

- All official undergraduate transcripts
- Graduate Record Examination (GRE) General Test or TOEFL scores
- Two letters of recommendation (college instructors preferred)
- A personal statement

Admission to the Master of Science degree program in Criminal Justice is based on an assessment by a faculty committee of the applicant's academic achievements and promise as indicated by transcripts, scores on the Graduate Record Examination (GRE), the TOEFL for international students for whom English is not their primary language, two letters of recommendation (college instructors preferred), and a personal statement. Students may be admitted and awarded either a "clear" admission or "provisional" admission status. Students awarded a provisional status must maintain at least a 3.0 GPA in all coursework for up to 12 graduate credit hours in courses identified by the program faculty and approved by the appropriate dean. For provisional students, the first 12 graduate credit hours must include, at minimum, 6 core course hours. All provisional students are required to meet with the Graduate Director or Department Chair to devise an appropriate schedule for the first 12 hours.

For *clear* admission to the master's degree program, the applicant should have:

- a baccalaureate degree (any major) from an accredited college or university;
- an undergraduate grade point average (GPA) of 3.0 or higher;
- a score in 50<sup>th</sup> percentile or higher in each assessment area of Graduate Record Examination;
- a score of 550 or higher on the TOEFL;
- a C or better in undergraduate statistics
- a C or better in undergraduate research methods or equivalent from an outside institution (documentation of course content may be required)
- two letters of recommendation (college instructors preferred); and
- a personal statement

In accordance with the Graduate Admissions office at Marshall University, the department may admit a student as provisional 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 clear or full admission. Thus, students with an undergraduate GPA between 2.75 and 2.99 may apply and be considered for conditional or provisional admission. In addition, all other requirements for clear or provisional admission may be waived based on additional evidence of academic promise or demonstrated competency.

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 a basis for the denial of admission to Marshall University Graduate College and/or the M.S. program in Criminal Justice.

## ASSISTANTSHIPS

The Criminal Justice Department has funds available in the form of assistantships to provide financial support for graduate students. Graduate assistantships are service-related appointments, requiring teaching, research, and administrative services. A full-time assistantship carries a workload of approximately 20 hours per week, while a half-time assistantship carries a workload of approximately 10 hours per week. Graduate assistants will normally carry a 9-hour graduate course load. Graduate assistantships are awarded on a competitive basis and the retention of an assistantship is contingent upon (1) funding availability and Department needs; (2) satisfactory academic progress; and (3) satisfactory work-performance as judged by the Criminal Justice faculty and/or his or her faculty supervisor. A Graduate Assistantship Application for the Marshall University Criminal Justice Department can be found at [www.marshall.edu/criminal-justice/](http://www.marshall.edu/criminal-justice/).

Assistantships may be categorized as follows:

- *Teaching Assistants (TA's)* are assigned to a wide-range of teaching-related activities that may include (but are not limited to) the responsibility of teaching a self-contained class, directing and/or teaching a subsection of a self-contained class, tutoring, serving as a class monitor in a distance learning setting, and may work with a faculty member in developing syllabi, lesson plans, lectures, group projects, and examinations.
- *Research Assistants (RA's)* are generally assigned to individual faculty members to assist with research projects. The activities/responsibilities may include (but are not limited to) the writing of grant proposals, library research, book preparations, article publications, and data analysis. Prior to being considered for a research assistantship, students must complete and earn a 3.0 GPA or higher in the two-course research and statistics sequence (CJ 655 & CJ 656) or provide evidence of competence in research methodologies or statistical applications.

(continued)

- *Graduate Service Assistants (GA's)* may be assigned to a variety of tasks related to the daily administration of the Department. These activities/responsibilities may include (but are not limited to) the organization and management of departmental databases, act as a "peer advisor" to undergraduate students, serve in recruitment and promotion activities for student organizations and the Department, and assist faculty in their daily course preparation.

In addition to graduate assistantships, there is a variety of other financial assistance opportunities available at Marshall for criminal justice students. Additional inquiries regarding graduate fellowships, work-study opportunities, loans, and other forms of financial assistance graduate students may also be obtained from the Graduate College Office ([www.marshall.edu/mugc/](http://www.marshall.edu/mugc/)) or the Office of Student Financial Assistance ([www.marshall.edu/sfa/](http://www.marshall.edu/sfa/)).

## PROGRAM REQUIREMENTS

The Master of Science degree requires the completion of 32 hours of coursework and writing a thesis, or completion of 36 hours of coursework and the passing of written and oral comprehensive examinations. 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.

