ALFs). A focus is placed on the interdisciplinary care of the geriatric population. Student pharmacists will enhance knowledge of how to assess pharmacotherapy and appropriateness of drugs, determine how safely and effectively a patient can self-administer the therapy, and how to implement plans to ensure such safe and effective use. Students will be expected to utilize, refine, and apply their knowledge base of pharmacology, pharmacokinetics, pathophysiology, and therapeutics to enhance the quality of pharmaceutical care of the elderly. (PR: P4 status)
- 886 Advanced Pharmacy Practice Experience (APPE 6) - Diverse Populations. 5 hrs.**
The Diverse Populations Pharmacy APPE is a 5-week required advanced pharmacy practice experience in a community, ambulatory, or other pharmacy setting to a medically under-served population. The experiential rotation focuses the student experience on providing patient-centered pharmacy care services such as disease management, medication therapy management (MTM), preventative health screenings, immunizations, specialty compounding, patient education, or other advanced patient care activities to this and other populations. A focus will be providing care in a culturally sensitive, compassionate, community-oriented, and effective way to a diverse, ethnic, rural, poor, and/or indigent population(s). (PR: P4 status)
- 887 Advanced Pharmacy Practice Experience (APPE 7 & 8) - Electives. 5 hrs.**
The APPE general elective(s) are 5-week experiential rotation(s) that will give the students the opportunity to participate in a variety of pharmacy practice experiences, depending on the rotation site and practice setting, related to direct patient care, supportive patient care, or not related to patient care. Students must complete 2 elective rotations. (PR: P4 status)
- 891 Pharmacy Capstone. 4 hrs.**
Pharmacy capstone experience, where students are challenged to demonstrate acquisition of pharmacy skill, knowledge, and behavior competency. (CR: P4 status)

PHILOSOPHY (PHL)

- 500 Ancient Philosophy. 3 hrs.**
Advanced study of major philosophers drawn from the ancient Greek and Roman period.
- 501 Modern Philosophy. 3 hrs.**
Advanced study of major movements in philosophy from the 17th century on, including movements such as rationalism, empiricism, idealism, and existentialism.
- 520 Metaphysics. 3 hrs.**
A study of what Aristotle called "first philosophy" or the study of being, later called metaphysics.
- 521 Philosophy of Knowledge. 3 hrs.**
Advanced study of the nature and possibility of knowledge.
- 551 Philosophy of History and Culture. 3 hrs.**
Ancient and modern theories of the meaning and consequence of history and culture.
- 553 Philosophy of Science. 3 hrs.**
Crucial concepts in modern science relevant to contemporary philosophical issues concerning man and the universe; special attention to epistemological and ethical implications of natural law, induction, mathematical theory and the new physics.
- 555 Philosophy of Religion. 3 hrs.**
Theories of the nature and functions of religion, including the meaning of religious language and problems of belief.
- 560 Philosophy of Politics and Power. 3 hrs.**
Advanced study of the significance or the place in human reality of political organization, negotiation, strategy, and power.
- 563 Philosophy of Feminism. 3 hrs.**
An introduction to contemporary feminist theory including discussion of current gender-related issues.
- 565 Existential Philosophy. 3 hrs.**
A survey of the contributions of leading existentialist philosophers of the past and present from Kierkegaard and Nietzsche to Sartre and Tillich; course is conducted much like a seminar.
- 570 Philosophy of Logic. 3 hrs.**
Advanced study of the nature of logic; whether logic is possible at all, how far it applies, and whether and how there can be conflicting logics.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 598 Directed Readings in Philosophy. 3 hrs. I, or II.**
Advanced research adaptable to the needs of students. Regular consultations with the chairman and staff.
- 599 Humanities Seminar. 3 hrs.**

PHYSICAL SCIENCE (PS)

- 500 Astronomy. 3 hrs.**
A study of the stars and planets and galaxies, planetary motion, cosmology and cosmography. Designed to assist teachers and others to develop an interest in astronomy. (PR: PHY 201 or PHY 211 or PS 109; and CR: PS 500L)
- 500L Astronomy Laboratory. 1 hr.**
Fundamental observations in astronomy and their interpretation through physical laws. Quantitative discussion of orbital motion, time, telescopes, solar system, stars, galaxies, and limited opportunity for astronomical observation. (PR or CR: PS 500)
- 510 Physical Principles of Remote Sensing with Applications. 4 hrs.**
A study of the physical systems for collecting remotely sensed data. Statistical/spatial analysis and modeling using image processing/geographic information/spatial analysis computer software systems with earth resource applications. (PR: PHY 203 and 204, MTH 225, or permission)

- 511 Digital Image Processing and Computer Simulation Modeling. 4 hrs.**
A study of image processing/geographic information and spatial analysis hardware/software systems, concurrent and parallel image processing modeling scenarios utilizing geobiophysical data for computer simulation modeling and practicum. (PR: PS 410/510 or permission)
- 525 Development of Scientific Thought. 3 hrs.**
A study of the people and ideas which have influenced science; the philosophy of their periods; the economic conditions leading to scientific advancement and the works of the foremost scientists in the field. (PR: A total of twelve hours in Physical Science, Physics, and Chemistry courses)
- 570 Practicum. 4 hrs.**
Problem solving, geobiophysical modeling, and proposal development techniques in the physical sciences. (PR: PS 411, 511 or Permission)
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 646 Seminar on Recent Developments in the Physical Sciences. 3 hrs. Offered on demand.**
- 648 Modern Physics for Teachers. 3-5 hrs. Offered on demand.**
A course designed to provide additional background material in atomic and nuclear physics for teachers. Lecture and laboratory.
- 649 Electronics for Teachers. 3-5 hrs. Offered on demand.**
A course in basic theory of electronics for teachers. Lecture and laboratory.
- 650-651 Special Topics. 1-4 hrs.**
Advanced special topics to provide additional group research and classroom/laboratory opportunities. (PR: Specific to topic)
- 660-661 Independent Studies. 1-4 hrs.**
Advanced independent study topics to provide additional individual research and classroom/laboratory opportunities. (PR: Specific to topic)
- 670 Advanced Practicum. 4 hrs.**
Advanced problem solving, geobiophysical modeling, and project development techniques in the physical sciences. (PR: PS 510, 511, 570)
- 681 Thesis Research. I, II, S. 1-6 hrs.**
(PR: Graduate status and approval of advisor)

PHYSICS (PHY)

- 505 Optics Laboratory. 2 hrs.**
A course in optical experiments encompassing geometrical and physical optics. This course is to be taken with Physics 304.
- 512 Atmospheric Physics with Computer Simulation Modeling. 3 hrs.**
A general introduction to the earth's atmosphere. The physical and chemical dynamic behavior of the earth's atmosphere will be analyzed by comparing computer simulated profiles with in situ measurements.
- 515 Electronics Laboratory. 2 hrs.**
A course in laboratory measurements encompassing transistors, integrated circuits, and their associated circuits. This course is to be taken with Physics 314.
- 521 Modern Physics Laboratory. 2 hrs.**
Laboratory exercises on modern physics topics encompassing both experiments of historic significance and current applications. To be taken with Physics 320, or equivalent.
- 525 Solid State Physics. 3 hrs.**
The purpose of the course is to provide a broad introduction to the structures and physical properties of solids, which are of extraordinary importance in the modern world.
- 542 Quantum Mechanics. 3 hrs.**
Alternate years. Mathematical formalism of quantum mechanics, particles in potential fields, perturbation theory and other approximation methods, scattering, applications to simple systems. 3 lec. (REC: PHY 331 and MTH 335 or equivalent)
- 543 Quantum Mechanics II. 3 hrs.**
This is the second part of a two-semester introduction to quantum mechanics. Emphasis is on application of quantum theory including approximation techniques and the study of more realistic quantum systems. (PR: PHY 442/542)
- 545 Mathematical Methods of Physics. 3 hrs.**
Offered on demand. An introduction to the theory of orthogonal functions, curvilinear coordinate systems, vector and tensor fields and their applications in Physics. Problems are drawn from different areas of physics. 3 lec. (PR: PHY 203.)
- 547 Mechanics for Teachers. 4 hrs.**
An in-depth study of mechanics for education majors specializing in physics with emphasis on problem solving techniques, demonstrations, experiments and computer applications. (PR: PHY 203, MTH 122, MTH 140)
- 550 Radiation Physics in the Life Sciences. 4 hrs. II.**
Alternate years. A course in radiation physics with emphasis on applications in the medical sciences. Designed for students interested in the life sciences. A field trip to the University of Michigan nuclear reactor is an integral part of the course. 3 lec-2 lab/demonstration. (PR: PHY 203 and 204, or consent of instructor)
- 562 Nuclear Chemistry and Physics. 3 hrs. II.**
Alternate years. An introduction or the description of nucleons, electric and magnetic properties of a nucleus, nuclear energy levels, nuclear reactions including neutron activation, interaction of particles with matter, and nuclear forces. 3 lec. (PR: PHY 320 and MTH 231 or consent of instructor). See 424d.
- 563 Nuclear Physics Laboratory. 2 hrs.**
Laboratory techniques for the measurement of nuclear properties, theory and characteristics of various detectors, statistics of counting, and energy determination of nuclear particles and radiation. This course is to be taken with Physics 462/562. A field trip to the University of Michigan Nuclear Reactor is an integral part of the course.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
- 600 Electricity and Magnetism I. 3 hrs.**
A study of electrodynamics and associated boundary-value problems, electric multipoles and macroscopic media, dielectrics, magnetostatics, time-varying fields, Maxwell equations and conservation laws, plane electromagnetic waves and wave propagation.
- 608 Statistical Mechanics. 3 hrs.**
The course introduces thermodynamics and statistical mechanics to graduate students of physics and other science and engineering disciplines as two complementary approaches to study physical properties of systems in equilibrium. (PR: Permission of instructor)
- 610 Special and General Relativity. 3 hrs.**
General relativity, the classical theory of one of the four fundamental forces, is not a standard course offering. This course of Special and General Relativity intends to fill this gap by introducing the key concepts that lead to a revolution in our understanding of space and time. The students will learn about spacetime curvature, metrics, geodesics, black holes, gravitational waves and cosmology. (PR: Permission of instructor)
- 616 X-Ray Diffraction. 3 hrs.**
Offered on demand. A study of the properties of X-rays, X-ray diffraction, and crystal structure. 2 lec-3 lab. (REC: CHM 358 or equivalent)

- 620 Modern Astrophysics I. 3 hrs.**
Modern astrophysics is firmly grounded in the fundamental principles of physics and will offer students the opportunity to use the physics they have learned in understanding the nature of the universe. This course provides a graduate-level introduction to astrophysics, focusing on stellar structure and evolution. (PR: Permission of instructor)
- 625 Condensed Matter Physics. 3 hrs.**
This course studies complex phenomena that occur in solids and quantum liquids, and exposes the students to some theoretical tools used to describe the basic interactions behind these phenomena. (PR: Permission of instructor)
- 630 Classical Mechanics. 3 hrs.**
Study of variational principles and Lagrange's equations, the two-body central force problem, the kinematics and dynamics of rigid-body motion, Hamilton's equations of motion, canonical transformations, Hamilton-Jacobi theory, and small oscillations.
- 631-632 Seminar. 1; 1 hr. I, II.**
- 640 Fundamentals of Physics. 4 hrs. S.**
Offered on demand. A course in fundamental concepts of physics. Subject content varies. Designed primarily to strengthen conceptual understanding of teachers.
- 644 Atomic Physics. 3 hrs.**
A historical development of the modern theories concerning the structure of matter, electricity, and light, including applications of optical spectra and X-rays. (PR: PHY 203, 204 or PHY 213, 204 or equivalent)
- 661-662 Special Topics. 1-3; 1-3 hrs.**
- 682 Thesis Research. 1-6 hrs. I, II, S.**
(PR: Graduate status and approval of advisor)
- 685-686 Independent Study in Physics. 3 hrs.**
Advanced independent study in physics. (PR: specific to course)

PHYSIOLOGY (PHS)

- 626 Neurophysiology I: Neuron Function and Introduction to Neural Systems. 1 hr.**
To study and understand the basic functional principles of the cells of the nervous system, and organization of cells into functional systems. (PR: BMS 600 or permission of instructor)
- 627 Neurophysiology II: Neuronal Systems. 1 hr.**
To study and understand the major functional systems of the brain. (PR: PHS 626)
- 628 Mammalian Neurophysiology. 2 hrs.**
This course is a basic introductory, survey course covering neurophysiology from subcellular level to behavioral level. (PR: Consent of instructor)
- 629 Mammalian Physiology. 6 hrs. II.**
A study of mammalian systems including pulmonary, renal, cardiovascular, gastrointestinal, endocrine and reproductive systems. Emphasis will be placed on homeostatic mechanisms and on experimental approaches to physiology. (PR: PHS 628 or PHS 626, PHS 627)
- 639 Neurophysiology Research Techniques. 3 hrs.**
Class participants will be exposed to state-of-the-art neurophysiology research techniques while in the laboratories of neurophysiology faculty.
- 641 Recent Advances in Physiology. 1 hr., I, II.**
Recently published articles in a selected area of physiological investigation will be presented by participants in the class. Each presentation will be followed by a discussion and evaluation of the paper. (PR: Consent of instructor)
- 666 Physiology of the Cell. 3 hrs.**
An in-depth study of selected topics in cell physiology.
- 667 Experimental Approaches to Physiology. 4 hrs.**
This course introduces students to the fundamental principles and research underlying the normal functioning of the cardiovascular, respiratory, renal, endocrine, reproductive, nervous, and gastrointestinal systems. (PR BMS 601 and BMS 602, or consent of instructor)
- 675 Special Topics. 1-4 hrs.**
Present course material on special areas of research or topics which are not routinely covered in existing courses.
- 676 Special Topics. 1-4 hrs.**
Present course material on special areas of research or topics which are not routinely covered in existing courses.
- 677 Special Topics. 1-4 hrs.**
Present course material on special areas of research or topics which are not routinely covered in existing courses.

POLITICAL SCIENCE (PSC)

- 502 Politics of the Undead. 3 hrs.**
A graduate survey of political thought, international relations theory, and political economy through the pop cultural lens of vampires, zombies, and other undead creatures.
- 503 War and Popular Culture. 3 hrs.**
A graduate survey of evolving depictions of political violence in film, television, graphic novels, video games, and popular music.
- 505 International Organization. 3 hrs.**
Study of world and regional organizations as reflections of world politics, as instruments of foreign policies, and as forces for change and order, with emphasis on their role as channels for management of cooperation and conflict.
- 506 International Politics. 3 hrs.**
Study of major issues in world politics, with emphasis on theoretical approaches, problems of war and peace, and contemporary trends.
- 507 Asian Politics. 3 hrs.**
Study of such nations as India, China, Japan, and Korea in the contemporary setting.
- 508 Middle Eastern Politics. 3 hrs.**
Study of the Arab States and such nations as Israel, Iran and Turkey in the contemporary setting.
- 509 Western Democratic Politics. 3 hrs.**
Study of such nations as Canada and those of Western Europe, particularly Great Britain and France.
- 510 Politics of Russia and the Former Soviet Union. 3 hrs.**
The study of the politics of Russia and the former Soviet Union.
- 511 Latin American Politics. 3 hrs.**
This course studies Latin American politics by sectors, such as landed elites, the military, the church, etc. Various styles of governance are considered. Case examples illustrate concepts discussed.
- 512 International Political Economy. 3 hrs.**
This course will examine the evolution and structure of the global economic system with emphasis on the development of the Liberal International Economic Order.

- 515 International Law. 3 hrs.**
Study of theories, origins, sources, development, present state, and trends of international law as a factor in various aspects of international politics.
- 516 Politics of Development. 3 hrs.**
A survey of major theories of development and modernization and issues confronting developing nations around the world.
- 517 Homeland Security and Civil Liberties. 3 hrs.**
An examination of the policy issues involved in protecting the U.S. homeland from terrorist and other threats, with special attention to the impact such policies have on individual liberties.
- 518 American Political Thought II. 3 hrs.**
This course is a detailed examination of the philosophical and historical roots of American politics from Reconstruction through the present with emphasis on original texts.
- 519 Women and Political Thought. 3 hrs.**
This course examines how women were conceptualized in the history of political philosophy and how women then began conceptualizing themselves and their relation to politics.
- 520 Current World or Regional Issues. 3 hrs.**
An intensive study of specific world or regional problems, such as the politics of world hunger. The role of multinational corporations, imperialism, third world communist movements, etc.
- 521 American Political Thought I (Founding to Civil War). 3 hrs.**
This course is a detailed examination of the philosophical and historical roots of American politics from the Colonial era through the Civil War with emphasis on original texts.
- 522 African Political Systems. 3 hrs.**
The study of political systems of selected countries, blocs or regions.
- 523 American Foreign Policy. 3 hrs.**
The study of descriptive, analytical, and normative aspects of American foreign policy with emphasis on contemporary problems and issues.
- 525 Ancient Medieval Political Thought. 3 hrs.**
Selective study of classics of Western political theory from earliest times through the 15th century, such as that of Plato, Aristotle, the Romans, Augustine, and Aquinas.
- 526 Modern Political Thought. 3 hrs.**
Selective study of classics of Western political theory from the 16th century through the 19th century, such as that of Machiavelli, Bodin, Hobbes, Locke, Rousseau, Hume, Burke, Mill, and Marx.
- 527 Shapers and Definers. 3 hrs.**
A study of political leaders who have shaped and defined the American constitutional tradition.
- 528 Islamic Political Ideas and Institutions. 3 hrs.**
A study of Islamic political ideas, practices and institutions and their impact on the rise and development of contemporary Islamic movements, organizations and states.
- 529 The Politics of Conflict and Revolution. 3 hrs.**
Study of major theories of conflict and revolution with emphasis on cross-national explanations and outcomes.
- 530 Political Ideologies. 3 hrs.**
This course examines modern political ideologies including Liberalism, Conservatism, Anarchism, Socialism, Fascism, Feminism, and Environmentalism with emphasis on the original texts.
- 531 Politics of Global Terrorism. 3 hrs.**
An examination of terrorism globally, both in its development and its current manifestations, with attention to its attractions, the difficulties of confronting it, and its implications for democratic society.
- 532 Nonprofit Management. 3 hrs.**
This course examines the principles and applied practices of nonprofit administration including theories of nonprofit formation, fundraising appeals, executive leadership, marketing, budgeting, and strategic management.
- 533 Public Administration and Policy Development. 3 hrs.**
An examination of alternative theoretical approaches to the study of policy and administration and their implications for the use of policy to shape administrative practice.
- 534 Intelligence and Covert Ops. 3 hrs.**
A survey of the institutions and processes of the U.S. intelligence community, with an emphasis on the vital role of intelligence in national security.
- 536 The American Judiciary. 3 hrs.**
Structure and behavior in American national and state judicial systems, including analysis of their decision making and policy making functions, their procedures and administration, and problems and trends.
- 540 Power in American Society. 3 hrs.**
An examination of some of the major theoretical approaches-pluralist, elitist, etc., to the study of power. A major concern is on the relationship between the distribution of political resources and the performance of political systems. Efforts to transform political systems are examined on the basis of cross-national research.
- 541 American Politics in Film. 3 hrs.**
This course examines the way the American people view their political leaders and institutions through the use of film, with a critical eye towards the ebb and flow of public approval or disapproval.
- 542 Politics and Welfare. 3 hrs.**
A comparative course examining the political institutional methods states use to assist citizens who are poor, primarily women and children. It also addresses behavioral concerns that shape welfare policy.
- 544 Dictatorship and Democracy. 3 hrs.**
An investigation of the strengths of democracies relative to dictatorships with regard to such dimensions as economic growth, income equality, health and welfare of citizens and war reduction.
- 545 Environmental Politics. 3 hrs.**
Course examines multiple perspectives on the relationship between humans and nature, focusing on how particular interpretations of this relationship determine how we translate environmental concerns into political problems.
- 546 Politics in History. 3 hrs.**
A study of politics as an order-shattering, order-restructuring force during some of America's most transformative moments.
- 550 Administrative Law. 3 hrs.**
A study of the basic legal framework of administrative organization, including the problems of administrative discretion, rule making and adjudication, regulatory agencies, and administrative responsibility in the democratic state. (PR: PSC 333)
- 552 Public Personnel Administration. 3 hrs.**
Survey of Public Personnel Administration with particular attention on various facets of the merit system concept. Psychological and human relations aspects of the work situation and supervisor-subordinate interaction emphasized. (PR: PSC 333 or permission)