All students are required to complete 18 hours of core courses:

- CJ 602, Law and Social Control
- CJ 603, Criminal Justice Planning
- 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

CJ 655, Research Methods in Criminal Justice, and CJ 656, Applied Statistics in Criminal Justice, are a two-course sequence that should be completed by all students during the first academic year in the graduate program (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.

An area of concentration and electives designed to meet the individual needs of graduate students supplement the core courses. Students are required to select one concentration from the following five topical areas:

- Applied Research and Evaluation
- Legal Issues
- Corrections Systems and Processes
- Theory of Criminal Behavior
- Law Enforcement

Each area of concentration consists of 12 graduate credit hours. Various elective and special topic courses are offered to supplement the core courses and area of concentration for each student. Elective courses should be chosen around a coherent theme that complements the student's area of concentration. The Graduate Director or the Department Chair must approve all coursework that constitutes each student's concentration. Enrollment in core and elective courses is subject to the completion of any prerequisite courses and/or any requirement for permission to enroll from an individual instructor and/or other department faculty member. In addition, all courses to be considered toward graduation require approval from the Graduate Director or the Department Chair.

The Criminal Justice Department maintains a "two C rule" whereby students cannot continue in a graduate program if they earn more than two grades of *C* or lower in any graduate courses. Criminal Justice students who earn a third *C* (or lower) will not be permitted to continue taking courses, or to work on a thesis. Students who earn a grade of *D* or *F* are allowed only one *C* (if they haven't already received one). Furthermore, they must repeat the course if it is part of the core curriculum. If students already have two *C*'s when they receive the *D* or *F*, they will be dismissed from the program without the opportunity to repeat the course. Regardless of whether the course is repeated, grades of *D* or *F* are recorded on the student's official academic transcript, computed into the final grade point average, and count toward the "two C rule." However, credit hours for courses in which students receive *D*'s do not fulfill the credit hour requirements for graduation.

No later than the completion of the 18<sup>th</sup> 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.

A student with an approved Plan of Study may be granted the privilege of transferring credit earned in graduate coursework completed at another regionally accredited graduate institution, provided that the

courses are related to criminal justice and the grades earned are *B* or better or equivalent and approved by the Graduate Director or Chair and Graduate Dean. However, transfer credit may only be used to fulfill elective or area of concentration credits. All 18 hours of core course requirements must be completed in the Criminal Justice Department at Marshall University. Transfer credits may not exceed 12 hours and all transfer credits must have been earned within a seven-year time limit, counted from the date of enrollment in the first graduate course.

### **Thesis Option**

For students planning to continue graduate studies, the thesis is the preferred option for receipt of the M.S. degree in Criminal Justice. Students electing the thesis option must complete 32 hours of graduate credit from the Criminal Justice Department.

Students selecting the thesis option must complete the core courses and area of concentration requirements and have a written thesis proposal/prospectus approved by the thesis committee prior to enrolling for thesis credit. The remaining credit hours may be granted for thesis research (up to 6 credit hours) or elective courses. The 6 thesis research hours are normally taken in three-hour increments over two successive semesters, immediately preceding graduation, and after course requirements are completed. Students must enroll in CJ 681, Thesis, for a maximum of 6 graduate credit hours. All students selecting the thesis option must pass an oral defense.

In cooperation with the Graduate Director, 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. A student who selects the thesis option should outline the thesis option early in his or her studies in consultation with members of the graduate faculty. The student should also determine the graduate faculty member of the department who will serve as chair of the student's thesis committee.

### **Non-Thesis Option**

Students who select the M.S. degree without a thesis must complete 36 credit hours of graduate coursework with a GPA of at least 3.0 and meet all other requirements. The credit hours include the 18-hour core course requirement, and the 12-hour area of concentration requirement. The remaining credit hours may be completed using a variety of electives offered by the Criminal Justice Department. All students who select the non-thesis option must pass both written and oral comprehensive exams.

In order to sit for the comprehensive examination, students must select a committee as well as complete and return the Comprehensive Examinations form to the Graduate Office prior to the end of the second week of the semester they plan to graduate. The Comprehensive Examination form must be signed by all committee members and will remain valid only for the semester in which it is signed. The committee must consist of at least three readers/evaluators who hold Marshall University graduate faculty status. In addition, a majority of the committee must consist of full-time Criminal Justice department faculty, and the committee chair must be a faculty member in the Criminal Justice Department with graduate faculty status. This committee will be responsible for both writing and/or selecting the examination questions and evaluating the adequacy of the student's responses.