- 553 Governmental Budgetary Administration. 3 hrs.**
Study of organization, administration, and accountability in the management of public funds, with emphasis on the political decision-making processes of budget formulation, presentation, and execution. (PR: PSC 333 or permission)
- 554 Administrative Organization and Behavior. 3 hrs.**
A study of the contributions of the behavioral sciences to the study of organizations with stress on such concepts as leadership, motivation, power conflict, organizational design and decision making.
- 560 Civil Rights and Liberties. 3 hrs.**
The basic substantive and procedural elements of American constitutional liberties and civil rights with emphasis on historical development as influenced by social and political forces.
- 561 Urban Problems and Public Policy. 3 hrs.**
Study of policy problems of metropolitan areas in terms of structures, alternatives, and outcomes.
- 562 Religion, Politics and the Constitution. 3 hrs.**
Course examines the role of religion in U.S. politics with special attention to First Amendment religion clauses and social movements such as Civil Rights and Temperance.
- 566 Appalachian Politics. 3 hrs.**
Explores Appalachia as both a geographical region and a political construct, focusing on how politics shapes regional identity and the region's relationship to the United States.
- 580-583 Selected Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
To offer a course on some special topic which is not adequately treated in the regular course offerings.
- 584 Constitutional Law. 3 hrs. I.**
Introduction to the principles of American constitutional law and analysis of constitutional issues, emphasizing leading Supreme Court cases.
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
These numbers are reserved for tutorials, directed and independent research, problem reports, etc.
- 600 Research Design. 3 hrs.**
Philosophy of Science as applied to empirical political inquiry; elements of good research design, measurement theory, writing and critiquing research reports. (PR: PSC 211 or permission)
- 601 Readings in Political Science. 2-3 hrs.**
Readings to meet the needs and interests of individual students.
- 604 Data Analysis. 3 hrs.**
A study of quantitative methods used in empirical research with an emphasis upon applied statistical analysis; writing and critiquing research reports.
- 606 Seminar in Judicial Politics. 3 hrs.**
- 609 Seminar in International Relations Theory. 3 hrs.**
- 611 Seminar in the American Legislative Process. 3 hrs.**
- 612 Seminar in the American Executive Process.**
- 614 Seminar in Comparative Politics. 3 hrs.**
- 616 Public Administration Scope and Practice. 3 hrs.**
Orientation to the field Public Administration, ethics, professional standards and skills. Review of foundations, theories, and scope. Study of public management heritage and current trends and issues.
- 618 Seminar in Public Administration. 3 hrs.**
- 620 Comparative Public Administration. 3 hrs.**
This course will serve as an introduction to the comparative study of public administration. Students will be introduced to several key areas of comparative administration research, including different methods used for analysis.
- 621 Urban Administration. 3 hrs.**
Principles and methods of urban administration in the U.S.
- 622 Constitutions. 3 hrs.**
A study of constitutions, their duration, distribution of power, contribution to a stable government and the rule of law. While the course is comparative, major emphasis is on the United States.
- 629 Seminar in Political Thought. 3 hrs.**
- 648 Seminar in State Government and Politics. 3 hrs.**
West Virginia government and political problems will receive special attention although other states may be considered.
- 650-651 Seminar. 3-6 hrs.**
- 652 Seminar in Political Behavior. 3 hrs.**
- 660 Seminar in Policy Analysis. 3 hrs.**
Development of theoretical and methodological skills in the analysis of public problems and the use of policy in problem solving.
- 675 Legislative Internship. 6 hrs.**
Intensive work experience in the West Virginia legislative processes coupled with a seminar involving directed reading Legislative Services with only selected students participating. (PR: One semester of graduate work and recommendation of department chairman.)
- 676 Internship/Practicum. 3-6 hrs.**
Supervised internship/practicum where students apply public administration principles in an approved field setting. (PR: admission to M.P.A. program)
- 680 Master's Thesis Workshop. 3 hrs. CR/NC.**
A writing workshop/seminar in which the student will prepare his or her master's thesis prospectus.
- 681 Thesis. 1-6 hrs.**

PSYCHOLOGY (PSY)

- 503 Applied Social Psychology. 3 hrs.**
Examination of the applications of social psychological methods, theories, principles and research findings to the understanding of social problems.
- 506 Psychometrics. 3 hrs.**
Mental test theory and applications.
- 508 Abnormal Psychology. 3 hrs.**
Study of the nature, causes and treatment of maladaptive human behavior.
- 515 Child Psychology. 3 hrs.**
Introduction to child development with major emphasis on normal growth and development. Specific topics include theories of child development and the biological, mental, emotional, social and cognitive growth and development of children.
- 516 Psychology of Learning. 3 hrs.**
Critical study of the major theories of learning and related research.

- 517 Intermediate Behavioral Statistics. 3 hrs.**
An intermediate level presentation of descriptive and inferential statistics as applied in behavioral research.
- 518 Psychology of Personnel. 3 hrs.**
Psychological principles and methods applied to functions in personnel administration.
- 519 Theories of Personality. 3 hrs.**
Discussion of theories of personality with attention given to major philosophies of science research and methodological problems in personality theory and research.
- 520 Introduction to Industrial-Organizational Psychology. 3 hrs.**
A systematic study of the application of psychological methods and principles in business and industry. Emphasis is on research methods, motivation, training, leadership, personnel selection, employee safety, and job satisfaction.
- 526 Cross Cultural Psychology. 3 hrs.**
Emic and etic cultural concepts are considered from an American (subcultural) and international perspective. Cultural influences on healing, health and service are covered.
- 527 Computer Applications in Psychology. 3 hrs.**
An introduction to computer applications in psychology, emphasizing data collection, management, organization, analysis and reporting.
- 533 Current Models of Psychotherapy. 3 hrs.**
Introduction to theoretical models and related therapeutic strategies which influence the practice of modern psychotherapy.
- 540 Physiological Psychology. 3 hrs.**
The relationships between physiological functions and biochemical processes and behavior.
- 543 Health Psychology. 3 hrs.**
Introduction to the contribution of psychology to the promotion and maintenance of health and the prevention and treatment of illness. (PR: PSY 201 & 323)
- 560 History and Systems of Psychology. 3 hrs.**
Overview of Psychology from historical perspective. (REC: 12 hours of psychology or equivalent)
- 565 Love, Intimacy, and Attachment. 3 hrs.**
Examination of how childhood attachments, bonds, and relationships, affect and influence adult perspectives on love, expectations, intimacy, fidelity, and commitment.
- 575 Race, Culture, and Developmental Processes. 3 hrs.**
Examine the roles that race, ethnicity, and culture play in the physical, cognitive, intellectual, and social developmental processes of people of color.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hours.**
- 600 Teaching of Psychology. 3 hrs.**
A course designed to train psychology graduate students to teach a course in introductory psychology. (PR: Graduate status in Psychology and a minimum of 9 hours Psychology Graduate credit)
- 605 Ethical, Legal, and Professional Issues in Psychology.**
Introduction to ethical standards and issues, laws which influence psychological practice, and current challenges facing psychology as a profession.
- 606 Advanced Social Psychology. 3 hrs.**
Advanced study of selected topics in social psychology.
- 608 Differential Diagnosis and Treatment Planning. 3 hrs.**
A course using the instruments and techniques of psychological clinical assessment to explore psychopathology with an emphasis on differential diagnosis and treatment planning. Students will become competent in the use of the diagnostic and statistical manual for classification of mental disorders and will be able to translate linguistic data into the goals and objectives of a treatment plan.
- 610 Assessment of Adults. 3 hrs.**
Principles and methods of psychological assessment for adults. Key issues in test construction, and training in report writing. (PR: Admission to Clinical Psychology area of emphasis or to Psy.D. program; CR: PSY 620)
- 611 Assessment of Children. 3 hrs.**
Principles and methods of psychological assessment for children. Key issues in test construction, and training in report writing. (PR: PSY 610; CR: PSY 621)
- 615 Advanced Developmental Psychology. 3 hrs.**
Psychological development from conception with a focus on major developmental principles, issues, and concepts. An introduction to conducting research with developmental topics and experience in applying basic developmental principles to work situations will be provided. (PR: PSY 515 or equivalent with permission of instructor)
- 616 Human Memory and Information Processing. 3 hrs.**
Theory and research relating to human learning, memory and decision processes. (PR: PSY 323 or equivalent)
- 617 Applied Developmental Psychology. 3 hrs.**
Application of research in developmental psychology to issues of causes of clinical problems, issues of parenting, and factors to be taken into account in interventions. (PR: Graduate status)
- 619 Psychotherapy with Children. 3 hrs.**
Discussion and analysis of the major theories of psychotherapy with children including psychoanalytic, client-centered, existential, and behavioral theories. Students will be expected to participate in an experiential component. (PR: admission to Clinical Psychology area of emphasis, School Psychology program, or Psy.D. program or permission)
- 620 Assessment of Adults Practicum. 1 hr.**
Students will be expected to administer, score, interpret and write reports for a battery of tests used with adults. Must be taken concurrently with PSY 610.
- 621 Assessment of Children Practicum. 1 hr.**
Students will be expected to administer, score, interpret and write reports for a battery of tests used with children. Must be taken concurrently with PSY 611.
- 623 Experimental Design. 3 hrs.**
An introduction to the design and interpretation of behavioral research. Emphasis is upon tests of significance and assumptions governing their application. (PR: PSY 517 or equivalent)
- 624 Multivariate Analysis. 3 hrs.**
Multivariate analysis in behavioral research including multiple regression, analysis of variance, canonical correlation, and principal components and factor analysis. (PR: either PSY 623 or PSY 652)
- 627 Social Psychological Bases of Groups. 3 hrs.**
Examination of the dynamics of groups such as size, cohesion, leadership, norms and communication channels and their effects on the individual members; consideration of the impact of groups on the larger social structure.
- 630 Adult Diagnosis and Therapy. 3 hrs.**
Current diagnostic criteria for adult psychopathology, including prevalence, epidemiology and socio-cultural milieu; in-depth presentation of psychotherapy with adults, including psychodynamic, gestalt, crisis and other modalities. (PR: PSY 533 or equivalent, or permission; admission to clinical psychology area of emphasis)

- 633 Individual Psychotherapy and Interviewing. 3 hrs.**
An introduction to the basic skills and techniques used in treating various forms of psychopathology. (PR: Admission to Clinical Psychology area of emphasis or Psy.D. program)
- 634 Group Therapy. 3 hrs.**
Different types of group psychotherapy as appropriate for various forms of psychopathology. (PR: Admission to Clinical Psychology area of emphasis or Psy.D. program; PSY 633)
- 635 Child and Family Diagnosis and Therapy. 3 hrs.**
This course covers psychopathology, diagnosis and treatment of the major child and family disorders including childhood anxiety, depression, delinquency, parent-adolescent conflict, eating disorders, and others. (PR: Admission to clinical psychology area of emphasis, Psy.D. program, or permission)
- 650 Seminar in Performance Appraisal. 3 hrs.**
The course will offer students a research-based investigation of the performance evaluation process within work organizations. Emphasis is given to human rater x ratee x appraisal system features interactions (PR: Graduate standing in Psychology; or permission of the instructor)
- 651 Advanced Nonparametric Statistics. 3 hrs.**
An advanced survey of distribution-free statistical methods; dichotomous observations, one-sample tests, two sample tests for both independent and dependent observations, k-sample tests for both independent and dependent observations, ordinal correlational techniques, and relational measures. This course emphasizes both the theoretical constructs of distribution-free statistics and their application. Computer application of these techniques is stressed. (PR: PSY 517)
- 652 Advanced Regression Techniques. 3 hrs.**
Survey course of the theoretical development and application of multiple regression, advanced univariate correlational techniques, covariant analysis, and an introductory factor analysis. The course emphasis is on the application of these techniques to research and data analysis within the student's professional setting. Students will be expected to design and solve problems using computer-based models. (PR: PSY 517)
- 654 Single Subject Analysis. 3 hrs.**
Statistical analysis of small group designs as might be found in clinical and field situations. Emphasis will be on time series analysis and computer simulation of single subject and small group behaviors. (PR: PSY 517)
- 656-657 Research in Psychology. 1-3; 1-3 hrs.**
A laboratory course designed to give advanced students experience in all aspects of conducting psychological research. (PR: Permission of instructor)
- 670-671 Clinical Practicum. 1-3; 1-3 hrs.**
Supervised application of principles of therapy and evaluation in a clinical setting. CR/NR grading. (PR: PSY 611, 633 and consent of instructor)
- 672 Cognitive and Emotional Bases of Behavior. 3 hrs.**
An exploration of the research and theory concerning cognitive and emotional processes and their influences on behavior.
- 674 Biological Bases of Behavior. 3 hrs.**
A course designed to provide an understanding of the psychophysiological functions of the human organism as an operating entity in the environment. The areas to be covered include the basic characteristics of the nervous system and the internal physiological and biochemical environment; various models of genetic aberrations, stress, drugs and other physiological anatomical factors and their observed effects on behavior. Data will be drawn from experimental work on both human and infrahuman organisms. Both theoretical and applied aspects will be considered. (PR: 6 credit hours in biology or psychology)
- 675-679 Practicum in Teaching of Psychology. 1-3 hrs. CR/NC.**
Supervised teaching experience in introductory psychology, including development of lectures, classroom demonstrations, quizzes, tests, extra-credit activities and syllabi.
- 679 Testing in Industrial/Organizational Psychology. 3 hrs.**
An in-depth study of psychological and educational test theory and application. Emphasis is on classical test theory, constructs, and validation, including sources of variance in test scores and prediction of individual performance. Students will be expected to design, construct, and establish reliability and validity on a test as a class project.
- 680 Clinical Internship. 1-6 hrs. CR/NC.**
Placement in an approved mental health setting for minimum of 400 hours. Supervised by on-site personnel in addition to psychology faculty. CR/NC grading. (PR: completion of required clinical practicum sequence)
- 681 Thesis. 1-6 hrs. CR/NC.**
- 683 Internship in Industrial-Organizational Psychology. 3 hrs. CR/NC.**
This course will offer students applied observational/research experience in Personnel/Human Resource Departments under the supervision of professionals within the fields of Industrial-Organizational Psychology and Human Resources. CR/NC grading. (PR: Advanced standing and admission into the I/O degree program)
- 685-686 Independent Study. 3 hrs.**
- 690-695 Seminar. 1-3; 1-3; 1-3; 1-3; 1-3; 1-3 hrs.**
Reports on current problems and literature in psychology and related fields; professional ethics. (PR: consent of instructor)
- 706 Integrated Assessment I. 3 hrs.**
Integrated, battery-based assessment of adults with emphases on test selection and construction, validity, reliability, special populations, cultural and individual differences, and preparation of professional reports. (PR: Admission to Psy.D. program; CR: PSY 707)
- 707 Integrated Assessment Practicum I. 1 hr.**
Instrument administration for the psychological assessment of adults; includes multiple diagnostic procedures. (PR: Admission to Psy.D. Program, CR: PSY 706)
- 708 Integrated Assessment II. 3 hrs.**
Integrated, battery-based assessment of children with emphases on test selection and construction, validity, reliability, special populations, cultural and individual differences, and preparation of professional reports. (PR: Admission to Psy.D. program, PSY 706 and PSY 707; CR: PSY 709)
- 709 Integrated Assessment Practicum II. 1 hr.**
Instrument administration for the psychological assessment of children; includes multiple diagnostic procedures. (PR: Admission to Psy.D. program, PSY 706 and PSY 707; CR: PSY 708)
- 710 Advanced Psychological Assessment. 3 hrs.**
This course will offer coverage in advanced topics in psychological assessment. This topics will include geriatric assessment, assessment of addictions, neuropsychological screening, forensic assessment, and cross-cultural assessment issues. (PR: Admission to Psy.D. program or permission of instructor)
- 712 Geropsychology. 3 hrs.**
An examination of normal and abnormal processes of aging, including common social, cognitive, health and psychopathological problems, will be studied. Issues of community resources, assessment, and therapy will be discussed. (PR: Admission to Psy.D. program or permission of instructor)
- 713-714 Advanced Assessment Practicum. 1-3 hrs.**
This experience is designed to increase proficiency in psychological assessment through client experience. Students are supervised by a licensed psychologist in the campus training clinic.

- 717 Advanced Quantitative Analysis. 3 hrs.**
An advanced level presentation of inferential statistics as applied in behavioral research as a part of experimental design and literature review. (PR: PSY 517 or equivalent)
- 723 Clinical Research Methods in Psychology. 3 hrs.**
This course will provide an overview in basic research methods and ethical issues prevalent in the field of clinical psychology. Use of research to document clinical outcomes will also be addressed.
- 726 Advanced Studies in Cross Cultural Psychology. 3 hrs.**
Comprehensive, broad scope course covering research topics, definitions and methodology; behavioral health needs of minorities; cultural perspectives on health / healing / wellness; international applications of psychological theory / practice.
- 731 Psychotherapy I. 3 hrs.**
An introduction to theories underlying psychodynamic, cognitive, and behavior psychotherapies. Content will focus on basic concepts, theories of these models, and current empirical evaluation and evidence-based practice of these therapies. (PR: Admission to Psy.D. program or permission of instructor)
- 732 Psychotherapy II. 3 hrs.**
An additional overview of the theories underlying psychodynamic, cognitive, and behavior psychotherapies. Content will focus on intervention and treatment planning, including current empirical evaluation and evidence-based practice of these therapies. (PR: Admission to Psy.D. program or permission of instructor)
- 733 Psychotherapy III. 3 hrs.**
An advanced overview of the theories underlying psychodynamic, cognitive, and behavior psychotherapies with an emphasis on common elements and integration of these approaches and alternative or innovative models. (PR: Admission to Psy.D. program or permission of instructor)
- 750 Clinical Health Psychology. 3 hrs.**
This course will provide an overview of common medical problems, and their related psychological issues. Adjustment issues, health behavior, family impacts, and medical compliance will also be discussed. (PR: Admission to Psy.D. program or permission of instructor)
- 752 Rural Community Psychology I. 3 hrs.**
This course presents an overview of the philosophy, issues, methods, and interventions of community psychology practice. Students will complete field projects as part of the experience. (PR: Admission to Psy.D. program or permission of instructor)
- 753 Supervision in Clinical Psychology. 3 hrs.**
Review of current supervision research and theory combined with opportunities for doctoral students to gain supervised experience in clinical supervision. (PR: Admission to Psy.D. program or consent of instructor)
- 755 Rural Community Psychology II. 3 hrs.**
This course prepares students to undertake supervised practice in rural areas, including employment of appropriate research techniques and the design of culturally and economically effective interventions. (PR: Admission to Psy.D. program or permission of instructor)
- 756 Independent Study. 1-4 hrs.**
This is a doctorate level course that will permit students to explore topics in-depth that are not part of the regular curriculum. Faculty supervision is required. (PR: Admission to Psy.D. program and permission)
- 764 Advanced Studies in Human Sexuality. 3 hrs.**
An examination of the knowledge and theory which explain important areas of sexual behavior. Topics emphasize sexual orientation, sexual dysfunctions, gender identity, paraphilias, and compulsive and coercive behaviors. (PR: Admission to Psy.D. program or permission of instructor)
- 769 Practicum in Clinical Psychology. 3 hrs.**
Supervised application of principles of therapy and evaluation in a clinical setting. (PR: Admission to Psy.D. program)
- 770-71 Advanced Practicum in Clinical Psychology. 3 hrs.**
Students provide supervised clinical services at an approved field site. (PR: Admission to Psy.D. program)
- 772-773 Rural Practicum I & II. 3 hrs.**
Supervised two-semester sequence providing field experience in rural mental health settings. (PR: Admission to Psy.D. program)
- 780-783 Pre-Doctoral Internship. 1-9 hrs.**
This is the final, capstone clinical training experience completed by students in the doctoral program in clinical psychology (Psy.D.). Students must complete the equivalent of a full-time, full year clinical placement at a site that is APA/APPIC accredited or has been approved by the clinical faculty. (PR: Completion of all coursework in the Psy.D. program; successfully pass doctoral comprehensive; approval of faculty)
- 790-96 Seminar in Clinical Psychology. 1-3 hrs.**
Seminars on current topics and issues of interest to clinical psychologists. Topics will change for each semester. Psy.D. program students are required to enroll for six semesters of seminars; check with advisor for details. (PR: Admission to Psy.D. program)
- 799 Doctoral Research. 1-9 hrs.**
Doctoral research project under the supervision of research committee and chair. (PR: Permission of program coordinator)

PHYSICAL THERAPY (PT)

- 700 Gross Anatomy for Physical Therapy. 5 hrs.**
Lecture and laboratory focusing on anatomical structure and function of the human body. Cadaveric dissection provides practical experiences allowing students to develop working images of the body and its function.
- 701 Neuroanatomy. 4 hrs.**
Normal and abnormal structure and function of central, peripheral and autonomic systems, neurodevelopment, and neural mechanisms mediating motor control and pain with emphasis on clinical relevance to physical therapy.
- 702 Neuroevaluation. 1 hr.**
Comprehensive screening, exam and evaluation of patients with neurological dysfunction with focus on selection and interpretation of examination components in order to discern underlying pathophysiology reflective of neurological dysfunction.
- 704 Neurorehabilitation. 4 hrs.**
Theoretical basis and clinical application of neurophysiological approaches to treatment utilizing motor control, sensorimotor development and integration principles, including discussion and practice of current methods of evaluation and intervention.
- 710 Introduction to Human Movement. 3 hrs.**
Lecture and laboratory introducing students to basic histology of connective, nervous, epithelial and muscle tissue utilized in human movement, palpations skills, goniometry and manual muscle testing.
- 711 Human Movement I. 4 hrs.**
Biomechanical terminology and principles, muscle actions, joint mechanics, joint segments and whole body movement pattern analysis, and mastery of human movement observational analysis skills necessary for differential diagnosis of movement dysfunction.
- 712 Human Movement II. 4 hrs.**
Reviews maturation of movement systems, lifespan motor skills development, and contemporary theories of motor control and learning to build evidence-based foundations for evaluation and management of movement dysfunction.