The comprehensive written examination consists of five questions. The five questions assess knowledge rooted in the program's core courses and the student's area of concentration. Students will be asked to answer one question in each of the following content areas: criminological theory; research and advanced statistics; advanced criminal law and procedures; criminal justice planning; and the student's area of concentration. The comprehensive oral examination will focus on areas deemed weak, incomplete, or inconsistent in the written portion of the test. However, the committee may ask students other related questions deemed appropriate. Both written and oral comprehensive examinations are administered once during the fall, spring, and summer semesters unless otherwise specified.

## **DIETETICS (DTS)**

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 an accredited institution and have been admitted to the dietetic internship certificate program or are currently a Registered Dietitian.

Students presently enrolled in or who have completed the internship certificate program, which consists of seven courses, accumulate 21 graduate credits, which provides the basis for the master's degree. The degree consists of a total of 36 graduate credit hours. 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.

Students are provided with an option to complete a thesis or six additional hours of course work in the chosen area of concentration. Those choosing a thesis option will be required to defend the thesis

orally. All students will be required to sit for a comprehensive written examination in their final semester. Course requirements can vary and must be approved by the student's advisor.

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](http://www.marshall.edu/dietetics). 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. They must apply for admission to the university through the Graduate College. Admission of these students will be handled on a case-by-case basis by the department.

To successfully complete the program, students will be required to maintain a GPA of 3.0 or higher and receive a score of satisfactory or better on all preceptor evaluations, when applicable. For specific course requirements, prospective students should consult the department chair for further details.

### **Dietetic Internship**

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 American Dietetic Association, Commission on Accreditation for Dietetics Education, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, telephone (312) 899-4876. Detailed internship information is available at [www.marshall.edu/dietetics](http://www.marshall.edu/dietetics).

## **EDUCATION**

### **Teacher Licensure in West Virginia**

With the exception of the Master of Arts in Teaching Program, 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.

### **EARLY CHILDHOOD, ELEMENTARY AND SECONDARY EDUCATION**

The goal of the Early Childhood, Elementary and Secondary Education programs is to provide a coordinated, sequential program of study in an identified area of education. Programs provide the student with a foundation in research, evaluation, instructional methods, technology, human development and learning. This foundation supports knowledge, skills, and understanding developed through concentrated study in a specialized area. These programs are designed to produce a trained teacher as a specialist.

#### **Admission Requirements**

Individuals seeking admission to the Early Childhood, Elementary and Secondary Education program may apply as degree or professional development students.

**Degree:** Students requesting admission to the Master of Arts degree program in early childhood, elementary or secondary education must satisfy the following requirements:

1. Submission of a transcript verifying a baccalaureate degree from a regionally accredited college or university; and
2. Submission of Graduate Record Examinations (GRE) General Test or Miller Analogies Test (MAT) scores; applicants should score 800 or above on the verbal and quantitative sections of the GRE or at least 380 on the MAT.

Multiple criteria are used in arriving at decisions to admit students to the master's degree programs in Early Childhood, Elementary and Secondary Education. Each applicant is evaluated with reference to the following criteria: 1) undergraduate grade point average; 2) GRE or MAT scores; and 3) performance on any prior graduate courses. Flexibility is maintained in applying the criteria to individual cases. In practice, superior performance on one criterion may compensate for failing to meet the required standard on another. The applicant may be granted provisional enrollment and directed to complete selected courses. If a 3.00 grade point average is maintained in those courses, then the applicant will be admitted to the degree program.

**Professional Development:** For those students not seeking a master's degree there are professional development programs which require the completion of a specified sequence of courses. The early education, middle childhood education, and math through Algebra I professional development programs lead to

endorsements on teaching certificates. Entrance requirements for professional development programs include the following:

1. A baccalaureate degree from a regionally accredited college or university; and
2. An undergraduate grade point average of 2.5 or a master's degree

**A. M.A. IN EARLY CHILDHOOD EDUCATION**

The Master of Arts in Early Childhood Education consists of a set of core course requirements, area of emphasis requirements, and a capstone experience. All students must complete 15 hours of coursework in research, growth and development, technology, instructional methods and assessment. Each student must also select an area of emphasis consisting of 18 hours of required and elective coursework. The capstone experience is the program component through which students demonstrate their ability to synthesize and apply the problem solving, research and writing capabilities developed throughout the program. Students may meet the capstone experience requirement by either completing a research project (Final Symposium: CI 659 and CI 680) or satisfactorily completing a written comprehensive examination and six hours of coursework.

Two options for advanced studies in Early Childhood are available:

1. The Master's Degree in Early Childhood Education designed for those who are licensed Early Education (Pre K-K) teachers.
2. The Master's Degree in Early Childhood Education designed for those who are licensed Elementary teachers with no endorsement in Early Education.