- 713 Human Movement III. 2 hrs.**
Practice of standardized clinical tools utilized in assessment of movement dysfunction across various patient populations. Review of statistical data (population specific reliability, validity, sensitivity, specificity, odds ratios) on said tools.
- 720 Advanced Clinical Physiology. 3 hrs.**
Reviews normal human cellular- and organ-level physiology, histology, and function, and introduces related topics of pathophysiology including: clinical signs and symptoms, clinical laboratory science, medical management and pharmacological issues.
- 721 Applied Exercise Physiology. 3 hrs.**
Physiological effects of exercise and training in healthy individuals and individuals with pathological dysfunction.
- 731 Clinical Skills. 3 hrs.**
Theory and practice of essential physical therapy skills, including clinical decision making, interview, postural and functional assessment, safe patient handling techniques of positioning, bed mobility, transfers, and use of assistive devices.
- 732 Therapeutic Interventions. 3 hrs.**
This 3 credit hour course introduces students to teaching and learning principles through the application of physical, thermal, and mechanical modalities and therapeutic interventions. Therapeutic interventions include activities to improve joint and muscle functions.
- 741 Medical Pathology in Physical Therapy I. 2 hrs.**
Pathological conditions, and medical and surgical considerations for treatment of genetic, gastrointestinal renal, endocrine and metabolic, immune, hematologic, and infectious disorders in patients treated by physical therapists.
- 742 Medical Pathology in Physical Therapy II. 2 hrs.**
Pathological conditions and medical and surgical considerations, including medical tests and measurement, for treatment of musculoskeletal disorders in patients.
- 744 Medical Pathology in Physical Therapy IV. 3 hrs.**
This course reviews the functional neuroanatomy and neuropathology correlated with select neuropathological conditions or injury, focusing on etiology, epidemiology, medical/surgical considerations, neural substrates of cognitive, perceptual, and sensorimotor function in patients treated by physical therapists.
- 747 Pharmacology in Rehabilitation. 2 hrs.**
Examination of the effects of commonly used prescription, over the counter and homeopathic drugs. Focus on method of action, indications, contraindications, side effects and impact on physical therapy patients.
- 750 Foundations of Physical Therapy Practice. 2 hrs.**
Introduces students to medical terminology, historical foundations, and contemporary practice of physical therapy, traditional and emerging roles and responsibilities and professional behaviors of the physical therapist and issues of self-awareness and communications.
- 751 Legal and Ethical Issues in Physical Therapy. 2 hrs.**
Development of cultural competence, analysis and practice of communications skills including documentation, professionalism, group dynamics and leadership to assume roles of practitioner, instructor, supervisor, and leader.
- 754 Health Care Delivery Systems. 1 hr.**
Micro and macro principles of healthcare delivery systems, sites, and organizations and pro bono services. Legalities of appropriate documentation for third party payers and federal insurance programs are addressed.
- 755 Service Learning Practicum. 1 hr.**
Allows participation in service learning programs emphasizing advocacy for the health needs of the region, as well as coordination with community agencies.
- 756 Administration in Physical Therapy. 3 hrs.**
Emphasis on administration of clinical practice in multiple settings. Information about licensure, attainment and retention of employment, professional organization membership, residency and fellowship programs, and specialization.
- 757 Advanced Training/Certifications. 1 hr.**
This course allows the student to participate in advanced training and certification courses such as the Chronic Disease Self-Management (CDSM) Leader Training and others that may be offered each year.
- 761 Evidence-Based Practice I. 2 hrs.**
Decision making, diagnosis, and hypothesis development, utilization of information sources, and principles, concepts, and skills required to critically analyze and conduct clinical research in physical therapy.
- 763 Evidence-Based Practice II. 2 hrs.**
Students are guided through the process of a Systematic Literature Review development on a topic selected by the student and his or her Faculty Research Advisor, and learn to apply principles of research to the clinical decision making process and to make recommendations for practice.
- 764 Evidence-Based Practice III. 1 hr.**
Continuation of Evidence-Based Practice II where students receive continued guidance in the completion of the faculty led capstone project begun in EBP II. Presentation of capstone required before graduation.
- 765 Evidence-Based Practice IV. 1 hr.**
Continuation of Evidence-Based Practice III where students receive continued guidance in the completion of the faculty led capstone project begun in EBP II. Presentation of capstone required before graduation.
- 766 Evidence-Based Practice V. 1 hr.**
Continuation of Evidence Based Practice IV where students receive continued guidance in the completion of the faculty led capstone project begun in EBP II. Presentation of capstone required before graduation.
- 767 Evidence-Based Practice VI. 1 hr.**
Continuation of Evidence Based Practice V where students receive continued guidance in the completion of the faculty led capstone project begun in EBP II culminating with presentation of completed capstone.
- 771 Clinical Application Seminar and Experiences I. 1 hr.**
A seminar course designed to foster application of information and clinical skills learned in concurrent and prior DPT coursework in a small group discussion and pseudo-clinical setting. Focus on clinical interview and basic evaluation skills.
- 772 Clinical Application Seminar and Experiences II. 1 hrs.**
Continued application of information and clinical skills learned in concurrent and prior DPT coursework in a small group discussion and pseudo-clinical setting. Focus on general interventions in neuromuscular dysfunction.
- 773 Clinical Application Seminar and Experiences III. 1 hr.**
Continued application of information and clinical skills learned in concurrent and prior DPT coursework in a small group discussion and pseudo-clinical setting. Focus on upper and lower extremities.
- 774 Clinical Application Seminar and Experiences IV. 1 hr.**
Continued application of information and clinical skills learned in concurrent and prior DPT coursework in a small group discussion and pseudo-clinical setting. Focus on spinal pathology and neuromuscular dysfunction.
- 775 Clinical Application Seminar and Experiences V. 1 hr.**
Continued application of information and clinical skills learned in concurrent and prior DPT coursework in a small group discussion and pseudo-clinical setting. Focus on cardiopulmonary and complex neuromuscular dysfunction.

- 776 Clinical Application Seminar and Experiences VI. 1 hr.**
Continued application of information and clinical skills learned in concurrent and prior DPT coursework in a small group discussion and pseudo-clinical setting. Interdisciplinary management of patients with complex concerns.
- 777 Clinical Application Seminar and Experiences VII. 1 hr.**
Continued application of information and clinical skills learned in concurrent and prior DPT coursework in a small group discussion and pseudo-clinical setting. Focus on health promotion and chronic disease prevention.
- 781 Musculoskeletal I. 3 hrs.**
The basic principles of orthopedic medicine including an overview of etiology, diagnosis, and surgical management will be covered. Physical Therapy examination, evaluation, diagnosis, and treatment of extremities and spine will be emphasized.
- 782 Musculoskeletal II. 4 hrs.**
Advanced concepts of musculoskeletal examination, evaluation, diagnosis and treatment of the extremities and spine will be covered. An evidence-informed/clinical reasoning-based manual therapy approach will be used including mobilization and manipulation.
- 783 Cardio-Pulmonary Rehabilitation. 4 hrs.**
An overview of cardiovascular and pulmonary systems pathologies, medical diagnosis and management and physical therapy diagnosis, examination, assessment and management of related physiological and movement dysfunctions.
- 784 Integumentary. 3 hrs.**
Review of structure, function, and applied pathophysiology of the integumentary system. Translate knowledge toward physical therapy examination and management of common integumentary impairments with focus on prevention, restoration, and optimizing independence.
- 785 Health Promotion and Nutrition. 2 hrs.**
Development and maintenance of healthy lifestyles for patients and clients. Focus on disease prevention, nutritional needs, and the benefits of exercise as well as managing individuals with injury or disease.
- 786 Rehabilitation Consideration in Selected Patient Populations I. 3 hrs.**
Principles of evaluation and treatment in the areas of pediatrics and geriatrics. Emphasis placed on biopsychosocial aspects of developmental disabilities, coordination of care and complexities of multi-system and multi-organ disease.
- 787 Rehabilitation Consideration in Selected Patient Populations II. 2 hrs.**
Principles of evaluation and management of patients with amputation and/or neuromuscular disorders to maximize functional independence. Focus on prosthetic and orthotic prescription, components, fabrication, fit, and use during functional activities.
- 788 Rehabilitation Consideration in Selected Patient Populations III. 2 hrs.**
Principles of physical therapy management of select patient populations including bariatrics, women's health, cancer, and selected progressive and chronic diseases.
- 789 Musculoskeletal III. 1 hr.**
Advanced diagnosis and management approaches for complex orthopedic and sports PT populations will be covered. Differential diagnosis of upper and lower quarter pathology, along with specialized treatments unique to this population will be emphasized. (PR: All prior PT coursework)
- 791 Clinical Internship I. 4 hrs.**
Supervised clinical education experience emphasizing continued development and reinforcement of clinical skills in clinical settings. Competence is expected in areas of the material presented to date in the curriculum.
- 792 Clinical Internship II. 6 hrs.**
Supervised clinical education experience emphasizing continued development and reinforcement of clinical skills in various clinical settings. Competence is expected in areas of the material presented to date in the curriculum.
- 793 Clinical Internship III. 8 hrs.**
Supervised clinical education experience emphasizing continued development and reinforcement of clinical skills in various clinical settings. Competence is expected in areas of the material presented to date in the curriculum.
- 798 Independent Study. 1-4 hrs.**
Independent study of a specific nature under the supervision of a qualified faculty member. Hours of credit are determined by the magnitude of the project. (PR: permission of chair of School of Physical Therapy)

PUBLIC HEALTH (PH)

- 601 Introduction to Public Health. 1 hr.**
An introduction to public health, including its foundation and history, principles and characteristics of the discipline, professional roles, and individual career development and planning.
- 602 Public Health Biology. 2 hrs.**
Review biological bases of public health issues, including principles of disease development, including genetics, oncogenesis, and immunology. May be waived for those holding appropriate degrees in biologic or clinical sciences.
- 610 Seminar: Introduction to Public Health. 2 hrs.**
This course introduces students to the field of public health and how it works, and provides students with an opportunity to become familiar with essential concepts and resources in public health.
- 611 Epidemiology. 3 hrs.**
An introduction to basic concepts of epidemiology, including risk, study design, and analysis. Students apply these techniques to examine outbreaks and evaluate preventives, diagnostics and treatments.
- 615 Methods in Health Systems Research. 3 hrs.**
An introduction to research in public health. Students examine prerequisites to successful study, as well as issues including funding, protocol design, data management, analysis, collaboration, and publication. (CR: PH 611, PH 621)
- 616 Clinical Trials. 3 hrs.**
An examination of methods and issues in conducting clinical research. Includes critical aspects of study design, protocol development, recruitment and consent, and assessment of outcomes. (PR: PH 611, PH 621)
- 617 Methods in Applied Comparative Study. 3 hrs.**
Examination of methods to determine the relative value of preventive, diagnostic and treatment alternatives for efficacy, cost, and practical application. Models include meta-analysis, comparative effectiveness trials, and data mining. (PR: PH 611, PH 621)
- 620 Seminar in Current Public Health Issues. 2 hrs.**
Provide practical situations and contemporary issues in public health where students apply knowledge and theoretical concepts from coursework, strengthen existing skills/analytic thinking, and apply public health core competencies. (PR: PH 610)
- 621 Statistical Methods I. 3 hrs.**
Introduction to statistical principles and methods. Includes descriptive and inferential statistics. Students will gain experience in the use of SPSS software, and in the interpretation and communication of statistical tests.
- 622 Statistical Methods II. 2 hrs.**
Examination of procedures including multiple linear and logistic regression, survival analysis, advanced non-parametric tests, repeated measures. Students gain experience in the use of SAS software for data management and analysis.

- 630 Environmental Health. 2 hrs.**
Introduction to environmental health principles, practices and policy. Students gain knowledge of the study, assessment, prevention, and mitigation of exposures adversely affecting health.
- 641 Social and Behavioral Aspects of Public Health. 2 hrs.**
Examination of the application of social and behavioral sciences in public health, with emphasis on behavioral theory and related mechanisms for effecting individual and group change in health status.
- 642 Health Communications. 2 hrs.**
Students learn methods to communicate health information effectively with disparate groups, develop communications strategies appropriate to diverse content and audiences, and gain skill in utilizing innovative interactive media.
- 650 Health Promotion and Disease Prevention in Public Health. 3 hrs.**
This graduate course provides students with a broad knowledge base of health promotion and disease prevention in public health.
- 651 Public Health Services. 2 hrs.**
An introduction to public health management, planning, implementation and evaluation. Students gain an integrated understanding of public health resources and their effective utilization to improve health.
- 655 Introduction to Health Policy. 2 hrs.**
An introduction to legal and policy foundations of U.S. health care, including its delivery, regulation and financing. Students develop skills in policy analysis and formulation, and learn principles of advocacy.
- 656 Topics in Health Policy. 3 hrs.**
A study of current issues of health policy, including major issues of health reform. Students apply their skills to formulate, package, and present their own health policy proposal.
- 660 Environmental Public Health. 3 hrs.**
This graduate course provides students with a broad knowledge base of environmental public health science by addressing the significance of the environment on human health and wellness.
- 661 Chronic Disease. 3 hrs.**
Examination of major chronic diseases including mechanisms of development, risk, diagnosis and interventional strategies. Scope of the course includes cardiovascular, respiratory and neurodegenerative disorders, as well as diabetes and cancer. (PR: PH 611)
- 662 Control of Infectious Disease. 3 hrs.**
Examination of infectious diseases from a public health perspective, including strategies for prevention, (Limit of 30 words) treatment, control and eradication.
- 671 Community Health. 3 hrs.**
Students learn how to facilitate programs and capacity building to enable communities to identify and address health issues. Students gain training in surveying and interviewing, and in health impact assessment.
- 672 Global Health. 3 hrs.**
An introduction to global health, including examination of disparities, development. The roles of governments, NGOs and citizens are examined; and students gain experience in issue analysis and developing health strategies. (PR: PH 611)
- 678 Principles of Epidemiology in Public Health. 3 hrs.**
Basic epidemiology principles, concepts, and procedures useful in the surveillance and investigation of health-related states or events. It is designed for federal, state, local government and private sector health professionals responsible for disease control.
- 686 Health Informatics and Technology. 3 hrs.**
An introduction to health information technology applications and issues, as well as the growing impact of advances in biotechnology on public health.
- 690 Community Health Assessment and Improvement Planning in Public Health. 3 hrs.**
The Community Health Assessment and Improvement Planning course introduces students to the concepts and techniques of community health improvement and the role of assessment.
- 691 Master of Public Health Practicum. 6 hrs. CR/NC.**
To provide students with opportunity to apply concepts and knowledge from the MPH curriculum and demonstrate competency in the public health practice setting. (PR: Students should have completed all MPH core courses and the majority of other MPH coursework)
- 692 Seminar. 1 hr.**
Introduction to health science literature review and critique, as well as presentation of research and practicum reports.
- 693 Public Health Law and Ethics. 3 hrs.**
Introduction to the legal and ethical foundations of public health practice, including study of how individuals, practitioners, organizations and government address key issues.
- 694 Practicum. 1-3 hrs.**
Applied public health experience conducted under guidance of a faculty advisor and site preceptor, including a specific set of proposed project and learning objectives, and utilizing a community partner. (PR: PH 611, 621, 641, 686, and 693)
- 695 Research. 1-3 hrs.**
Student research project, under guidance of the faculty advisor. Student project may include work toward thesis. (PR: PH 611, PH 621)
- 696 Capstone. 2 hrs.**
Course provides a structured and mentored process for students to produce written and oral components of a capstone project on a selected topic or question. (PR: Prior or current PH 694)

QUALITY ASSURANCE (QA)

- 635 Quality Control. 3 hrs.**
Application of statistical methods to quality control: process control charts and acceptance sampling plans by variables and by attributes. Process improvement techniques.
- 636 Reliability Estimation and Analysis. 3 hrs.**
Failure models and distributions, graphical methods of goodness-of-fit and parameter estimation, reliability measures for components and systems, fault trees, accelerated life testing, and censoring mechanisms.
- 650-653 Special Topics. 1-4 hrs.**
Special topics in quality assurance. (PR: Consent)
- 676 Quality Assurance. 3 hrs.**
Provides a technical overview of quality assurance and managerial implications. Management of total quality systems will be stressed. Concepts from statistical process control will be introduced. Quality costs and audits.

RELIGIOUS STUDIES (RST)

- 519 Religious Thought in the Western World. 3 hrs.**
An analysis of the major schools of religious thought as they have developed in the West.

- 550 **Sociology of Religion. 3 hrs.**
An investigation into the nature of religion as a social phenomenon.
- 580-583 **Special Topics. 1-4; 1-4 hrs.**
- 585-588 **Independent Study. 1-4 hrs.**
- 599 **Humanities Seminar. 3 hrs.**

SAFETY TECHNOLOGY (SFT)

- 500 **Traffic Law Enforcement. 3 hrs.**
A course designed to study and evaluate the varied and complex system of laws governing the control of all forms of human traffic law and enforcement on present and future societies.
- 505 **Introduction to Occupational Safety and Health. CR/NC. 1 hr.**
Introduces students to the basic principles and emerging trends in the safety and health discipline. (All students [except safety majors] will be required to enroll.)
- 510 **Problems and Practices in Traffic Safety and Driver Education. 3 hrs.**
A survey course for supervisors of traffic accident prevention programs. Examines and evaluates problems, attitudes, activities, and administrative practices in school, city, and state traffic safety programs. Supplements basic teacher training courses in driver education. (PR: SFT 235 and 385)
- 536 **Safety Education for Elementary Teachers. 1 hr.**
Survey of accident prevention methods in the elementary school environment, with emphasis on elementary school safety curriculum, laws, personal protection and resources for elementary school teachers.
- 540 **Industrial Fire Protection. 3 hr.**
An introductory course that explores the relationship between engineering and fire prevention. Topics include: water supplies, sprinkler systems, behavior of fire and materials, fire protection, fire extinguishers, and other systems.
- 550 **Traffic Engineering. 3 hrs.**
Concerned with traffic and pedestrian flow, channelization, light coordination, intersection control, and devices as related to safe, convenient, and economical transportation of persons and goods.
- 553 **International Safety and Health. 3 hrs.**
The course covers the impact of globalization on worldwide safety and health programs, and a wide variety of safety and health programs for various countries and multi-national organizations.
- 554 **Industrial Hygiene I. 3 hrs.**
Environmental protection as related to industrial settings. Air/water quality, noise and chemical pollution and hazardous material control.
- 554L **Industrial Environmental Auditing/Programming. 2 hrs.**
Concerns development of an industrial environmental protection program for a small plant, including workplace experience in sampling/measurement of contaminants. (PR: SFT 454, or 554 or 647)
- 558 **Hospital Safety. 3 hrs.**
The course covers the various aspects of safety and health in professional health care services.
- 560 **Fundamentals of Ergonomics. 3 hrs.**
Introduction to ergonomics with discussion of ergonomic issues in relevant office, industrial, and service work. Emphasis on anticipation, recognition, evaluation, and control of ergonomic stressors.
- 565 **Incident Investigation Techniques. 3 hrs.**
An introductory course in accident investigation designed to give insight into the recognition and collection of evidence, collection and recording data and reconstructing the accident based on the facts.
- 580-583 **Special Topics. 1-4 hrs.**
Occasional offerings of current topics in safety, providing important supplementary material for participating students.
- 585-588 **Independent Study. 1-4 hrs.**
An approved study of special interest that is appropriate for the student's program of study concerning safety. Carried out under the supervision of a faculty member. (PR: Permission)
- 589 **Process Safety Management. 3 hrs.**
A study of the latest industrial safety information which will assist the student in designing a program to reduce or eliminate all incidents which downgrade the system. (PR: SFT 565)
- 591-594 **Workshop. 1-4 hrs.**
- 597 **Occupational Safety and Health Program Development. 3 hrs.**
Safety functions in industry. Principles of organization and application of safety programs. Prevention, correction, and control methods are outlined and evaluated.
- 599 **Occupational Safety Program Management. 3 hrs.**
A study of safety programs at the state and local levels including the administrative, instructional, and protective aspects of a comprehensive safety program in schools, occupations, home and public.
- 601 **Safety in Transportation. 3 hrs.**
Concerned with safe, efficient movement of people and goods. Involves highway, air, water, pipeline, and rails.
- 606 **Field Experience for the Safety Specialist. 3 hrs.**
Concerned with the visitation and evaluation of the safety program of various agencies in the region.
- 610 **Philosophical and Psychological Concepts of Occupational Safety and Health. 3 hrs.** An analysis of the educational philosophies and the application of these philosophies to occupational safety. A study of the effect of occupational safety on modern living.
- 630 **Current Literature and Research in Occupational Safety and Health. 3 hrs.** An analysis and study of selected works of national and international authors concerning significant works in Occupational Safety.
- 645 **Safety Engineering and Equipment Design. 3 hrs.**
The design and engineering of facilities and equipment to meet the physical needs of the human as well as enhancing production.
- 647 **Industrial Hygiene II. 3 hrs.**
Concerned with environmental health and safety hazards that arise out of or occur during work of employees.
- 647L **Quantitative Industrial Hygiene Lab. 3 hrs.**
A laboratory course designed to complement Industrial Hygiene. (CR: SFT 647)
- 648 **Industrial Ventilation. 3 hrs.**
The course will cover the techniques of development, design, maintenance, and trouble shooting of industrial ventilation systems. Also the types of ventilation systems used for different types of toxic materials. (PR: SFT 647 or SFT 554 or permission)
- 649 **Biophysical Hazards and Monitoring. 3 hrs.**
The course will cover sources of biological and physical hazards for various industries and occupations. Hazard controls and preventive techniques will also be covered.

- 650 Internship for the Safety Specialist. 3-12 hrs. CR/NC.**
Supervised experience on the job site. Involves the student working under safety personnel and analyzing and writing of experiences. (PR: Permission)
- 651 Toxicology and Epidemiology. 3 hrs.**
The course will emphasize the principles of toxicology, dose-response relationships, xenotoxins, the distribution of toxins, and the storage of toxins. (PR: SFT 554 or SFT 647)
- 652 Industrial Noise and Vibration. 3 hrs.**
A study of the physical characteristics of noise and vibration, and its effects on the human body. (PR: SFT 554 or SFT 647)
- 660 Applied Ergonomics and Human Factors Engineering. 3 hrs.**
A study of how humans interact with the work environment, focusing on human capabilities and limitations, repetitive motion disorders, the human-machine interface and workspace design.
- 661 Advanced Occupational Ergonomics. 3 hrs.**
The study and application of occupational ergonomics to the design and evaluation of various work environments. (PR: SFT 660)
- 662 Methods in Work Analysis. 3 hrs.**
To study, utilize, and critique several existing ergonomic analysis methods for specific intended purpose, and provide directions for new methodologies. (PR: SFT 660)
- 663 Work Environment Issues. 3 hrs.**
An examination of the aspects of the work environment that can affect health: time pressure, machine pacing, control, etc. The recognition, measurement, and control of these factors will be discussed.
- 669 Traffic Safety Management. 3 hrs.**
Concerned with the total Traffic Safety Management Program, including vehicle registration, driver licensing, motorcycle driver education, and motor vehicle registration.
- 679 Problem Report. 1-3 hrs. (Permission)**
- 681 Thesis. 1-6 hrs.**
- 690-692 Seminar. 1-4 hrs.**

SCHOOL PSYCHOLOGY (SPSY)

- 523 Independent Research. 1-3 hrs.**
Coursework designed to provide the student with the opportunity to work with a School Psychology program professor on a research on a research problem mutually agreed upon in terms of a specific plan of study.
- 601 Professional Competence I: Schools. 3 hrs.**
Introduction to the roles and functions of school pupil personnel professionals, models of operation, problems, issues, and techniques. The organization and administration of school systems and philosophy of education are considered. Students may be expected to spend a minimum of one-half day a week observing in a local school.
- 603 Professional Competence II: Professional School Psychology. 3 hrs.**
Examination of current professional issues, theoretical model and research related to delivery of school-based psychological services. Examination of the variety of methodologies and strategies for children of diverse backgrounds and exceptionalities. (PR: SPSY 601 or concurrently with 601).
- 606 Adolescent Substance Abuse. 3 hrs.**
Substance abuse is a pervasive problem within our society. Mental health professionals and educators require knowledge and skills in adolescent substance abuse prevention, intervention, and treatment to address this problem.
- 616 Typical and Atypical Child Development. 3 hrs.**
Psychological development from conception with a focus on major developmental principles, issues, and concepts. An introduction to conducting research with developmental topics and experience in applying basic developmental principles to work situations will be provided.
- 617 Indirect Service Delivery I: School Consultation. 3 hrs.**
This course is an introduction to the theory and practice of consultation and will prepare students to serve as consultants within public schools.
- 618 Direct Service Delivery I: Instruction Methods and Behavior Modification. 3 hrs.**
This course teaches the application of behavior modification principles to the classroom setting as well as the modification of instruction to meet the needs of atypical learners.
- 619 Direct Service Delivery I: Individual and Group Counseling. 3 hrs.**
This course is a direct interventions course focusing on individual and group therapy for children. (PR: SPSY 616 or PSY 615)
- 620 Indirect Service Delivery II: Primary Prevention. 3 hrs.**
This course is an introduction to the science and practice of primary prevention.
- 621 Data-Based Decision Making I. 3 hrs.**
This course is a beginning problem-solving course designed to provide students with a variety of assessment methods they can use to start constructing their professional "tool kits."
- 622 Data-Based Decision Making II. 3 hrs.**
This course is an intermediate problem-solving course designed to provide students with a variety of assessment measures to add to their professional "tool kits."
- 624 Data-Based Decision Making III. 3 hrs.**
This course is an advanced problem-solving course designed to provide students with a variety of assessment methods to add to their professional "tool kits."
- 674 Biological Bases of School Psychology. 3 hrs.**
SPSY 674 is a 3-credit interactive and reading intensive course that uses both live class meetings and the WebCT format to present information on the biological foundations of school psychology.
- 675 Cognitive and Emotional Bases of School Psychology. 3 hrs.**
Theory and research findings in the process of learning, memory, attention, problem solving, decision making, concept formation and perception.
- 700 Special Topics. 1-6 hrs.**
Courses in specialized areas of school psychology on issues in the practice of school psychology.
- 720 Counseling with Youth: Advanced Topics. 3 hrs.**
This is a course designed to help students improve their counseling skills with youth in schools by exploring and implementing the applied practices of the major theories of psychotherapy. (PR: 619)
- 738 School Psychology Practicum I. 3 hrs. CR/NC.**
The initial practicum in school psychology is designed to provide a structured, experiential link between early coursework and practical experience.
- 739 School Psychology Practicum II. 3 hrs. CR/NC.**
The second practicum in school psychology is designed to provide a structured, experiential link between intermediate coursework and practical experience.

- 740 School Psychology Practicum III. 3 hrs. CR/NC.**
Assessment behavior management and consultation experiences in a school setting, supervised by a certified school psychologist for 2 days per week. (PR: SPSY 624 and SPSY 739)
- 745 Internship in School Psychology. 1-12 hrs. CR/NC.**
Students may apply for permission to enroll for this course with the Coordinator of Field-Based Experiences. Students must request internship from the program faculty at least one semester in advance of their starting dates. The internship requires full-time experience for one school year or one half-time experience for two consecutive school years (minimum of 1200 clock hours). Each 1 hour credit requires 100 clock hours. The internship in School Psychology requires a contractual agreement between the school system, the university, and the student that outlines the responsibilities of each party. Students will be expected to assume the roles and responsibilities of functioning school psychologists in a school. (PR: SPSY 740)
- 750 Ed.S. Thesis Research. 3 hrs.**
Development and defense of a research proposal examining a specific hypothesis in School Psychology. Analysis of data, written presentation in thesis form, and public defense are required. (PR: 3 credit hours of 600-level statistics and approved prospectus)
- 751 Program Evaluation. 3 hrs.**
The course is designed to provide students with the fundamental skills to develop and implement evaluations of educational programs in the classroom, school, county or state. (PR: PSY 517 and SPSY 623)

SOCIAL WORK (SWK)

- 501 Foundations of General Practice I. 3 hrs.**
This is the first in a sequence of two courses designed to develop the practice knowledge and skills necessary for M.S.W. students to begin professional social work practice. The purpose of this course is to provide an overview of generalist practice.
- 511 Foundations of Human Behavior in the Social Environment. 3 hrs.**
This course is designed to enhance student's understanding of human behavior in the context of the social environment. The course includes content on theories and knowledge relative to human behavior and includes content on lifespan development, diversity and culturally sensitive social work practice, and socioeconomic and political issues related to human behavior.
- 521 Foundations of Policy. 3 hrs.**
The initial focus of this course is to provide a historical overview of the development of social welfare policies and the profession of social work. The course is also designed to prepare students to systematically analyze social problems and to gain understanding of the social welfare system in the U.S. (PR: SWK 501 and 511)
- 531 Foundations of Generalist Practice II. 3 hrs.**
This is the second of two courses in M.S.W. social work practice in which the purpose continues to be preparation for student for entry professional social work practice. Within this course students continue to apply principles that guide professional practice with particular emphasis placed on the micro level of practice, working with individuals and families. (PR: SWK 521)
- 541 Foundations of Research. 3 hrs.**
Introduction to scientific, analytic, approach to building knowledge and skills, including: role of concepts and theory, hypothesis formulation, operationalization, research design, data collection, data processing, statistical analysis, introductory computer skills, and report writing.
- 551 Foundation of Field Practicum. 6 hrs.**
This is the second of two courses in M.S.W. social work practice in which the purpose continues to be preparation for student for entry professional social work practice. Within this course students continue to apply principles that guide professional practice with particular emphasis placed on the micro level of practice, working with individuals and families. (PR: SWK 501 and 511)
- 613 Advanced Human Behavior and the Social Environment. 3 hrs.**
The second course in a two-course sequence that promotes a multidimensional understanding of human functioning and behavior across systems and the life course. This course specifically examines human behavior and functioning among individuals and families. (PR: SWK 501 and 511)
- 615 Psychopathology. 3 hrs.**
The purpose of this course is to provide students with a solid foundation for understanding psychopathology and provides the knowledge for psychological diagnosis in clinical social work practice (PR: SWK 501 and 511)
- 622 Integrated Health Policy and Services. 3 hrs.**
The purpose of this course is to provide intensive study of the evolution of the integration of Primary Care and Behavioral Health services and to provide an opportunity for synthesis and application of learning and practice of policy in this service arena. (PR: SWK 521)
- 623 Military Mental Health and the Impact of Trauma. 3 hrs.**
This course provides state-of-the-art information about problems and disorders encountered by veterans and military personnel. This includes information about the signature injuries associated with current and past conflicts, as well as information about problems encountered in family life. (PR: SWK 501 and SWK 511)
- 631 Integrated Health Care Models and Practice. 3 hrs.**
This course prepares Social Workers to work collaboratively with cross disciplinary teams of providers, are prepared to work flexibly in a variety of roles and functions, and possess the necessary skills to engage with highly diverse populations.(PR: SWK 501 and SWK 511)
- 633 Advanced Clinical Social Work Practice in Behavioral Healthcare.**
This course builds upon first year Human Behavior and Practice foundation courses from a trans-disciplinary perspective. The goal is to facilitate integrating this knowledge with advanced analysis of research and theory for social work practice in health care settings serving rural and underserved populations. (PR: SWK 501 and SWK 511)
- 634 Advanced Clinical Social Work Practice in Behavioral Healthcare with Groups, Communities & Organizations. 3 hrs.**
Course aims at providing you with the knowledge and skills needed to diagnose (understand) community, individual, and organizational behaviors and change processes in rural and underserved areas and in cross-cultural settings as a foundation for planning culturally appropriate behavioral healthcare in the context of the ecological model of health behavior. (PR: 500-level courses and SWK 613 and SWK 633)
- 642 Advanced Social Work Research I. 3 hrs.**
The purpose of this course is to introduce students to the philosophical and methodological issues of qualitative research. It will be a "hands-on" class, with a focus on practicing various methods with the goal of producing a small qualitative study. (PR: SWK 501 and SWK 511)
- 643 Advanced Social Work Research II. 3 hrs.**
Program and intervention development and evaluation research in health settings; Issues and skill development in program design and methods for evaluation (PR: SWK 642)
- 650 Understanding Military Culture. 3 hrs.**
The purpose of this course is to understand the military culture within which military families function, the stressors such as deployment that they navigate, and the diversity of military family structures and how a range of diversity filters can impact the military family and military culture. (PR: SWK 501 and SWK 511)
- 653 Advanced Field Practicum. 3 hrs.**
Provides concentration year second semester agency-based field instruction and classroom seminar for advanced learning and practice opportunities relevant to social work. (Concurrent PR: SWK 633 and SWK 634)

- 655 Comorbidity of Mental and Physical Disorders. 3 hrs.**
This course is a concentration elective course. This elective course draws from research data that explore the effects of deployment and combat stress on the physical and mental health of active duty U.S. service members and their families. (PR: SWK 634)
- 670 Advanced Theories and Practice with Children. 3 hrs.**
This course builds a framework for social work interventions using normative developmental supports and mental health case planning. Develop advanced clinical social work practice knowledge and skills for working with children and adolescents with mental health risks and provide knowledge for community social workers serving children who are exposed to stress. (PR: SWK 634)
- 673 Family and Community Violence in Rural and Underserved Areas. 3 hrs.**
This course builds a framework for social work interventions using nonnative developmental supports and mental health case planning. Develop advanced clinical social work practice knowledge and skills for working with children and adolescents with mental health risks and provide knowledge for community social workers serving children who are exposed to stress. (PR: SWK 634)

SOCIOLOGY (SOC)

- 501 Population and Human Ecology. 3 hrs.**
The course focuses on population and its relation to characteristics of environment. Specifically, it is designed to discuss the interaction of population processes and resources.
- 508 The Family. 3 hrs.**
Theoretical analysis of the family as a primary social institution.
- 513 Social Movements and Social Change. 3 hrs.**
Analysis of large-scale social change, including intentional social movements and revolutions.
- 520 Criminology. 3 hrs.**
An overview of sociological criminology, including an examination of explanations of criminal behavior, types of criminal activity, and an analysis of the criminal justice system.
- 523 Social Class, Power and Conflict. 3 hrs.**
Theoretical analysis of economic and political inequality and the role of social conflict in the process of large-scale social organization.
- 525 Race and Ethnicity. 3 hrs.**
Diverse theoretical approaches to the meaning of race and ethnicity and the character of racial/ethnic relations, with substantive focus primarily on the U.S.
- 528 Medical Sociology. 3 hrs.**
Social organization of modern medicine and allied health delivery systems.
- 532 Sociology of Appalachia. 3 hrs.**
Study of the economics, politics, and social relations of Appalachia, including contemporary debates.
- 533 Sociology of Work. 3 hrs.**
Study of the organization and structure of the workplant as a social system; the meaning and organization of work; managerial functions; management-labor relations; and human relations in industry.
- 535 Juvenile Delinquency. 3 hrs.**
A sociological analysis of juvenile crime, including a review of the origins of juvenile delinquency, an evaluation of causal theories, and an overview of the juvenile justice system.
- 540 Introduction to the Sociology of Aging. 3 hrs.**
An introduction to the social processes and consequences of growing older for both the individual and society.
- 542 Urban Sociology. 3 hrs.**
The sociology of urban and metropolitan communities.
- 543 Evaluation Research. 3 hrs.**
Analysis and application of theories and methods for assessing the outcomes of applied organizational services and programs to affect change in people and for social conditions.
- 550 Sociology of Religion. 3 hrs.**
An investigation into the nature of religion as a social phenomenon.
- 552 Sociology of Death & Dying. 3 hrs.**
The study of death and dying as a societal and cultural phenomenon. Explores how institutions within our society deal with death.
- 555 Sociology of Sex and Gender. 3 hrs.**
Analysis of social differentiation and inequality by gender, with a focus on the contemporary U.S.
- 560 The Holocaust and Genocide. 3 hrs.**
An examination of the Holocaust and other genocides from an interdisciplinary social science perspective.
- 564 Complex Organizations. 3 hrs.**
Analysis of complex organizations with special attention given to bureaucratic organization.
- 568 National Identity. 3 hrs.**
Exploration of the cultural, political and economic processes that contribute to the creation and maintenance of the modern nation state as an imagined community.
- 570 Sociological Field Experience. 3 hrs.**
Supervised field work in a social organization or community working on practical problems.
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
Study of topics not covered in regularly scheduled courses.
- 585-588 Independent Study. 1 to 4 hrs.**
Individual study of topics not offered in regularly scheduled courses.
- 600 Classical Sociological Theory. 3 hrs.**
An examination of the development of sociological theory, from its Enlightenment roots through its growth in the nineteenth and twentieth centuries, including the works of Comte, Spencer, Marx, Durkheim, Weber, and Simmel.
- 601 Contemporary Sociological Theory. 3 hrs.**
Advanced introduction to major theoretical developments and issues of significance in contemporary sociological theory, examining various theoretical perspectives at different levels of analysis and from different viewpoints.
- 602 Contemporary Social Change. 3 hrs.**
Theories of social change and their uses in analyzing social change of today.
- 603-604 Behavioral Science I and II. 3; 3 hrs.**
Seminar in behavioral science theory.
- 605 Qualitative Research Methods and Analysis. 3 hrs.**
Seminar in qualitative research methods and analysis. Topics covered include coding, using qualitative software, generating theory, participating observation, intensive interview, internet inquiry, focus groups, documents, and content analysis.