Hours may vary, depending on the student's undergraduate program. For those earning an endorsement in Early Childhood (Pre K-K) under Option 2, a practicum and a passing grade on the Praxis II: Specialty Area Test in Early Education (Pre K-K) is required. Candidates with three or more years of teaching experience must consult the Director of Clinical Experiences to determine if they qualify for a performance assessment.

**Option 1: The Master's Degree in Early Childhood Education designed for those who are licensed Early Education (Pre K-K) teachers**

<b>Core Subjects:</b> EDF 621 or 625; EDF 616; CIEC 530 or 534 or 600 or 660; CI 623 or 624 or approved methods course; EDF 612 or CI 609 or CI 501 .....	15
<b>Specialty:</b> CI 653, CI 631, CI 632, CI 633, CI 634, FCS 603 .....	18
Capstone Experience .....	6
<b>TOTAL</b> .....	<b>39</b>

**Option 2: The Master's Degree in Early Childhood Education designed for those who are licensed Elementary teachers with no endorsement in Early Education.**

<b>Core Subjects:</b> EDF 621 or 625; EDF 616; CIEC 530 or 534 or 600 or 660; CI 623 or 624 or approved methods course; EDF 612 or CI 609 or CI 501 .....	15
<b>Specialty:</b> CI 632, CI 633, CI 634, FCS 535, EDF 513, CI 630 .....	18
Capstone Experience .....	6
<b>TOTAL</b> .....	<b>39</b>

**B. M.A. IN ELEMENTARY EDUCATION**

The Master of Arts in Elementary Education consists of a set of core course requirements, area of emphasis requirements, and a capstone experience. All students must complete 15 hours of coursework in research, growth and development, technology, instructional methods and assessment. Each student must also select an area of emphasis consisting of 18 hours of required and elective coursework. The capstone experience is the program component through which students demonstrate their ability to synthesize and apply the problem solving, research and writing capabilities developed throughout the program. Students also will meet the comprehensive assessment requirement through the framework of the capstone experience.

<b>Core Subjects:</b> EDF 621 or 625; EDF 616; CIEC 530 or 534 or 600 or 660; EDF 612 or CI 609 or CI 501; CI 623 or 624 or approved methods course .....	15
Area of Emphasis .....	18
Capstone Experience .....	6
<b>TOTAL</b> .....	<b>39</b>

**Areas of Emphasis include (descriptions in Section J):**

1. Instructional Processes and Strategies
2. Math through Algebra I
3. Educational Computing
4. Middle Childhood Education
5. Elementary Science
6. Early Childhood Education
7. Literary, Language, and Learning
8. Teaching English as a Second Language (ESL)
9. Individualized Plan of Study

**Capstone Experience:**

Students may meet the capstone experience requirement by either completing a research project (Final Symposium: CI 659 and CI 680) or satisfactorily completing a written comprehensive examination and six hours of coursework.

**C. M.A. IN SECONDARY EDUCATION**

The Master of Arts in Secondary Education consists of a set of core course requirements, area of emphasis requirements, and a capstone experience. All students must complete 15 hours of coursework in research, growth and development, technology, instructional methods and assessment. Each student must also select an area of emphasis consisting of 18 hours of required and elective coursework. The capstone experience is the program component through which students demonstrate their ability to synthesize and apply the problem solving, research and writing capabilities developed throughout the program. Students also will meet the comprehensive assessment requirement through the framework of the capstone experience.

<b>Core Subjects:</b> EDF 621 or 625; EDF 616; CIEC 530 or 534 or 600 or 660; CI 623 or 624 or approved methods course; EDF 612 or CI 610 or CI 501 .....	15
Area of Emphasis .....	18
Capstone Experience .....	6
<b>TOTAL</b> .....	<b>39</b>

**Areas of Emphasis include (descriptions in Section J):**

1. Instructional Processes and Strategies
2. Math through Algebra I
3. Educational Computing
4. Middle Childhood Education
5. Teaching English as a Second Language (ESL)
6. Individualized Plan of Study

**Capstone Experience:**

Students may meet the capstone experience requirement by either completing a portfolio project (Final Symposium: CI 659 and CI 680) or satisfactorily completing a written comprehensive examination and six hours of coursework.

**D. M.A. IN SPECIAL EDUCATION**

**Admission Requirements - Special Education**

Students seeking admission as degree or professional development students must submit all official transcripts from all colleges and universities attended. All applicants must minimally have an overall undergraduate GPA of 2.5. In addition, for full admission to the program applicants must meet *one* of the following two requirements:

- A total of 800 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)

The GRE/MAT score requirement is waived for applicants holding a graduate degree. If for any reason the student is admitted provisionally, he/she must maintain a Grade Point Average of 3.25 for the first 12 hours of study.