- 606 Quantitative Research Methods and Analysis. 3 hrs.**
An introduction to quantitative research methods, statistics, and the software SPSS at an intermediate to advanced level with the main focus on developing working knowledge of the methods discussed.
- 609 Professional Development. 3 hrs.**
Career preparation for teaching, research, and non-academic settings
- 615 Applied Demography. 3 hrs.**
The focus of this course is to study the application of the principles and methods of demography to decision making and planning problems in both public and private setting.
- 620 Criminology. 3 hrs.**
Seminar in crime and delinquency.
- 640 Problems and Prospects for an Aging Society. 3 hrs.**
Seminar in current and anticipated social consequences of aging for individuals and society and societal responses to this process.
- 645 Social Statistics II. 3 hrs.**
Intermediate level statistical analysis including analysis of variance and covariance.
- 655 Feminist Social Theory. 3 hrs.**
Diverse theoretical perspectives on the origins and nature of gender, inequality. Emphasis on contemporary debates and their political implications.
- 668 Seminar. 1-3 hrs.**
Topics vary from semester to semester.
- 679 Problem Report. 1-3 hrs.**
The preparation of a written report on a research problem or field study in sociology under direction of member of graduate faculty.
- 681 Thesis. 1-6 hrs. I, II, S.**
Individual research in a selected field of sociology under the direction of a graduate faculty member of the department.
- 685 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
Individual study of topics not offered in regularly scheduled courses.

SPANISH (SPN)

- 505 Pedagogy and Instructional Experience in the Middle School. 3 hrs.**
Students plan and deliver beginning Spanish instruction to middle school students.
- 506 Composition, Conversation, and Introduction to Hispanic Literature. 3 hrs.**
Continuing supervision of students' teaching experiences. Continued attention to advanced grammar concepts, composition and conversation, and reading proficiency with an emphasis on the introduction of Hispanic literature.
- 510 Spanish Literature from the Cid Through the 17th Century. 3 hrs.**
On demand. Readings, lectures, reports and discussions of significant literary works from the Cid through the 17th century. (PR: 6 hours of literature numbered 318 or above or equivalent)
- 560 The Modernist Movement. 3 hrs. S.**
The precursors of the Modernist Movement, its chief exponents, and its influence on the literature of Spanish America and Spain. Readings, lectures, discussions, and reports in Spanish. (PR: 6 hours of literature numbered 318 or above or equivalent)
- 561 Advanced Syntax and Stylistics. 3 hrs. S.**
A detailed analysis of Spanish syntax and shades of meaning with the writing of original compositions in Spanish to perfect the student's own style. (PR: SPN 204 or equivalent)
- 580-583 Special Topics. 1-4; 1-4; 1-4; 1-4 hrs.**
585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.
Independent research in selected areas of Spanish and Spanish American literature that are not available in other courses in the catalog. The student has the opportunity to become familiar with leading authorities and bibliographies. Conferences and reports in Spanish. (PR: 6 hours of literature numbered 318 or above or equivalent and permission of instructor)
- 507 Foreign Language Teaching Methodology. 3 hrs.**
Introduction to the communicative approach to language teaching. Presentations and practice in the creation of lesson plans using in-class technologies and computer assisted language learning materials. Course taught in English. Required for teaching assistants. Does not count toward degree.
- 511 Literature I: Pre Modern Latin American Literatures. 3 hrs.**
A study of representative Latin American literary works from the Pre-Colonial and Colonial periods and the 19th Century. Course taught in Spanish.
- 512 Literature II: Contemporary Latin American Literatures. 3 hrs.**
A study of a selection of Latin American authors and works representative of the major literary movements in Latin America, from Modernism to present. Course taught in Spanish
- 513 Literature III: Literary Genres and Non Can. Issues in Latin America 3 hrs.**
Study of poetry, fiction, drama, essays, etc., in Latin America. At the discretion of the instructor literary genres will be crossed with approaches such as gender, race, religion, ethnicity, etc. Course taught in Spanish.
- 514 Literature I: Medvl., Rnsscn., Golden Cent. Literature. 3 hrs.**
Study of the representative Spanish authors and literary works and the major intellectual movements in peninsular literature from Medieval times to Spain's Golden Century. Course taught in Spanish.
- 515 Literature II: 18th and 19th Centuries. 3 hrs.**
Study of the representative Spanish authors and literary works and the major intellectual movements in peninsular literature during the 18th and 19th Centuries. Course taught in Spanish.
- 516 Literature III: Contemporary Spanish Literature. 3 hrs.**
Study of the representative authors and literary works and the major intellectual movements in peninsular literature from the Generation of 1898 to the present. Course taught in Spanish.
- 533 Intensive Grammar Review. 3 hrs.**
This course will review and expand specific, advanced Spanish language structural points. It will include daily intensive practice in the four linguistic skills. Course taught in Spanish. (PR: SPN 315/316 or SPN 323/324 or permission)
- 535 Contemporary Latin American Culture. 3 hrs.**
The course provides an overview of contemporary Latin American cultures. It deals with political changes, artistic movements and issues of public interest during the 20th Century. Course taught in Spanish.
- 536 Culture and Society in Contemporary Spain. 3 hrs.**
Course based on origins of issues confronting contemporary Spain: the war's aftermath, transition to democracy and modernization, the European Union, terrorism, regional autonomy, feminism, sexual identity. Course taught in Spanish.
- 544 Bilingual Contrastive Grammar. 3 hrs.**
This course will compare Spanish and English grammatical structures. It will be taught in both languages to demonstrate the similarities, the differences, and intertwining relationship between them. (PR: SPN 315/316 or SPN 323/324 or permission)

- 610 Readings in Spanish or Spanish American Literature. 1-3 hrs.**
Readings designed for the graduate student who has the interest and the ability to study in depth a certain author, genre, or literary movement. (PR: 6 hours of literature numbered 318 or above or equivalent and permission of instructor)
- 611 Latin American Poetry: Resistance through Verse. 3 hrs.**
Course introduces students to Latin American poetry within framework of gender/genre and linguistic subversions of canonical and linguistic codes in traditionalist Western aesthetics of poetry. Course taught in Spanish. (PR: SPN 656 and graduate status).
- 612 Spanish-American Romanticism. 3 hrs.**
Leading writers and trends in thought and versification of the romantic period. (PR: 6 hours of literature numbered 318 or above or equivalent)
- 613 Texts and Intertextualities in 20th Century Latin America. 3 hrs.**
Overview of the various ways in which literary and non-literary Latin American texts have interacted during the 20th century. Course taught in Spanish. (PR: SPN 656 and graduate status).
- 614 Themes and Styles in Spanish Poetry. 3 hrs.**
Survey of Spanish poetry with emphasis on the cultural and intellectual contexts in which it is produced. Poetics. Course taught in Spanish. (PR: SPN 656 and graduate status).
- 615 Latin American Theater: Plays, Performance and Politics. 3 hrs.**
Course introduces students to Latin American theater within framework of literary and discursive subversion theater and realism. Course taught in Spanish. (PR: SPN 656 and graduate status).
- 616 Traditional and Innovative Forms in Spanish Prose. 3 hrs.**
Development of Spanish prose. Reading of selected works by important authors. Comparison and contrast of different types of discourses. Discourse analysis and interpretation. Course taught in Spanish. (PR: SPN 656 and graduate status).
- 618 Society and Literature: Spanish Theater. 3 hrs.**
Application of dramatic theories to samples of Spanish theater. Emphasis will be placed on the cultural contexts of the plays read. Course taught in Spanish. (PR: SPN 656 and graduate status).
- 620 Spanish Romanticism. 3 hrs.**
The trends and characteristics of the romantic period in the writings of its leading exponents in lyric poetry, non-dramatic prose, and the theatre. (PR: 6 hours of literature numbered 318 or above or equivalent)
- 625 Spanish Literature of the Twentieth Century. 3 hrs.**
Emphasis on prose, poetry and the theatre since 1936, including writers in exile. (PR: 6 hours of literature numbered 318 or above or equivalent)
- 650-653 Independent Study. 1-4 hrs.**
Independent research in selected areas of Spanish or Spanish American Literature that are not available in other courses.
- 655 Introduction to Spanish Linguistics. 3 hrs.**
General Survey of Spanish linguistics, both theoretical (phonetics, phonology, syntax, and semantics) and applied (pragmatics, discourse analysis, sociolinguistics and bilingualism). Course taught in Spanish. (PR: SPN 533 or SPN 544 and graduate status)
- 656 Critical Theory for Spanish/Latin American Literature. 3 hrs.**
Study of the major trends in literary theory and criticism in the 20th century. Practical application of the theories to various kinds of texts written in Spanish. Course taught in Spanish. (PR: graduate status)
- 679 Problem Report. 1-3 hrs. (PR: Permission)**
- 681 Thesis. 1-6 hrs. (PR: Permission)**

SPECIAL EDUCATION (See Curriculum and Instruction)

SPEECH (See Communication Studies)

SPEECH PATHOLOGY (See Communication Disorders)

SPORT ADMINISTRATION (See Exercise Science and Sport)

STATISTICS (STA)

- 512 Regression Analysis. 3 hrs.**
Determining regression models; deriving parameter estimates using calculus; detailed coverage of tests of assumptions and remedial procedures (transformations and weighted least-squares); multiple and polynomial regression; tests and corrections for autocorrelation.
- 513 Experimental Designs. 3 hrs.**
Principles of experimentation; analysis of variance; Latin square and related designs; factorial designs, response surface; robustness; nested and split-plot designs.
- 518 Biostatistics. 3 hrs.**
Statistical skills for biological/biomedical research, with emphasis on applications. Experimental design/survey sampling, estimation/hypothesis testing procedures, regression, ANOVA, multiple comparisons. Implementation using statistical software such as SAS, BMDP. May not be used for any degree offered by the Department of Mathematics.
- 520 Nonparametric Statistics. 3 hrs.**
Coverage of a variety of nonparametric or distribution-free methods for practical statistical inference problems in hypothesis testing and estimation, including rank procedures and randomization procedures.
- 525 Sampling Designs and Estimation. 3 hrs.**
Coverage of the theory and applications of a variety of sampling designs; sample size determination; ratio and regression estimates; comparisons among the designs. (PR: MTH 326 or permission)
- 545 Probability and Statistics I. 3 hrs.**
Probability spaces, conditional probability, and applications. Random variables, distributions, expectations, and moments.
- 546 Probability and Statistics II. 3 hrs.**
Parametric statistics: sampling methods, estimation of parameters, tests of hypotheses. Regression, analysis of variance. (PR: STA 545)

- 564 Statistical Computing. 3 hrs.**
Introduction to the commonly used statistical computing techniques, procedures and methods, with extensive use of R language and environment, and SAS for statistical computing and graphics. (CR/PR: STA 545 or STA 546)
- 570 Applied Survival Analysis. 3 hrs.**
Survival and hazard functions, parametric and non-parametric methods, models and inferences for survival data, proportional hazard, and regression diagnosis. (PR: STA 545, or permission)
- 660 Stochastic Processes. 3 hrs.**
Theory and applications of Markov chains. (PR: STA 545)
- 661 Advanced Mathematical Statistics. 3 hrs.**
Topics in mathematical statistics including distribution theory for functions of random variables, convergence concepts, sufficient statistics, finding optimal estimates for parameters, optimal tests of hypotheses. (PR: STA 546)
- 662 Multivariate Mathematical Statistics. 3 hrs.**
Multivariate distribution theory and statistical inference including estimation and tests concerning mean vectors and covariance matrices (maximum-likelihood and likelihood-ratio techniques emphasized). (PR: STA 545; REC: STA 546)
- 663 Time Series Forecasting. 3 hrs.**
Finding statistical models to represent various time-dependent phenomena and processes; coverage of a variety of forecasting techniques, with an emphasis on adaptive, regression, and Box-Jenkins procedures.

TECHNOLOGY AND ENGINEERING (TE)

- 580-83 Special Topics. 1-4 hrs.**
Occasional offerings of current topics in technology and engineering, providing important supplementary material for participating students.
- 585-88 Independent Study. 1-4 hrs.**
An approved study of special interest concerning technology and engineering that is appropriate for the student's program of study. Carried out under the supervision of a faculty member.
- 600 Orientation to CITE Graduate Study. 0 hrs.**
Orientation course covering skills such as technical communication, quantitative reasoning, research methods, ethics and professionalism, teamwork, and discipline-specific information.
- 650-53 Special Topics. 1-4 hrs.**
Occasional offerings of current topics in technology and engineering, providing important supplementary material for participating students.
- 685-88 Independent Study. 1-4 hrs.**
An approved study of special interest concerning technology and engineering that is appropriate for the student's program of study. Carried out under the supervision of a faculty member.
- 698 Comprehensive Project Formulation. 3 hrs. S/U.**
Comprehensive project proposal is developed and approved, and work begun under supervision. Technical report writing, oral presentations, and communication skills. (PR: EM 660 and have completed min. 18 hours toward degree)
- 699 Comprehensive Project. 3 hrs. S/U.**
Completion of comprehensive project under the supervision of a faculty member. Includes final written submittal and public oral presentation. (PR: TE 698 and have completed minimum 27 hours toward degree)

TECHNOLOGY MANAGEMENT (TM)

- 600 Program Introduction Seminar. 1 hr.**
This course reviews fundamental mathematical and statistical methods, presentations, report writing, group project skills, and use of case studies. An orientation and overview to the degree program are also provided. (PR: Full Admission to TM program, or permission of TM Program Director)
- 610 Technology and Innovation Management. 3 hrs.**
Provides a comprehensive introduction to technology and innovation management. Considers issues relating to international markets, innovation, and rapidly changing technology. Also covers effective organizational and managerial approach to technology. (PR: Full Admission to TM program, or permission of TM Program Director)
- 612 Economic and Financial Analysis for Technology Management. 3 hrs.**
Tools and techniques for financial analysis, cost estimation, budgeting, and control, for technology-oriented projects and organizations. Includes financial statements, economic analysis, reporting, and life-cycle costing and control principles. (PR: CITE majors only or permission)
- 615 Information Technology Strategies. 3 hrs.**
This course provides sound principles for managing information technology-computers and telecommunication systems - as well as the processes and procedures for applying the principles. (PR: CITE majors only or permission)
- 620 Technology Planning. 3 hrs.**
Methods of technology planning, strategic management, and forecasting for use in technology intensive organizations are discussed, including technology life cycles and strategies for commercializing products.
- 630 Quality and Productivity Methods. 3 hrs.**
Study of quality and productivity improvement methods with emphasis on applications to knowledge worker organizations. Examines total quality management, and personal and organizational productivity improvement processes. (PR: CITE majors only or permission)
- 640 Intelligent Transportation Systems. 3 hrs.**
Overview of transportation telemetrics and introduction to intelligent transportation systems. Communications and computing technologies in transportation. Overview of issues: traffic safety, public transportation.
- 650-653 Special Topics. 1-4 hrs.**
Occasional offerings of current topics in technology management, providing important supplementary material for participating students. (PR: Full Admission to TM program or permission of TM Program Director)
- 660 Computing and Information Systems Technologies. 3 hrs.**
Provides a broad understanding of computing and information systems technologies with emphasis on development, current trends, strategic and tactical management, and legal and regulatory issues. (PR: TM 615 concurrent.)
- 664 Health Informatics. 3 hrs.**
Introduction of various aspects of medical informatics, including medical literature search and retrieval, management and analysis of data, modeling and simulation, data communications, on-line databases, and clinical decision analysis. (PR: TM 615)
- 667 Modern Manufacturing Concepts. 3 hrs.**
The course covers modern manufacturing concepts, analysis, and tools such as Just-In-Time, MRP systems, Lean Manufacturing, inventory management, total quality manufacturing, factory physics, and operating and control philosophies. (PR: TM 610 concurrent)
- 668 Computer Integrated Manufacturing. 3 hrs.**
The course covers computer-aided design, computer-aided manufacturing, and computerized process support tools for increasing productivity in manufacturing.

- 685-688 Independent Study. 1-4 hrs.**
An approved study of special interest concerning technology management, under the supervision of a faculty member. (PR: Full Admission to TM program, or permission of TM Program Director)
- 699 Capstone Project. 3 hrs. S/U.**
An individualized technology management capstone project, which will be planned and carried under the supervision of a faculty member.

THEATRE (THE)

- 510 Playwriting. 3 hrs.**
Study of dramatic structure, characterization, dialogue, themes, sounds, and spectacle, including the writing of one-act plays. (PR: THE 101 or permission of instructor.)
- 520 Acting for the Musical Theatre. 3 hrs.**
Analysis of musical scripts; study of spoken and musical scenes; staging musical numbers; and preparation of audition material. (PR: THE 222)
- 521 Acting for the Camera. 3 hrs.**
Projects in acting for the camera. Video taping of selected acting exercises. (PR: THE 222)
- 523 Stanislavsky System of Acting. 3 hrs.**
Study of the Stanislavsky System of Acting and using it in preparing and performing excerpts from plays.
- 536 Children's Theatre. 3 hrs.**
Theory, direction, and staging of plays for children.
- 537 Directing I. 3 hrs.**
Introduction to theories, principles, techniques, and history of directing. (PR: THE 150, 151, 152, and 222)
- 538 Directing II. 3 hrs.**
In-depth study of directorial approaches. Analysis of contemporary movements and leaders in the field. Students must stage productions as part of class requirement. (PR: THE 537 or permission of instructor)
- 539 Directing for the Camera. 3 hrs.**
Projects in directing for the camera. Video taping of selected directing exercises. (PR: THE 437/537 or permission of instructor)
- 540 Theatre History to 1660. 3 hrs.**
Survey of man's activities in the theatre from primitive times to 1660. (PR: THE 101 or permission of instructor)
- 541 Theatre History since 1660. 3 hrs.**
Survey of man's activities in the theatre from 1660 to the present. (PR: THE 101 or permission of instructor)
- 550 Stage Lighting III. 3 hrs.**
Advanced study in the aesthetic principles of lighting design. Emphasis on design principles in non-proscenium theatres. (PR: THE 350)
- 560 Scene Design II. 3 hrs.**
Advanced work in the process and styles of design for the stage. Emphasis on abstraction, different materials, and designing for various theatre forms. (PR: THE 261, 360)
- 580-583 Special Topics in Theatre. 1-4; 1-4; 1-4; 1-4 hrs.**
Program of study not normally covered in other courses. Topics vary from semester to semester. (PR: Permission of chairman)
- 585-588 Independent Study. 1-4; 1-4; 1-4; 1-4 hrs.**
Courses taught by tutorials; directed independent readings or research; problem reports, and other activities designed to fill the needs of individual students. (PR: Permission of chair)



The Faculty

Visit the Marshall University Graduate Council's website (www.marshall.edu/graduate-council) for additional information on graduate faculty membership such as levels and expiration dates.

ACCOUNTANCY AND LEGAL ENVIRONMENT

Professor

Jeffrey Archambault, B.S.B.A. 1983, M.S. 1986, Central Michigan University; Ph.D., 1992, Michigan State

Nancy Lankton, B.S., 1985, M.B.A. 1993, M.S., 1997, Ph.D., 2000, Arizona State University

Associate Professor

Marie Archambault, B.B.A., 1986, Saginaw Valley State College; Ph.D., 1992, Michigan State University

Ray Keener, B.S./B.A. 1979, J.D. 1982, West Virginia University; L.L.M., 1990, Georgetown University

Jean Price, B.S. 1984, University of Louisville; M.B.A. 1988, Ph.D. 1992, Indiana University

Charles Stivason, B.S./B.A. 1981, Clarion University of Pennsylvania; M.A. 1989, George Mason University; M.A. 1991, Arizona State University; Ph.D. 1998, Virginia Polytechnic Institute and State University

Assistant Professor

Susan Lanham, B.A., Marshall University; M.B.A., Salem International University; Ph.D., Northcentral University.

Junwook Yoo, B.P.A. 1995, Korea University; M.B.A. 2004, University of Oregon; Ph.D. 2011, University of Alberta.

Instructor

D. Patrick Donahoe, B.S.B.A. 1975, West Virginia University; M.S.T. 1987, Robert Morris University

ANATOMY AND PATHOLOGY

Professor

Sasha Zill, B. A. 1966, Columbia University; Ph. D. 1979, University of Colorado

Associate Professor

Laura Richardson, B.A. 1972, Newton College of the Sacred Heart; M.S. 1979, U. of Virginia; Ph.D. 1993, Georgetown

Assistant Professor

Maria Serrat, B.A. 1999, Miami U.; M.A. 2002, Ph.D. 2007, Kent State

Adjunct Professor

Guo-Zhang Zhu, B.S. 1992, Shanghai Medical University (China); Ph.D. 1997, Shanghai Institute of Biochemistry (China)

APPLIED SCIENCE AND TECHNOLOGY

Professor

D. Scott Simonton, B.S. 1991, West Virginia Institute of Technology; M.S. 1997, Marshall; Ph.D. 2002, University of New Mexico

D. Allan Stern, B.Ed. 1971, Hawaii; M.Ed. 1972, Miami; Ed.D. 1977, Texas A&M

Anthony B. Szwilski, B.Sc. 1972, U. of Nottingham, United Kingdom; M.B.A. 1986, Xavier; Ph.D. 1975, U. of Nottingham, United Kingdom

Associate Professor

Tracy Christofero, B.S. 1984, M.S. 1986, Indiana University; Ph.D. 2005, Nova Southeastern University

Clair J. Roudebush, B.S. 1977, California U. of Pa.; M.S. 1980, Central Missouri State; Ph.D., Texas A & M

Assistant Professor

Jian Liu, B.S. 2002, Shanghai Jiao Tong University; M.S. 2004, Ph.D. 2008, Virginia Tech

James McIntosh, B.S. 1984, Fairmont State College; M.S.E. 1987; West Virginia University

Adjunct Professor

James Wolfe, B.S. 1991, United States Naval Academy; M.S. 1999, Marshall

ART AND DESIGN

Professor

Jonathan Cox, B.F.A. 1972, U. of Florida; M.F.A. 1975, Rhode Island School of Design
Mary Grassell, B.F.A. 1965, Carnegie Mellon University; M.F.A. 1984, Syracuse University
Peter Massing, B.F.A. 1985, SUNY Buffalo; M.F.A. 1988, Ohio State University.

Associate Professor

Maribea Barnes, B.A. 1991, Concordia College; M.A. 2003, Univ. of St. Thomas, Ph.D. 2008, Ohio State University.
Miyuki Akai Cook, B.F.A. 1997, Osaka University of Arts, M.F.A. 2006, University of Massachusetts-Dartmouth
Ian Hagarty, B.F.A. 2003, Maryland Institute, College of Art; M.F.A. 2006, Indiana University
Hayson Harrison, B.F.A. 1991, Virginia Commonwealth University; M.B.A., 2003 University of Richmond
Daniel Kaufmann, B.S. 1997, B.A., Florida State University, M.F.A. 2008, University of New Mexico

Assistant Professor

Frederick Bartolovic, B.F.A. 1996, University of Arizona; M.F.A. 2006, Rhode Island School of Design

BIOCHEMISTRY AND MICROBIOLOGY

Professor

Elaine Hardman, B.S. 1979, Auburn; Ph.D. 1993, U. of Texas Health Science Center, San Antonio
Susan Jackman, B.S. 1971, M.S. 1974, Marquette; Ph.D. 1984, Iowa
Richard Niles (Chair), B.A. 1968, Rhode Island College; M.S. 1970, New Hampshire; Ph.D. 1972, Massachusetts-Amherst
Donald Primerano, B.S. 1976, St. Vincent; Ph.D. 1982, Duke
Hongwei Yu, B.S. 1983, Shandong College; M.S. 1990, U. of Alberta; Ph.D. 1993, U. of Calgary

Associate Professor

Pier Paolo Claudio, M.D. 1989, Ph.D. 1994, U. of Naples (Italy)
Beverly Delidow, B.S. 1980, M.S. 1981, U. of Michigan; Ph.D. 1988, U. of California, Berkeley
Philippe Georgel, Maitrise, 1987, University of Poitiers (France); Ph.D. 1993, Oregon State
Vincent Sollars, B.A. 1993, Ph.D. 2000, Kansas
Wei-Ping Zeng, B.S. 1986, Jiangxi University (China); Ph.D. 1995, SUNY Buffalo

Adjunct Professor

Simon Collier, B.Sc., 1986, University of Nottingham (U.K.), Ph.D. 1991, University of Manchester (U.K.).
Wendy Trzyna, B.Sc. 1985, Illinois State University; Ph.D. 1993, University of Wyoming

BIOLOGICAL SCIENCES

Professor

Victor Fet, B.S./M.S. 1976, University of Novosibirsk (Russia); Ph.D. 1984, Zoological Institute, Academy of Sciences, St. Petersburg (Russia)
Phillipe Georgel, Maitrise, 1987, University of Poitiers (France); Ph.D. 1993, Oregon State University
Frank S. Gilliam, B.S. 1976, Vanderbilt University; Ph.D. 1983, Duke University
Marcia Harrison, B.S. 1977, Vermont; M.S. 1978, Ph.D. 1983, U. of Michigan
David Mallory, B.S. 1980, Cornell; M.S., 1983, Maine; Ph.D., 1987, West Virginia
Frank O'Keefe, B.S. 1992, Stanford University; M.S. 1997, Ph.D. 2000, University of Chicago
Elmer M. Price, B.S. 1983, Northern Kentucky University; Ph.D. 1987, University of Cincinnati
Charles Somerville (Dean, College of Science), B.S. 1978, Penn State; Ph.D. 1990, U. of Maryland
Suzanne G. Strait, Ph.D. SUNY Stony Brook 1991
Jagan Valluri, B.S. 1981, Osmania University; M.S. 1984, Baylor University; Ph.D. 1988, Texas A&M University
Guo-Zhang Zhu, B.S. 1992, Shanghai Medical University (China); Ph.D. 1997, Shanghai Institute of Biochemistry (China)

Associate Professor

Jeffrey L. Kovatch, B.S. 1995, University of Pittsburgh; Ph.D. 2008, Syracuse University
Nicola LoCascio, B.S. 1975, Mary Washington College of the University of Virginia; Ph.D. 1984, University of North Carolina - Chapel Hill
Wendy Trzyna, B.Sc. 1985, Illinois State University; Ph.D. 1993, University of Wyoming

Assistant Professor

Brian Antonsen, B.Sc. 1992, Ph.D., 1999, University of Victoria
Jennifer Mosher, B.S. 1994, Florida Atlantic University; M.S. 2002, Youngstown State University; Ph.D. 2008, University of Alabama
Jayne Waldron, B.S. 1998, West Virginia University; M.S. 2000, Marshall University; Ph.D. 2005, Clemson University

CHEMISTRY

Professor

Michael P. Castellani (Chair), B.S. 1982, Furman; M.S., 1983, Northwestern; Ph.D., 1986, UC-San Diego

Michael Norton, B.S. 1977, Louisiana State U. of Shreveport; Ph.D., 1982, Arizona State

Associate Professor

Leslie Frost, B.S. 1992, M.S. 1993, West Virginia; Ph.D. 1997, U. of Virginia

Robert Morgan, B.A. 1983, Queens College; Ph.D. 1992, City University of N.Y.

William Price, B.S. 1992, New Mexico Tech; Ph.D. 1997, U. of California, Berkeley

Assistant Professor

Brian Scott Day, B.S. 2001, Marshall; Ph.D. 2005, Virginia Tech

Derrick R. J. Kolling, B.S. 1999, Pennsylvania State University; Ph.D. 2005, University of Illinois Urbana-Champaign

Laura McCunn, B.A. 2001, Ohio Wesleyan University; M.S. 2002, Ph.D. 2005, University of Chicago

Bin Wang, B.S. 1994, Beijing Medical University (China); M.S. 2003, National University of Singapore; Ph.D. 2004, Queen's University (Canada)

CLASSICS

Professor

Caroline A. Perkins, B.A. 1973, McGill University; M.A. 1975, State University of New York at Buffalo; Ph.D. 1984, The Ohio State University

Assistant Professor

Christina Franzen, B.A. 1999, University of Georgia; M.A. 2003, University of Washington; Ph.D. 2007, University of Washington

COMMUNICATION DISORDERS

Professor

Karen McComas, B.A. 1977, M.A. 1978, Ed.D. 2010, Marshall

Mary E. Reynolds, B.A. 1973, University of Kentucky; M.A. 1977, Marshall University; Ph.D. 1996, Ohio University

Associate Professor

Pamela Holland, B.A. 1992, M.A. 1995, Marshall University

Karen McNealy (Chair), B.A. 1974, Marshall University, M.A. 1975, Tennessee; Au.D. 2009, Salus University

Assistant Professor

Jennifer Baker, B.S. 2004, M.A. 2007, Miami University

Carrie Childers, B.S. 1998, Andrews University; M.A. 2000, Western Michigan University; Ph.D. 2015, University of Nebraska-Lincoln

Craig Coleman, B.A. 1988, M.A. 2000 University of Pittsburgh

Loukia Dixon, B.A. 1987, M.A. 1998, Marshall University

Kelly Harlow, B.A. 1980, M.A. 1981, Marshall University

Patricia Leonard, B.A. 1988, M.A. 1990, Marshall University

Kelly Rutherford, B.A. 2002, M.S. 2004, Marshall University

COMMUNICATION STUDIES

Professor

Robert Bookwalter (Dean, College of Liberal Arts), B.A. 1979, California State, Fresno; M.A. 1982, Montana; Ph.D. 1989, Kansas

Camilla Brammer (Chair), B.S. 1979, M.A. 1982, Marshall; Ph.D., 1992, Ohio

Stephen D. Cooper, A.B. 1972, Princeton; M.C.I.S. 1994, Ph.D. 2001, Rutgers

Barbara Tarter, B.S. 1980, M.A. 1982, Ph.D. 1983, Ohio University

Associate Professor

Susan Gilpin (Associate Dean, Honors College), B. A. 1973, West Virginia; M.A. 1999, Marshall; Ph.D. 2004, Carnegie Mellon

Assistant Professor

Jill Underhill, B.A. 2003, University of Wisconsin-Whitewater, 2003; M.A. 2006, Ph.D. 2012, University of Maryland

COMPUTER SCIENCE (Weisberg Division)

Professor

Jamil Chaudri, B.Sc. (Honours) 1967, Salford; M.Sc. 1970, Nottingham; Ph.D. 1982, Durham University Business School

Associate Professor

John Biros, B.A. 1962, M.A. 1964, Duquesne; M.S. 1993, West Virginia Graduate College

Haroon Malik, B.S. 1996, Hamdard University (Pakistan); M.S. 2007, Acadia University, Canada; Ph.D. 2013, Queen's University (Canada)

Paulus Wahjudi, B.S., M.S., Ph.D., University of Southern Mississippi

COUNSELING

Professor

Donald Hall, B.A. 1971, Marshall; M.A. 1972, Eastern Kentucky University; Ed.D. 1978, University of Virginia

David Hermon, B.S. 1987, M.A. 1991, Eastern Michigan University; Ph.D. 1995, Ohio University

Robert L. Rubenstein (Program Director), B.S. 1977, M.A. 1980, Ed.D. 1989, West Virginia

Carol M. Smith, B.A. 1980, M.A.C.E. 1996, University of Virginia; M.A. 1998, Ph.D. 2002, Kent State University

Associate Professor

Andrew Burck, B.A. 1998 Mercyhurst, College; M.Ed. 2001, Kent State University; Ph.D. 2006, The University of Toledo

Lisa Burton, B.S. 1990, West Virginia University; M.A. 1993, West Virginia Graduate College; Ph.D. 2008, Capella University

Darlene Daneker, B.A. 1997, M.S. 1999, Eastern Washington University; Ph.D. 2002, University of North Carolina at Greensboro

Lori Ellison (Program Director), B.A. 1985, Baylor University; M.A. and MA. 1990, Southwestern Baptist Theological Seminary; Ph.D. 2007, Texas A&M University-Commerce.

Jeff Garrett, B.A. 1986, David Lipscomb University; M.A. 1993, Marshall University; Ph.D. 2004, Ohio University

Jonathan Lent, B. S. 2005, M. Ed. 2007 California University of Pennsylvania; Ph.D. 2010, The University of Akron

CRIMINAL JUSTICE AND CRIMINOLOGY

Professor

Dhruba J. Bora, B.A. 1991, Marshall University; M.S. 1992, Eastern Kentucky University; Ph.D. 2003, Indiana University of Pennsylvania

Margaret Phipps Brown, B.A. 1976, West Virginia Wesleyan; J.D. 1979, Emory

Kimberly A. DeTardo-Bora, B.A. 1996, Bowling Green State University; M.A. 1999, Ph.D. 2003, Indiana University of Pennsylvania

Assistant Professor

Whitney A. Flesher, B.A. 2008, Samford University; M.S. 2010, University of Cincinnati

DIETETICS

Professor

Mary Kathryn Gould, B.A. 1991, Miami University; M.S. 1996, Case Western Reserve University; B.A. 1993, Ed.D. 2007, Marshall

Kelli J. Williams (Chair), B.S. 1995 Lipscomb University, M.A. 1997, Marshall University; Ph.D. 2006, The Ohio State University

EDUCATION

Professor

Ronald B. Childress, B.S. 1969, M.S. 1971, East Tennessee State; Ed.D. 1975, U. of Tennessee

Lisa A. Heaton (Program Director), B.S. 1992, Bethel College; M.Ed. 1995, Ph.D. 1999, University of Virginia

Thelma Isaacs (Associate Dean, College of Education and Professional Development), B.A. 1989, M.A. 1999, M.A. 1999, Ed. S. 2002, Marshall University; Ed.D. 2002, West Virginia University

Paula White Lucas, B.A. 1989, M.A. 1990, Marshall; Ed.D. 1998, West Virginia

Samuel Securro, B.A. 1964, Fairmont State College; M.A. 1966, Ed.D. 1970, West Virginia University

George Watson, B.B.A. 1989, M.A.T. 1993, Marshall; Ed.D. 2007, West Virginia

Bizunesh Wubie, B.A. 1978, Addis Ababa University; M.E. 1993, Ph.D. 2001, University of Toronto

(continued)

Associate Professor

Elizabeth Campbell, B.A. 1991, State University of New York; MA 1998 University of North Carolina at Chapel Hill; Ph.D. 2011, Indiana University of Pennsylvania

Janet Dozier, B.A. 1994, M.A. 1999, Ed.S. 2003, Ed.D. 2005, Marshall

Edna Meisel, B.S. 1980, Florida State University; M.A. 1994, Ed.S. 2003, Marshall University; Ed.D. 2005, West Virginia University

Assistant Professor

Tina Allen, B.S. 1991, M.B.A. 1997, Louisiana Tech University; Ed.S. 2004, Northwestern State University; Ed.D. 2013, University of Louisiana Monroe

Elbert Davis, B.S. 1999, M.A. 2007, West Virginia University; Ed.S. 2013, Marshall University

Kimberly McFall, B.A. 1996, Arkansas Tech University; M.L.S. 2008, Appalachian State University; Ed.S. 2011, Ed.D. 2016, Arkansas State University.

ENGINEERING (Weisberg Division)

Professor

Ronald J. Bieniek, B.S. 1970, University of California-Riverside; A.M. 1973, Ph.D. 1975, Harvard University

Richard Begley, B.S. West Virginia Institute of Technology; M.S. West Virginia University; Ph.D. West Virginia University

Eldon R. Larsen, B.S. 1977, M.S. 1978, Brigham Young; Ph.D. 1983, U. of California, Berkeley

Wael Zatar (Dean, CITE), B.S. 1990, Cairo University, M.S. 1994, Cairo University, D.Eng. 1999, Saitama University

Andrew P. Nichols, B.S.C.E. 2000, West Virginia University; M.S. 2001, Purdue University; Ph.D. 2004, Purdue University

Asad Salem (Chair), B.S. 1983, University of Mississippi, M.S., 1989, Tennessee State University, Ph.D. 1996, University of Akron

Associate Professor

Isaac W. Wait, B.S.C.E. 2000, M.S. C.E. 2001, Brigham Young University, 2001; Ph.D. 2005, Purdue University

Assistant Professor

Almuatazbellah Boker, B.S. 2002, University of Leeds; M.S. 2003, University of Sheffield; Ph.D. 2013, Michigan State University

Iyad Hijazi, B.S. 1989, Kansas State University; M.S. 1993, Kansas State University; Ph. D. New Mexico State University

Jeff Huffman, BSCE 1988, Virginia Tech; MSCE 1990, Virginia Tech

Gregory K. Michaelson, B.S. 2009, Bluefield State College; M.S. 2010, West Virginia University; Ph.D. 2014, West Virginia University

Sarder Sadique, B.S. 1989, University of Engineering and Technology Bangladesh; M.S. 1996, University of Engineering and Technology Bangladesh; Ph.D. 2006, National University of Singapore

ENGLISH

Professor

Timothy Burberry, B.A. 1985, Claremont McKenna; Ph.D. 1997, SUNY Stony Brook

Jane Hill (Chair), B.A. 1972, M.A. 1978, Clemson; Ph.D. 1985, Illinois Urbana-Champaign

Gwenyth Hood, B.A. 1977, Wellesley College; M.A. 1978, Ph.D. 1984, Michigan

James Riemer, B.A. 1975, SUC at Brockport, NY; M.A. 1977, Ph.D. 1982, Bowling Green

Kateryna Rudnytsky Schray, B.A. 1987; M.A. 1989, Georgetown; Ph.D. 1997, North Carolina

John Van Kirk, B.A. 1976, Webster; M.F.A. 1991, Univ. of Maryland

Anthony Viola, B.A. 1994, East Stroudsburg University; M.A. 1998, University of North Dakota; Ph.D. 2003, Ohio University

John Young, A.B. 1990, Princeton; M.A. 1992, Ph.D. 1998, Northwestern

Associate Professor

Roxanne Aftanas, B.A. 1997, M.A. 2000, Arkansas Little Rock; Ph.D. 1995, Texas Woman's University

Allison Carey, B.A. 1991, Tennessee; M.A. 1993, Florida; Ph.D. 2003, Tennessee

David Hatfield, B.A. 1981, M.A. 1983 Marshall; Ph.D. 1993, Louisiana State

Hyo-Chang Hong, B.A. 1995, Yeung-Nam University (Korea); M.A. 1997, Ph.D. 2002, Ball State

Kristen Lillis, B.A. 2004, Baldwin-Wallace College, M.A. 2006, Ohio University; Ph.D. 2011, University of Kansas

Rachael Peckham, B.A. 2002, Hope College; M.F.A. 2004, Georgia College and SU; Ph.D. 2009, Ohio University

Kelli Prejean, B.A. 1998, Nicholls State University; M.A. 2001, University of Southern Mississippi; Ph.D. 2005, University of Louisville