A master's degree may be earned with a specialization in one 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 Alternative Certification Program (see Section 6). The Preschool Special Education endorsement is exempt from this requirement.

## Program of Study - M.A. in Special Education

1. Master's Degree Requirements (Preschool Special Education, see #5)	
EDF 616 and EDF 621 or EDF 625 .....	6 hrs.
CISP 611 and CISP 615 .....	6 hrs.
CISP 627 or CISP 629 .....	3 hrs.
2. Special Education Core:	
CISP 520, CISP 535, and CISP 626	
(CISP 535 and CISP 626 are not required for the degree in gifted) .....	9 hrs.
3. Certification Area (select one).....	9 hrs.
Autism CISP 527, 662, 664	
Behavioral Disorders CISP 524, 645, 649	
Deaf and Hard of Hearing (special education core not required) CIDH 501, 502, 504, 505, 506, 507, 601, 602	
Mentally Impaired CISP 533, 553, 651	
Specific Learning Disabilities CISP 523, 646, 647	
Gifted CISP 526, 601, 602, 603	
Vision Impaired (special education core not required) CIVI 500, 501, 502, 503, 504, 505, 506, 508	
Multicategorical CISP 533, 553, 523, 647, 524, 645, 655	
4. Electives .....	0 - 9 hrs.
<b>Total hours .....</b>	<b>36 hrs.</b>

5. Preschool Special Education	
General Education: EDF 621 or 625 and CISP 627 or 629 .....	6 hrs.
Early Childhood Education: CI 632 and 634 .....	6 hrs.
Special Education: CISP 520, 529, 554, 661, 663, 665, 666, 674 .....	27 hrs.

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.**

## 6. Alternative Certification Program

The Alternative Certification Program is designed to allow candidates from non-education backgrounds to obtain West Virginia teacher licensure in Specific Learning Disabilities, Mental Impairments, Visual Impairments, Behavior Disorders, Multicategorical, and Autism at the graduate level. The alternative 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 Alternative Certification program must also meet the WVDE Praxis II testing requirements including the Principles of Learning and Teaching (PLT) test at the K-6 level.

In addition to the Special Education Core and Certification Area course requirements, students in the Alternative Certification program must complete EDF 619, EDF 665, CISP 510, and CIRG 636 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.

**E. LITERACY EDUCATION**

**1. M.A. Degree Candidates**

Each candidate must meet all admission requirements as a degree student. Scores from the Graduate Record Examination (GRE) or the Miller Analogies Test (MAT) must be on file in the Graduate Admissions Office. A GRE verbal score of 400 or a MAT score of 389 is required; however the undergraduate Grade Point Average will be considered when candidates fail to meet the score criterion.

A candidate seeking the Reading Specialist/Literacy Coach degree must have (1) a valid teaching certificate and (2) a minimum of one year of teaching experience prior to completing the program. Degree candidates follow a planned program of study and must maintain a cumulative Grade Point Average (GPA) of 3.0.

**Program of Study - M.A. in Reading Education**

For the master’s degree, the following courses must be completed:

CIRG 653 Literacy Acquisition .....	3
CIRG 636 Developmental Reading.....	3
CIRG 644 Literacy in the Content Area .....	3
CIRG 637 Literacy Assessment.....	3
CIRG 654 Aligning Assessment with Instruction .....	3
CI 550 Writing in an Integrated Literacy Framework .....	3
CIRG 622 The Use of Technology for Literacy Instruction.....	3
CIRG 643 Teaching Struggling Readers: A Practicum.....	3
CIRG 623 Reading Instruction for Literacy Facilitators: A Practicum .....	3
CIRG 621 Current Issues and Problems in Reading .....	3
Electives with advisor approval .....	6
Total Credit Hours .....	36

**2. Education Specialist Degree – AREA OF EMPHASIS IN Reading Education**

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 Reading Education. Successful completion of the program leads to an Ed.S. in Education degree. Please contact the Reading Education program faculty for additional information.

**3. Certificate in Family Literacy:**

*Admission Requirements*

A relevant baccalaureate degree, as determined by the Reading Program, from a regionally accredited college or university is needed for admission to the program.

*Certificate Requirements*

This may be done either along with a master’s degree program or independently.

*Program of Studies*

CIRG 651, CIRG 652, CIRG 653, CI 634

**TOTAL .....** 12 hours

**4. Professional Development Students**

A student who holds a master’s degree in education and seeks a Reading Specialist endorsement to the teaching certification completes 21 credit hours within the Reading program. Students should contact the Reading Education program area for information.