Jill Treftz, B.A. 2001, College of Wooster; M.A. 2003, Ph.D. 2009, Penn State

Assistant Professor

- Hilary Brewster**, B.A. 2001, Muhlenberg College; M.S. 2003, University of Pennsylvania; Ph.D. 2013, The Ohio State University
- Puspa Damai**, B.A. 1995, M.A. 1997, Tribhuvan University (Nepal); M.A. 2005, Ph.D. 2012, Michigan State University
- Robert Ellison**, B.A. 1988, Texas; M.A. 1991, Ph.D. 1995, North Texas
- Carrie Oeding**, B.A. 2000, University of Minnesota; M.F.A. 2002, Eastern Washington University; Ph.D. 2007, Ohio University
- Joel Peckham**, B.A. 1992, Middlebury College; M.A. 1994, Baylor University; Ph.D. 1999, University of Nebraska-Lincoln
- Eric Smith**, B.A. 2004, University of West Georgia; M.A. 2007, Northern Michigan University; M.F.A. 2009, University of Florida
- Walter Squire**, B.F.A. 1989, Bowling Green State University; M.A. 1993, Kansas State University; Ph.D. 2001, University of Tennessee

FINANCE AND ECONOMICS

Professor

- Jacqueline Agesa**, B.A. 1990, Ph.D. 1996, University of Wisconsin-Milwaukee, Bridge to Business-Finance Track 2009, Virginia Polytechnic Institute and State University
- Richard Agesa**, B.A. 1984, University of Poona (India); M.A. 1986, Gokhale Institute of Politics and Economics (India); Ph.D. 1996, University of Wisconsin-Milwaukee
- Dallas Brozik**, B.A. 1972, Coe College; M.B.A. 1980, Lewis University; Ph.D. 1984, South Carolina
- Harlan M. Smith II**, B.A. 1977, Kalamazoo College; M.A. 1982, Ph.D. 1989, Yale University

Associate Professor

- Robin McCutcheon**, B.S. 1992, M.A. 2000, Eastern Michigan University; Ph.D. 2009, Wayne State University
- Shaorong Zhang**, B.A. 1989, Xiamen University; M.B.A. 1998, University of New Orleans; Ph.D. 2004, University of Missouri

Assistant Professor

- Rishav Bista**, B.A. 2006, Coe College; M.S. 2008, Ph.D. 2012, University of Kentucky
- Yuanyuan (Catherine) Chen**, Bachelor of Economics 2006, Wuhan University (China); M.A. 2009, Ph.D. 2012, Middle Tennessee State University
- Mohammad Karim**, B.B.A. 1998, University of Chittagong (Bangladesh); M.B.A. 2008, Ball State University; Ph.D. 2012, University of Texas at El Paso

FORENSIC SCIENCE

Professor

- Terry Fenger**, B.A. 1970, Ph.D., 1976, Southern Illinois
- Pamela Staton**, B.S. 1975, Morehead State University; M.S. 1978, West Virginia University; Ph.D. 2001, Marshall University

Assistant Professor

- Lauren Waugh**, B.S. 2000, The Pennsylvania State University; M.S. 2004, Ph.D. 2010, Marshall University

Adjunct Professor

- Kelly Beatty**, B.S. 1998, West Liberty State College; M.S. 2000, Marshall University
- Margaret Phipps Brown**, B.A. 1976, West Virginia Wesleyan; J.D. 1979, Emory
- Joshua Brunty**, B.A. 2005, M.S. 2009, Marshall
- David Castle**, B.A. 1991, Marshall University
- Jason M. Chute**, B.S. 1998, West Virginia University; M.S. 2000, Marshall University
- Menashi Cohenford**, B.S. 1976, Rhode Island College; Ph.D. 1982, University of Rhode Island
- Steve Compton**, B.A. 1997, Marshall University
- Philippe Georgel**, Maitrise, 1987, University of Poitiers (France); Ph.D. 1993, Oregon State
- Elaine Hardman**, B.S. 1979, Auburn; Ph.D. 1993, U. of Texas Health Science Center, San Antonio
- Derrick R. J. Kolling**, B.S. 1999, Pennsylvania State University; Ph.D. 2005, University of Illinois Urbana-Champaign
- Laura Kuyper**, B.S. 1995, Kentucky Wesleyan College; M.S. 1999, Marshall University
- William D. McCumbee**, B.S. 1965, St. Edwards University; M.A. 1967, Sam Houston State; Ph.D. 1977, U. of Houston
- Gary O. Rankin**, B.S. 1972, Arkansas-Little Rock; Ph.D. 1976, Mississippi
- Catherine Rushton**, B.S. 1995, M.S. 1997, Ed.S. 2015, Marshall University
- Thomas Rushton**, B.A. 1985, Vanderbilt, M.D. 1989, South Florida
- John Sammons**, R.B.A. 1989, Marshall; M.S. 2008, Mountain State University
- Elizabeth Seferyn**, B.S. 2004, The Pennsylvania State University, M.S.F.S. 2009, Arcadia University
- Monica A. Valentovic**, B.S. 1978, Michigan Tech.; M.S. 1980, Toledo; Ph.D. 1983, Kentucky
- Misty Marra Williamson**, B.A. 1995, West Virginia University; M.S. 1998, Marshall University

GEOGRAPHY

Professor

James Leonard (Chair), B.A. 1991, M.A. 1994, Marshall; Ph.D. 2001, U. of Cincinnati

Associate Professor

Godwin Djietror, B.A. 1991, University of Ghana; M.A. 1997, University of Toledo; Ph.D. 2003 McMaster University

Anita Walz, M.S. 1993, Oregon State University; M.S. equivalent (1994), Universitaet Konstanz (Germany); Ph.D. 2002, University of Maryland

GEOLOGY

Professor

Ronald L. Martino, B.A. 1973, Bucknell; M.S. 1976, Ph.D. 1981, Rutgers

Associate Professor

Aley K. El-Shazly, B.Sc. 1983, University of Alexandria (Egypt); M.S. 1987, Ph.D. 1991, Stanford University

William Niemann, B.S. 1983, Southern Illinois U.; M.S. 1986, U. of Iowa; Ph.D. 1999, U. of Missouri-Rolla

HISTORY

Professor

Daniel Holbrook (Chair), B.A. 1986, Brandeis University; M.S. 1994, Ph.D. 1999, Carnegie Mellon University

Montserrat M. Miller, B.A. 1983, M.A. 1988, Marshall University; M.A. 1990, Ph.D. 1994, Carnegie Mellon University.

David Mills, B.A. 1990, University of Kansas; M.A. 1993, Ph.D. 1997, University of Utah

William G. Palmer, B.S. 1973, Iowa State University; Ph.D. 1981, University of Maine

Phillip Rutherford, B.A. 1987, University of Southern Maine; Ph.D. 2001, Penn State University

Associate Professor

Kevin Barksdale, B.A. 1995, Winthrop University; Ph.D. 2005, West Virginia University

Robert Deal, B.A. 1980, M.A. 1985, Syracuse University; J.D. 1987, Villanova University; Ph.D. 2010 Temple University

Laura Michele Diener, B.A. 2000, Vassar College; M.A. 2003, Ph.D. 2008, The Ohio State University

Margaret Rensenbrink, B.A. 1993, University of Massachusetts; Ph.D. 2003, The University of Chicago

Anara Tabyshalieva, M.A. 1979, Ph.D. 1985, Kyrgyz National University; M.A. 2003, Johns Hopkins University

David Trowbridge, B.A. 2000, M.A. 2003, Emporia State University; Ph.D. 2008, University of Kansas

Christopher White, B.A. 2001, Humboldt State University; Ph.D. 2005, University of Kansas

Kat D. Williams, B.A. 1988, M.A., 1994, University of Louisville; Ph.D. 2001, Kentucky

Assistant Professor

Michael Woods, B.A. 2007, Whitman College; Ph.D. 2012, University of South Carolina

Adjunct Professor

Nathaniel DeBruin, B.A. 1976, Texas A&M University; M.L.S. 1996, University of Maryland – College Park

HUMANITIES

Professor

Luke Eric Lassiter, B.S. 1990, Radford University; Ph.D. 1995, University of North Carolina at Chapel Hill.

Frances Simone, B.A. 1964, Queens College of CUNY; M.Ed. 1967, U. of Florida; Ph.D. 1974, Duke

Adjunct Professor

Barbara L. Nicholson, B.A. 1973, Glenville State College; M.A. 1978, West Virginia; Ph.D. 1987, Ohio

Robert D. Sawrey, B.A. 1970, South Dakota; M.A. 1971, Ph.D. 1979, Cincinnati

INTEGRATED SCIENCE AND TECHNOLOGY

Professor

Menashi Cohenford, B.S. 1976, Rhode Island College; Ph.D. 1982, University of Rhode Island

Associate Professor

Thomas G. Jones, B.A. 1990 M.S. 1992, Marshall University; PhD 1997, University of Louisville

Assistant Professor

Min Kook Kim, B.A. 2000, Chung-Ang University; M.A. 2002, Seoul National University; M.U.P. 2005, State University of New York at Buffalo; Ph.D. 2010, University of Maine

JOURNALISM AND MASS COMMUNICATIONS

Professor

Charles G. Bailey, B.A. 1974, M.A. 1985, Marshall University; Ed.D. 1993, West Virginia
Janet Dooley (Associate Dean, College of Arts and Media; Director, W. Page Pitt School of Journalism and Mass Communications), B. A. 1973, Marshall; M. S. 1974, University of Tennessee at Knoxville
Burnis Morris, B.A., 1982, University of Mississippi; M.P.A., University of Dayton, 1977

Associate Professor

Allyson Goodman, B.A., 1982, Marshall University; M.S., 1985, Shippensburg University
Terry Hapney, B.A., 1994, University of Kentucky; M.A., 1997, Marshall University; Ph.D. 2012, University of Dayton
Christine Ingersoll, B.A., 1994, Hamilton College; M.A. 1997, Syracuse University; 2008 M.F.A., Stephen F. Austin State University
Rebecca Johnson, B.A. 1975, M.A. J. 1976, Marshall
Robert Rabe, B.A. 1992, University of Nebraska; M.A. 2002, Ph.D. 2013, University of Wisconsin
Christopher Swindell, B.A. 1985, Marshall; M.A. 1991, Ph.D. 2006, University of Kentucky

KINESIOLOGY

Professor

Jennifer Y. Mak, B.A. 1995, Hong Kong Baptist University; M.S. 1998, Ph.D. 2000, Indiana
Gary McIlvain (Chair), B.S. 1993, Lipscomb University; M.S. 1999, Middle Tennessee State University; Ed.D. 2008, University of Kentucky

Associate Professor

Gregg Twietmeyer, B.A. 1997, Concordia University; M.A. 2003, University of Michigan; Ph.D. 2008, Penn State University

Assistant Professor

Suzanne M. Konz, B.S. 1994, Iowa Wesleyan College; M.S. 1995, Indiana University; Ph.D. 2006, Brigham Young University

LEADERSHIP STUDIES

Professor

Dennis M. Anderson (Distinguished Professor of Education), B.S. 1964, Florida State; M.A. 1965, M.A. 1971, Appalachian State; Ed.D. 1975, Virginia Tech
Ronald B. Childress, B.S. 1969, M.S. 1971, East Tennessee State; Ed.D. 1975, U. of Tennessee
Teresa R. Eagle (Dean, College of Education and Professional Development), B.S. 1978, U. of Charleston; M.A. 1982, WV Graduate College; Ed.D. 1996, West Virginia
Tom Hisiro, B.S., California University of Pennsylvania; M.Ed. 1977, Shippensburg University of Pennsylvania; Ed.D. 2000, University of Pittsburgh
Barbara L. Nicholson, B.A. 1973, Glenville State College; M.A. 1978, West Virginia; Ph.D. 1987, Ohio
Louis Watts, B.A. 1971, Harding University; M.A. 1978, West Virginia College of Graduate Studies; Ed.D. 1997, West Virginia University

Associate Professor

Feon M. Smith, R.B.A. 2003, M.S. 2005, Marshall University; Ph.D. 2012, Capella University

Assistant Professor

Charles Bethel, B.A. 1982, Moody Bible Institute; M.A., 1987, Grace Theological Institute; Ed.D., 1998, West Virginia University.
Eugenia Damron, B.A. 1988, Marshall University; M.A., 1990, 1994, Marshall University; Ed.D., 2005, Marshall University.

Professor Emeritus

LeVene A. Olson, B.S. 1966, Ed.D. 1971, Georgia
Jack E. Yeager, B.A. 1965, West Virginia State College, M.A. 1969, Marshall University, Ed.D. 1975, Virginia Polytechnic Institute and State University

LITERACY EDUCATION

Professor

Barbara O'Byrne (Program Director), Certificate in Secondary Education, 1979, McGill; M.A. 1981, Concordia College; Ph.D. 1995, U. of Toronto
Terrence Stange, B.S. 1975, M.S. 1981, Northern State University; Ph.D. 1993, University of Oklahoma

Associate Professor

Isaac Larison, B.S. 1981, Xavier University, M.A. 1986, Northern Kentucky University, Post-Master's Degree-Reading Specialist, 1991, Ph.D. 1998, The Ohio State University.

(continued)

Assistant Professor

Mindy Allenger, B.A. 1992, California State University; M.A. 2004, Ed.D. 2015, Marshall

Jeradi Cohen, B.A. 1972, University of Michigan, M.Ed. 1989, Ed.D. 1997, University of Virginia

Professor Emeritus

E. Noel Bowling, B.A. 1969, M.A.T. 1970, Lynchburg College; Ed.D. 1975, U. of Virginia; Post Doctorate 1990, Ohio State

MANAGEMENT, MARKETING AND MANAGEMENT INFORMATION SYSTEMS

Professor

Elizabeth Alexander, B.B.A. 1983, M.B.A. 1989, Marshall University; Ph.D. 2000, University of Kentucky

Lorraine Anderson, B.A. 1978, U. of Florida; M.B.A. 1991, Marshall; Ed.D. 2000, West Virginia

Charles Braun, B.E.S. 1980, St. Cloud State U.; M.A. 1986, Minnesota; Ph.D. 1994, Kentucky

Dennis C. Emmett, B.A. 1972, Thiel College; M.B.A. 1974, D.B.A. 1978, Kent State University

Deanna Mader (Senior Associate Dean, College of Business), B.A. 1975, M.A. 1978, Western Kentucky University; Ph.D. 1984, University of Georgia

Marjorie McInerney (Associate Dean, College of Business), B.S.B.A. 1975, University of Akron; M.B.A. 1977, Marshall; Ph.D. 1983, Ohio State

Dale Shao, B.S.B.A. 1977, M.B.A. 1978, Old Dominion; Ph.D. 1989, Georgia State

Uday Tate, B.A., M.B.A. 1967, Univ. of Baroda; M.B.A. 1974, Western Illinois; D.B.A. 1983, Tennessee

Associate Professor

Alberto Coustasse, M.D. 1992, M.B.A. 1994, Pontifical Catholic University of Chile; M.P.H. 1999, Dr.P.H. 2004, University of North Texas at Fort Worth

Doohee Lee, B.P.A. 1991, Soongsil University; M.A. 1994, Wichita State University; Ph.D. ,M.P.H. 1999, The University of Texas School of Public Health

Rex McClure, B.S. 1984, M.B.A. 1998, Ph.D. 2006, Southern Illinois University

M. Shane Tomblin, B.S. 1989, M.A. 1992, Marshall; Ph.D. 2005, University of Kentucky

Assistant Professor

Frank Bosco, B.A. 2003, University of Connecticut; M.S. 2005, Montana State University; Ph.D. 2011, University of Memphis

Anil Gurung, B.A. 1992, Tribhuvan University; M.B.A. 2001, Missouri State University; Ph.D. 2006, University of Texas

Ivan S. Muslin, B.A. 1997, Northeastern Illinois University; M.A. 2004, Nova Southeastern University; Ph.D. 2010, University of Texas

Deepak Kumar Subedi, B.E. 1988, M.B.A. 1994, M.Sc. 1977, Ph.D. 2004, University of Toledo

Adjunct Professor

Mary Emmett, B.S. 1969, Marquette University; M.S.S. 1981, University of South Dakota; Ph.D. 1991, University of Iowa

Kathryn Newcome, B.S. 1980, West Virginia University; C.R.N.A. 1996, CAMC School of Nurse Anesthesia; M.S. 1996, West Virginia Graduate College; D.M.P.N.A. 2007, Marshall University

Joe Price, B.A.B.A. 1967, Nichols College (Dudley, Mass.); J.D. 1978, West Virginia University

Cassandra L. Taylor, B.A. 1978, West Virginia University; A.A. 1983, University of Charleston; C.R.N.A. 1992, CAMC School of Nurse Anesthesia; M.S.N. 2001, Case Western Reserve University, D.N.P. 2007, Case Western Reserve University; D.M.P.N.A. 2007, Marshall University

Nancy Tierney, (Director, School of Nurse Anesthesia), B.A. 1976, West Virginia State University; M.S. 1984, University of Pittsburgh; D.M.P.N.A. 2007, Marshall University

Priscilla J. Walkup, R.N. 1971, Charleston General Hospital School of Nursing; C.R.N.A 1973, CAMC School of Nurse Anesthesia; B.A. 1977, West Virginia State University; M.S. 1992, University of Charleston; D.M.P.N.A. 2007, Marshall University

William White, B.A. 1973, West Virginia University; A.A. 1977, University of Charleston; C.R.N.A. 1980 CAMC School of Nurse Anesthesia; M.S. 1992, University of Kansas; D.M.P.N.A. 2007, Marshall University

MATHEMATICS

Professor

Laura Adkins, B.A. 1981, M.A. 1982, Marshall; M.S. 1990, Ph.D. 1996, Ohio State University

Alfred Akinsete (Chair), B.Sc. 1980; M.Sc., 1983; Ph.D., 1996, University of Ibadan (Nigeria)

Ariyadasa Aluthge, B.S. 1981, Kelaniya, Sri Lanka; M.S. 1985, Ottawa; Ph.D., 1990, Vanderbilt

Clayton Brooks, B.A. 1988, Marshall; M.A. 1991, Ph.D. 1994, University of Kentucky

John Drost, B.S. 1978, Florida International; Ph.D. 1983, Miami

Bonita Lawrence, B.A. 1979, Cameron; M.S. 1990, Auburn; Ph.D. 1994, U. of Texas, Arlington

Karen Mitchell, B.A. 1971, M.A. 1979, Marshall; Ed.D. 1999, West Virginia University

Evelyn Pupplo-Cody, B.S. 1973, St. Joseph's College (Brooklyn, N.Y.); M.A. 1977, SUNY at Albany; Ph.D. 1992, University of Kentucky

Scott Sarra, B.S. 1993, Shepherd College; M.S. 1995, Ph.D. 2002, West Virginia University
Peter Saveliev, Diploma 1987, Moscow State University (Russia); Ph.D. 1999, U. of Illinois

Associate Professor

Basant Karna, B.Sc., M.Sc. 1997, Tribhuvan University (Nepal); Graduate Diploma 1999, International Center for Theoretical Physics; Ph.D. 2004, Baylor University
Anna Mummert, B.A. 2000, SUNY at Geneseo; Ph.D. 2006, Pennsylvania State University
Carl Mummert, B.S. 2000, Western Carolina University; Ph.D. 2005, Pennsylvania State University

Assistant Professor

Avishek Mallick, B.S. 2002, M.S. 2004, University of Calcutta; M.S. 2006, Ph.D. 2010, University of Louisiana at Lafayette
Elizabeth Niese, B.S. 2001 Virginia Tech; M.S. 2003 University of Central Florida; Ph.D. 2010 Virginia Tech
Michael W. Schroeder, B.S. 2003, M.S. 2005, University of Florida; Ph.D. 2011, University of Wisconsin-Madison

MODERN LANGUAGES

Professor

Maria Burgueno, B.A. 1969, Instituto Alfredo Vázquez Acevedo; M.A. 1994, Ph.D. 1996, Ohio State
José Luis Morillo-Amo, B.A. 1985, U. of New Orleans; M.A. 1989, Ph.D. 1993, Tulane University
Carlos M. Lopez, M.A. 1976, Instituto Alfredo Vázquez Acevedo; Ph.D. 1995, Ohio State

Associate Professor

María Rosario Quintana Villamandos, M.A. 1991, Ph.D. 2006, Universidad Complutense de Madrid (Spain)

MUSIC

Professor

Ann Marie Bingham, B.S. 1978, University of Tennessee; M.M. 1984, Eastern Kentucky University; M.M. 1994, Marshall; D.M.A. 1990, University of Kentucky
Edwin Bingham, B.M. 1976, Tennessee; M.M. 1978, Juillard; D.M.A. 1988, Kentucky
David Castleberry (Associate Dean, College of Arts and Media), B.A. 1978, Furman University; M.A. 1980, D.M.A. 1992, University of Texas at Austin
Solen Dikener, B.M. 1986, Hacettepe University; M.M. 1990, Conservatoire National de Nice (France); M.M. 1993, Louisiana State University; D.M.A. 2000, Michigan State University
Wendell Dobbs, B.M. 1976, Memphis State University; M.M. 1978, D.M.A. 1983, Catholic University
Ben F. Miller, B.M.E. 1971, Indiana; M.A. 1973, D.M.A. 1988, Iowa
Elizabeth Reed Smith, B.M., 1979, Eastman School of Music; M.M. 1981, Yale; D.M.A. 1983, Eastman School of Music
Michael Strocher, B.M. 1974, Missouri-St. Louis; M.M. 1979, New England Conservatory; M.M.E. 1990, Ph.D. 1991, North Texas
Vicki P. Strocher, B.M., B.M.E. 1981, Southwestern; Ph.D. 1994, North Texas
Mark Zanter, B. M. 1990, U. of Minnesota; M.M. 1993, D.M.A. 2000, U. of Illinois

Associate Professor

Julio Alves, B.M. 1995, University of Brasilia; M.M. 1999, The Peabody Conservatory of the Johns Hopkins University; D.M. 2012, Indiana University
James S. Hall, B.M.E. 1981, M.M. 1982, Morehead State University
Stephen Lawson, B.M., 1978, SUNY-Potsdam; M.M. 1983, D.M.A., 1991, Michigan State University
Martin Saunders, B.M.E. 1992, Winthrop University; M.M. 1996, Wright State University; D.M.A. 2008, University of Oklahoma

Adjunct Professor

Kay Lawson, B.M. 1976, SUNY-Potsdam; M.M. 1982, M.M. 1991, Michigan State University

NURSING

Professor

Rebecca Appleton, B.S.N. 1983 Ohio State, M.S. 1987 Ohio State, Ph.D. 1995, University of Utah
Robin Walton, B.S.N. 1987, Marshall; M.S.N. 1990, Bellarmine University; Ed.D. 2002, Marshall
Diana Stotts, B.S.N. 1974, U. of Kentucky; M.S.N., 1981, University of Texas Health Science Center; Ph.D. 1990, University of Texas

Associate Professor

Paula Reilly, B.S.N. 1981, West Liberty State College; M.S.N. 1985, West Virginia University; M.B.A. 1993, University of Charleston; Ph.D. 1993, University of Texas at Austin
Susan Welch, B.S.N. 1980, Capital University; M.S. 1990, The Ohio State University; Ph.D. 2012, West Virginia University

PHARMACOLOGY, PHYSIOLOGY, AND TOXICOLOGY

Professor

- Lawrence M. Grover**, B.S. 1982, The University of the South; M.A. 1984, Ph.D. 1986, Princeton University
Carl A. Gruetter, B.S. 1972, Pennsylvania State; Ph.D. 1978, Tulane
Elsa Mangiarua, B.S. 1976, M.S. 1978, Ph.D. 1983, U. of Buenos Aires
William D. McCumbee, B.S. 1965, St. Edwards University; M.A. 1967, Sam Houston State; Ph.D. 1977, U. of Houston
Gary O. Rankin (Chair), B.S. 1972, Arkansas-Little Rock; Ph.D. 1976, Mississippi
Nalini Santanam, B.Sc. 1984, Meenakshi College for Women (Madras, India); M.Sc. 1986, Post-Graduate Institute for Basic Medical Sciences (Taramani, India); M.P.H., 2004, Emory; Ph.D. 1992, Christian Medical College & Hospital (Vellore, India)
Monica A. Valentovic, B.S. 1978, Michigan Tech.; M.S. 1980, Toledo; Ph.D. 1983, Kentucky

Associate Professor

- Piyali Dasgupta**, M.S. Indian Institute of Technology, New Delhi; Ph.D. 1999, National Institute of Immunology, New Delhi
Richard Egleton, B.S. 1991, Hatfield Polytechnic (U.K.); Ph.D. 1995, U. of London
Todd Green, B.S. 1978, Florida State; Ph.D. 1986, Virginia
Jung Han Kim, B.S. 1985, M.S. 1987, Dongduk Women's University (South Korea); Ph.D. 1996, Tennessee

Assistant Professor

- Travis Salisbury**, B.S. 1997, Ph.D. 2003, Kent State

Adjunct Professor

- Brian Antonsen**, B.Sc. 1992, Ph.D., 1999, University of Victoria
Eric Blough, B.S. 1990, Michigan Technological University; M.S. 1992, Southern Illinois; Ph.D. 1997, Ohio State
Robert Harris, B.S. 1985, Marshall; Ph.D. 1992, Ohio U.
Peter Harvison, B.S. 1977, Carnegie Mellon University; Ph.D. 1983, SUNY Buffalo
Michael Norton, B.S. 1977, Louisiana State-Shreveport; Ph.D. 1982, Arizona State

PHILOSOPHY

Professor

- Jeremy Barris**, B.A. 1980, Rhodes University; B.A. 1981, M.A. 1983, University of Cape Town; M.A. 1984, Duquesne; Ph.D. 1990 SUNY-Stony Brook
Jeffrey Powell, A.B. 1981, Ohio; M.A. 1984, Duquesne; M.A. 1989, Loyola; Ph.D. 1994, DePaul
John N. Vielkind (Chair), B.A. 1967, St. Mary's; M.A. 1970, Ph.D. 1974, Duquesne

PHYSICAL THERAPY

Professor

- Penny Kroll**, B.S. 1975, Louisiana State University; M.A. 1982, Ph.D. 1988, New York University

Associate Professor

- Tamara Gravano**, B.H.S. 2000, M.S.P.T., 2003, D.P.T. 2003, University of Miami

Assistant Professor

- Yi-Po Chiu**, B.S. 1995, National Cheng Kung University (Taiwan); M.H.S. 2001, Ph.D. 2007, University of Florida
James Dauber, B.S. 1992, Indiana University of Pennsylvania; M.P.T. 1994, University of Pittsburgh; D.P.T. 2007, Temple University; D.Sc. 2007, Baylor University
Rania Karim, B.S. 2004, Duquesne University; D.P.T. 2008, Washington University in St. Louis

PHYSICS AND PHYSICAL SCIENCE

Professor

- Ralph E. Oberly**, B.S. 1963, Ph.D. 1970, Ohio State
Nicola Orsini, B.S. 1972, M.S. 1973, Western Michigan; Ph.D. 1977, Michigan
Thomas E. Wilson, B.A. 1974 U. of Evansville; M.S. 1976, U. of Hawaii; Ph.D. 1984, Indiana University

Associate Professor

- Maria Babiuc**, M.S. 1991, Ph.D. 2000, University of Iasi, Romania
Xiaojuan Fan, B.S. 1986, M.S. 1989, Anhui University of China; Ph.D. 1999, University of Science & Technology of China
Huong Nguyen (Chair), B.S. 1981, M.S. 1989 Kishinev State University (Moldavia, formerly USSR); Ph.D. 2001 City University of New York

POLITICAL SCIENCE

Professor

Robert Behrman, B.A. 1967, DePauw University; Ph.D. 1986, Indiana University

Cheryl Brown (Associate Dean, College of Liberal Arts), B.S. 1987, M.P.H. 1990, Columbus College; Ph.D. 1997, Georgia State

Jason J. Morrisette, B.A. 1999, King College; M.A. 2001, Virginia Tech; Ph.D. 2007, University of Georgia

Jamie Warner, B.A. 1991, Millersburg State U.; M.A. 1995, Ph.D. 2001, Penn State

Associate Professor

Marybeth Beller (Chair), B.A. 1989, West Virginia State College; M.A. 1997, Marshall University; Ph.D. 2005, University of Kentucky

George Davis, B.A. 1997, State University of New York at Oswego; M.A. 2000, Virginia Polytechnic Institute and State University; Ph.D. 2005, Pennsylvania State University

Shawn Schulenberg, B.A. 2002, Saint John's University; M.A. 2004, Ph.D. 2010, University of California

Assistant Professor

C. Damien Arthur, BA. 2004, Gordon College; M.T.S. 2006, Boston College; M.P.A. 2008, M.A. 2010, Ph.D. 2013, West Virginia University

PSYCHOLOGY

Professor

Keith Beard, B.A. 1992 West Virginia University; M.A. 1994 Marshall; Psy.D. 2000, Wright State University

Marianna Footo-Linz (Chair), B.A. 1983, M.A. 1986, Marshall; Ph.D. 1991, North Carolina

April Fugett-Fuller, B.A. 2002, M.A. 2004, Morehead State University; Ph.D. 2008, University of Kansas

Christopher W. LeGrow, B.S. 1987, Plymouth State College; M.S. 1989, Ph.D. 1992, Ohio University

Marc A. Lindberg, B.A. 1971, Minnesota; M.A. 1973, Ph.D. 1976, Ohio State

Steven Mewaldt, B.A. 1969, Cornell; M.A. 1972, Ph.D. 1975, Iowa

Pamela Mulder, B.A. 1978, Whittier College; M.A. 1985, California State, Fresno; Ph.D. 1991, California School of Professional Psychology

Associate Professor

Dawn Howerton, B.A. 2004, M.A. 2007, California State University; Ph.D. 2011, University of Tennessee

Penny Koontz, B.A. 1982, M.A. 1984, Psy.D. 2011, Marshall University

Thomas Linz, B.A. 1982, M.A. 1983, West Georgia College; Ph.D. 1988, University of Georgia

Paige Muellerleile, B.A. 1994, Arizona State; M.S. 1999, Ph.D. 2004, Syracuse

Jennifer Tiano, B.A. 2000, M.A. 2002, Ph.D. 2007, West Virginia University

Assistant Professor

Tony Goudy, B.A. 1985, M.S. 1988, West Virginia; Ph.D. 1994, Penn State

SCHOOL PSYCHOLOGY

Professor

Sandra Stroebe (Associate Dean, College of Education and Professional Development), B.A. 1982, Asbury College; M.A. 1986, Ph.D. 1988, University of South Carolina

Assistant Professor

R. Lanai Jennings, B.S. 1997 Bridgewater College; M.A. 2001, Ph.D. 2007, Western Michigan University.

SOCIOLOGY AND ANTHROPOLOGY

Professor

Nicholas Freidin, A.B. 1973, Georgetown University; D.E.A. 1975, D. Phil. 1981, University of Oxford

Brian A. Hoey, B.A. 1990, College of the Atlantic; M.A. 1996, Ph.D. 2002, University of Michigan

Martin Laubach (Chair), B.S. 1978, M.A. 1999, Ph.D. 2002, Indiana University

Frederick P. Roth, B.A. 1968, The College of William and Mary; M.A. 1985, Rutgers University; Ph.D. 2001, University of Connecticut

Associate Professor

Robin Conley, B.A. 2002, New York University; Ph.D. 2011, University of California-Los Angeles

Kristi M. Fondren, B.A. 1998, M.A. 2003, Mississippi University for Women; Ph.D. 2009, Mississippi State University.

Richard Garnett, B.A. 1980, The University of Vermont; M.A. 1987, Ph.D. 1993, The University of North Carolina at Chapel Hill

Donna Sullivan, B.S. 1997, M.S. 2000, Ph.D. 2004, University of Massachusetts Boston

Assistant Professor

Maggie B. Stone, B.A. 1995, M.Ed. 1999, Ph.D. 2014, University of Louisville

SPECIAL EDUCATION

Professor

Robert Angel, B.S. 1969, Queens College; M.S. 1972, Long Island University; Ph.D. 1977, University of Arizona

Joyce A. Meikamp, B.S. 1975, M.A. 1980, Ed.D. 1984, Ball State University

Melisa A. Reed, B.A. 1986, M.A. 1995, Marshall, Ed.D. 2001, West Virginia University

Assistant Professor

Jane Bogan, B.S.Ed. 1997, Bowling Green State University; M.Ed. 2003, Ph.D. 2007, University of Virginia

Lori Howard, B.A. 1982, University of the Pacific; M.A. 1985, University of Northern Colorado; Ph.D. 2001, University of Virginia

UNIVERSITY LIBRARIES

Professor/Librarian IV

Gretchen Beach, M.S.L.S., Clarion University of Pennsylvania;

Monica Brooks, M.S.L.S., University of Kentucky; Ed.S., Ed.D., Marshall University

Nat DeBruin, M.L.S., University of Maryland

Majed Khader, M.L.S., University of North Texas; Ph.D., Texas Woman's University

Stephen Tipler, M.L.S., University of Toronto; M.I.S., Marshall University; M.B.A., West Virginia University

Jingping Zhang, M.L.S., University of Alabama

Associate Professor/Librarian III

Tim Balch, M.S.L.S., Case Western Reserve University; M.A., Marshall University

Ed Dzierzak, M.S.L.S., University of Kentucky

Lynne Edington, M.S.L.S., University of Kentucky; Ed.S., Marshall University

Kelli Johnson, M.L.S., Texas Woman's University; M.S., Ed.S., Marshall University

Christine Lewis, M.L.S., University of South Carolina; M.S.I.R., West Virginia University

Larry Sheret, M.A.L.I.S., University of Arizona

Sabrina Thomas, M.I.R.L.S., University of Arizona, M.A., Marshall University

Ron Titus, M.L.S., Indiana University; M.A., West Virginia Graduate College

Thom Walker, M.S.L.S., Clarion University of Pennsylvania

Paris Webb, M.S.L.S., University of Kentucky, M.A., Marshall University

Assistant Professor/Librarian II

Jackie DiOrio, M.S.I., University of Michigan

Kat Phillips, M.L.I.S., University of Pittsburgh

Eryn Roles, M.S.L.S., University of Kentucky, M.A., Marshall University

Lori Thompson, M.S.L.S., University of Kentucky, M.A., Marshall University



University Calendar

Marshall University Academic Calendar for 2016-2017

FIRST SEMESTER 2016-2017

August 12, Friday	End of summer school
August 15, Monday - August 19, Friday	Registration/Schedule Adjustment
August 17, Wednesday, 9 a.m.	Residence Halls Open for Freshmen
August 17, Wednesday - August 19, Friday	Week of Welcome for freshmen
August 20, Saturday, 9 a.m.	Residence halls open for upperclassmen
August 22, Monday, 8 a.m.	First day of classes
August 22, Monday - August 26, Friday	Late registration/schedule adjustment (add-drop)
August 26, Friday	Last day to add a class
August 29, Monday	"W" Withdrawal period begins
September 3, Saturday - September 5, Monday	University computing services unavailable
September 5, Monday	Labor Day Holiday- University Closed
September 16, Friday	Application for December graduation due in academic dean's office
September 23, Friday	Last Day to Drop 1st 8 Weeks Courses
October 3, Monday	Final draft of thesis/dissertation delivered to committee chair
October 10, Monday	Freshman/Sophomore midterm grades due
October 12, Wednesday	1st 8 weeks courses end
October 13, Thursday	2nd 8 weeks courses begin
October 24, Monday	Students should schedule appointments with advisors to prepare for advance registration.
October 28, Friday	(Required for students who have mandatory advising holds) Last day to drop a full semester individual course
October 31, Monday	Recommended date to apply for May graduation
October 31, Monday - December 9, Friday	Complete withdrawals only
November 7, Monday - November 18, Friday	Advance registration for spring semester (open only to currently enrolled students)
November 15, Tuesday	Last day to drop 2nd 8 weeks courses
November 19, Saturday, Noon	Residence halls close
November 21, Monday	Advance registration for spring semester (open to admitted and readmitted students)
November 21, Monday - November 26, Saturday	Thanksgiving Break Classes dismissed
November 24, Thursday - November 25, Friday	Thanksgiving Holiday University closed
November 27, Sunday, 9 a.m.	Residence halls open
November 28, Monday	Classes resume
December 5, Monday - December 9, Friday	"Dead week"
December 9, Friday	Last class day; Last day to completely withdraw from fall semester
December 10, Saturday	Exam day for Saturday classes, Some common finals
December 12, Monday	Exam day
December 13, Tuesday	Exam day

(continued)

December 14, Wednesday Study Day
 Exams resume at 3 p.m. for Wednesday evening classes
 December 15, Thursday Approved Thesis/Dissertation must be submitted to the EDT website
 Electronic Thesis and Dissertation form and
 graduation fee receipt submitted to the Graduate College Office
 December 15, Thursday Exam Day
 December 16, Friday Exam day
 December 17, Saturday, TBD Winter Commencement, Big Sandy Superstore Arena
 December 18, Sunday, Noon Residence halls close
 December 19, Monday, Noon Final Grades due
 December 23, Friday- January 2, Monday Winter break, University closed
 December 28, Wednesday - December 29, Thursday Student Service Offices Open 10:00 a.m. – 4:00 p.m.
 (Admissions, Bursar, Financial Aid, Registrar, Student Resource Center)

SECOND SEMESTER 2016-2017

January 3, 2017, Tuesday University reopens
 January 3, Tuesday – January 6, Friday Registration/Schedule adjustments
 January 8, Sunday, 9 a.m. Residence halls open
 January 9, Monday, 8 a.m. First Day of Classes
 January 9, Monday – January 13, Friday..... Late registration/schedule adjustment (add-drop)
 January 13, Friday Last day to add a class
 January 16, Monday Martin Luther King, Jr. Holiday - University closed
 January 17, Tuesday..... “W” Withdrawal period begins
 February 3, Friday Applications for May graduation due in dean’s office
 February 10, Friday Last day to drop 1st eight weeks courses
 February 20, Monday Final draft of thesis/dissertation delivered to committee chair
 March 1, Wednesday 1st 8 weeks courses end
 March 2, Thursday 2nd 8 weeks courses begin
 March 13, Monday Students should schedule appointments with advisors
 to prepare for advance registration for summer and fall.
 (Required for students with mandatory advising holds.)
 March 17, Friday Last day to drop an individual course
 March 18, Saturday, Noon..... Residence halls close
 March 20, Monday – March 25, Saturday Spring Break
 Classes dismissed
 March 27, Monday Classes resume
 March 27, Monday Recommended date to apply for December 2016 graduation
 March 27, Monday – March 31, Friday..... Advance registration for summer sessions
 (open only to currently enrolled students)
 April 3, Monday..... Advance registration for summer sessions begin (open to admitted/readmitted students)
 April 4, Tuesday Last day to drop a 2nd 8 weeks courses
 April 10, Monday – April 21, Friday..... Advance registration for fall semester
 (open only to currently enrolled students)
 April 24, Monday..... Advance registration for fall semester begins
 (open to admitted/readmitted students except first-time fall undergraduates)
 April 24, Monday – April 28, Friday “Dead Week”
 April 28, Friday Last class day
 Last day to completely withdraw from spring semester
 April 29, Saturday Exam day for Saturday classes
 Some common finals
 May 1, Monday Exam Day
 May 2, Tuesday Exam Day
 May 3, Wednesday Study Day
 Exams resume at 3 p.m. for Wednesday evening classes
 May 4, Thursday Exam Day

May 4, Thursday Approved Thesis/Dissertation must be submitted to the EDT website
 Electronic Thesis and Dissertation form and
 graduation fee receipt submitted to the Graduate College Office

May 5, Friday Exam Day

May 6, Saturday, TBD at Big Sandy Superstore ArenaCommencement

May 7, Sunday, Noon..... Residence halls close

May 9, Tuesday, Noon..... Final Grades due

SUMMER SESSIONS 2017

May 8, Monday – August 11, Friday Summer School Sessions

May 27, Saturday – May 29, Monday University Computer Services Unavailable

May 29, Monday Memorial Day Holiday
 University closed

July 4, Tuesday Independence Day Holiday
 University closed



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