**F. 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, business, 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. (An endorsement in Special Education may be added after the initial content certification is earned.)

## Admission Requirements

1. Students must complete all admission requirements, which include: application, application fee, official transcripts, and the Graduate Record Examinations (GRE) or Miller Analogies Test.
2. Students must have a transcript analysis completed for the content specialization.
3. Students must have completed at least 50 percent of the content specialization prior to admission.
4. Students must take and pass the Praxis I (PPST) in reading, writing, and mathematics. This requirement may be waived for applicants who present an enhanced ACT score of 26 or higher, a re-centered SAT score of 1125 or higher, or a previously earned master's degree or higher.
5. Students must have a 2.70 GPA overall and a 2.70 GPA in the content specialization.
6. Students must have completed at least 90 percent of the content specialization prior to student teaching.

## Program Options and Degree Requirements

### 1. *Master of Arts in Teaching - Grades PreK-Adult*

- Art Education
- Physical Education
- Music Education

Foundations of Education .....	15 Hours
EDF 621 or 625, PE 670, or ATE 677, Research and Writing .....	3
EDF 660, 565, or 615 - Social and Cultural Foundations .....	3
EDF 616, Advanced Studies in Human Development .....	3
EDF 537, Clinical I - Lab to accompany EDF 616 .....	0
EDF 619, Educational Psychology .....	3
CIEC 530, 534, 600, or 660, Instructional Technology .....	3
Curriculum and Instruction .....	24 Hours
CI 503, Methods and Materials of Teaching in the Middle Childhood Grades .....	3
CISP 521, Children with Exceptionalities .....	3
CI 515, Integrated Methods and Materials .....	3
EDF 637, Clinical II - Lab to accompany CI 515 .....	0
CI 624, Advanced Instructional Strategies .....	3
CI 631, Current Influences on Early Childhood .....	3
CIRG 644, Teaching Content Reading .....	3
*EDF 677, Clinical III - Student Teaching .....	6
In addition to the above courses, students must also complete all courses in their teaching specialization.	
<b>TOTAL .....</b>	<b>39 Hours</b>

\*Requires minimum of 90% completion of content courses.

### 2. *Master of Arts in Teaching - Grades 5-Adult*

- Art Education
- Athletic Training
- French
- Consumer and Homemaking
- English
- Latin
- Mathematics
- Oral Communications (Speech)
- Physical Education
- General Science
- Social Studies
- Spanish

Foundations of Education .....	15 Hours
EDF 621 or 625, PE 670, or ATE 677, Research and Writing .....	3
EDF 660, 565, or 615, Social and Cultural Foundations .....	3

(continued)

EDF 616, Advanced Studies in Human Development .....	3
EDF 537, Clinical I - Lab to accompany EDF 616 .....	0
EDF 619, Educational Psychology .....	3
CIEC 530, 534, 600, or 660, Instructional Technology .....	3

Curriculum and Instruction ..... 24 Hours

CI 501, Middle Childhood Curriculum .....	3
CI 503, Methods and Materials of Teaching in the Middle Childhood Grades .....	3
CISP 521, Children with Exceptionalities .....	3
CI 515, Integrated Methods and Materials .....	3
EDF 637, Clinical II - Lab to accompany CI 515 .....	0
CI 624, Advanced Instructional Strategies .....	3
CIRG 644, Teaching Content Reading .....	3
*EDF 677, Clinical III - Student Teaching .....	6

In addition to the above courses, students must also complete all courses in their teaching specialization.

**TOTAL** ..... **39 Hours**

\*Requires minimum of 90% completion of content courses.

3. *Master of Arts in Teaching - Grades 9-Adult*

- Biology
- Business
- Chemistry
- Journalism
- Marketing
- Physics
- Safety

Foundations of Education ..... 18 Hours

EDF 621 or 625, PE 670, or ATE 677, Research and Writing .....	3
EDF 660, 565 or 615, Social and Cultural Foundations .....	3
EDF 616, Advanced Studies in Human Development .....	3
EDF 537, Clinical I - Lab to accompany EDF 616 .....	0
EDF 619, Educational Psychology .....	3
CIEC 530, 534, 600, or 660, Instructional Technology .....	3
EDF 612, Education Evaluation, or EDF 535, Tests and Measurements .....	3

Curriculum and Instruction ..... 21 Hours

CISP 521, Children with Exceptionalities .....	3
CI 515, Integrated Methods and Materials: Secondary Education .....	3
EDF 637, Clinical II, Lab to accompany CI 515 .....	0
CI 624, Advanced Instructional Strategies .....	3
CIRG 644, Teaching Content Reading .....	3
CI 549, Instructional and Classroom Management in Secondary Education .....	3
*EDF 677, Clinical III - Student Teaching .....	6

In addition to the above courses, students must also complete all courses in their teaching specialization.

**TOTAL** ..... **39 Hours**

\*Requires minimum of 90% completion of content courses.

**G. EDUCATION SPECIALIST (Ed.S.) - Curriculum and Instruction**

**Introduction**

The Education Specialist Degree in Curriculum and Instruction is earned by completion of specified coursework and experiences with the recommendation of the student's advisory committee.

**Objectives**

The following objectives may be met by the program of studies leading to the degree.

1. Give directed study for courses leading to salary classification M.A. + 15, M.A. + 30, and M.A. + 45.
2. Extend the applicant’s teaching and professional skills .
3. Provide additional endorsements (if directed in this way).
4. Prepare the applicant for additional roles such as department chairperson, curriculum planner and lead teacher.

**Entrance Requirements**

1. Possess M.A. in education.
2. Be admitted to the Marshall University Graduate College.

**Admission and Program Activities**

1. Following admission the student will:
  - a. Select an advisory committee to help plan and develop his/her program (minimum of three members).
  - b. The student’s advisory committee may include a member outside the department if the professional objectives call for such.
  - c. Submit a letter of intention, indicating the objectives for pursuing the program.
2. Work required for completion of the program shall be determined by the advisory committee in consultation with the student. Courses may be selected outside the field of education with the approval of the advisory committee. The number of hours to be completed beyond the M.A. will be 30-36. The program of studies adopted by the student and the committee shall be filed with the graduate dean and the chairman of the department.
3. Other departments may be consulted relative to courses that will be useful in helping the student meet his/her objectives.
4. Transfer of credit from other graduate schools to be applied toward the program shall be left to the discretion of the student’s advisory committee up to a maximum of 12 hours.
5. A thesis may be written by the student. The total number of hours may be reduced by the student’s committee up to a maximum of six hours.
6. The student shall be required to take either a written comprehensive examination or a general oral examination in keeping with planned objectives. These examinations will be given under the supervision of the advisory committee as the final step in completing the program.  
Upon the completion of the program, the student will be awarded a Marshall University degree of Education Specialist.

**H. DOCTOR OF EDUCATION (Ed.D.) - CURRICULUM AND INSTRUCTION**

The Doctor of Education Degree (Ed.D) is offered with a major in Curriculum and Instruction. See the separate section on the doctoral degree (page 118) for more information.

**J. ADDITIONAL CERTIFICATION FOR TEACHERS**

Teachers who want to add another teaching endorsement may do so by completing the course requirements, a performance assessment at the appropriate grade level, and the appropriate Praxis II test.

**PLANS OF STUDY FOR AREAS OF EMPHASIS/PROFESSIONAL DEVELOPMENT PROGRAMS**

**1) Instructional Processes and Strategies:**

EDF 610, CI 623, CI 624, CIEC 530 or 534, CI 539, CI 551, CI 657, and CI 671.

**TOTAL ..... 24 hrs.**

- 2) **\*Math through Algebra I:** This concentration 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 certification.

*(continued)*

CIME 555, CIME 556, CIME 557, CIME, 558, CIEC 600, CIME 570, CIME 575 or CIME 577

**TOTAL** ..... **21 hrs.**

- 3) **Educational Computing:** The program focuses on instructional applications and classroom utilization of computing.

CIEC 534 or CIEC 530 or CIEC 660, CIEC 600, CIEC 610, CIEC 620, CIEC 630, CIEC 699, and an approved elective.

**TOTAL** ..... **21 hrs.**

- 4) **\*Middle Childhood Education:** The concentration in middle childhood education provides a certificate endorsement program for elementary and secondary teachers who have met initial licensure requirements. The endorsement will allow teachers to provide instruction in grades 5-9 within their area(s) of specialization.

The coursework in this program may be used as an area of emphasis within the master's degree program in Elementary Education or Secondary Education or may be completed as a separate Professional Development program. Individuals who wish to take the endorsement program but not pursue a master's degree should apply to the Professional Development program in middle childhood education. Teachers selecting this option must have an initial content specialization or complete a new one. Elementary Education is not a content area for 5-9 or 5-12. Passing the Praxis II is required.

CI 501, CI 503, EDF 502, CI 672

**TOTAL** ..... **12 hrs.**

- 5) **Elementary Science Education:** This concentration combines theory, research, and practical applications to enhance content knowledge and strategies and techniques of delivering instruction through the use of hands-on, discovery/inquiry teaching.

CISE 571, CI 657, CIEC 600, CISE 576 or CISE 577, CISE 572 or CISE 573, CISE 570 or CISE 574 or CISE 575, and an approved elective.

**TOTAL** ..... **21 hrs.**

- 6) **\*Early Childhood Education:** This concentration combines theory, research, and practical applications to child development and early childhood education. It is designed for teachers who wish to pursue a master's degree with an emphasis in early childhood education, as well as teachers who wish to add a Pre K-K endorsement to their professional licensure. Teachers who hold K-6 or K-8 certificates and wish to pursue a master's degree with an early childhood education emphasis will complete the following courses:

CI 632, CI 633, CI 634, FCS 535, EDF 513, CI 630.

**TOTAL** ..... **18 hrs.**

- 7) **Literacy, Language, and Learning:** This combines theory, research, and practical applications in the areas of speaking, listening, writing, and reading. It is designed to help teachers explore literacy within an interactive and student-centered framework.

CI 550, CI 551, CI 539, CI 636, one additional reading course with advisor approval, two electives with advisor approval.

**TOTAL** ..... **21 hrs.**

- 8) **School Library Media Specialist:** The program will prepare K-12 teachers to manage school library media centers, collaborate with faculty to support the school curriculum and facilitate information literacy.

ITL 501, 502, 515, 520, 525, 530, 550, CIRG 613.

**TOTAL** ..... **24 hrs.**

- 10) **Individualized Plan of Study:** Students selecting a planned program must complete the curriculum course CI 501, CI 609, or CI 610 appropriate for their certification.

## K. SCHOOL PSYCHOLOGY (see separate section on page 139)

### ENGINEERING (M.S.E.) (See Information Technology and Engineering [CITE])

#### ENGLISH (ENG)

Graduate courses in English provide detailed consideration of authors, literary types, and periods of literary history, as well as English language history and linguistics. Students are expected to acquire a broad acquaintance with the range of English and American literature and the English language; to acquire a basic knowledge of the terms and methods of literary theory; and to become thoroughly familiar with the forms of literature, critical standards, and the materials and methods of literary research.

Each candidate for the Master of Arts in English must select an area of specialization. The areas include the literature of the following periods: Medieval; Renaissance and 17th Century; Restoration and 18th Century; Romantic and Victorian; 19th Century American; Modern British and Modern American. Other areas are: Language and Linguistics; Critical Approaches to Literature; Genre Study; and Writing. The candidate may complete the specialization by taking three courses in an area or by taking two courses and writing a thesis in an area. In addition to this specialization each candidate must take at least one course in each of four other areas.

Students who major in English should have at least 15 undergraduate hours in English and American literature, and those taking English as a minor should have six hours' credit in literature on the undergraduate level. Students with deficiencies may enroll for graduate work but may be asked to take undergraduate courses suggested by the department before admission to candidacy for the degree. A minimum of six hours of college credit in a foreign language or demonstrated reading ability to the satisfaction of the English Department is required for admission to candidacy.

Students may be provisionally admitted to the M.A. in English program without having taken the GRE General Test, but to receive full admission, they must take the GRE during the first semester of study at Marshall.

English 630 is required for a major in English and is offered in the fall semester. This course should be scheduled among the first 12 hours of graduate study.

To complete the work for the master's degree in English the candidate must take 36 hours of coursework or, with a thesis, 32 hours, six of which may be earned by writing the thesis. The required grade average is 3.0 (*B*), and the candidate must pass a comprehensive examination upon the completion of the coursework.

Graduate students in English should discuss their programs frequently with the Director of Graduate Programs. Further and more particular information may be found in the document, "A Handbook for Graduate Students in English," available from the English Department.

The ***Graduate Certificate in Medieval and Renaissance Studies*** is an interdisciplinary program housed in Marshall University's English department. It draws upon the faculty and resources of five graduate academic departments to promote the interdisciplinary and cross-cultural studies of the period from Late Antiquity to the end of the 17th Century. One of the unique strengths of this certificate program is its breadth; students are encouraged to following their own interests and select from a wide range of courses within the guidelines described below.

**Requirements:** To earn a Certificate in Medieval and Renaissance Studies, students must complete 15 hours of relevant coursework. Six to 9 of these hours must come from the following list: ENG 509, 510, 511, 512, 517, 536, 537, 538, and 600. The remaining 6 to 9 hours may be drawn from the following: HST 506, 421, 602; ART 501, 405, 415, 519; MUS 650, 651; and advanced Latin. Certain Special Topics and Independent Studies courses may also be used. Students should check with the program administrator when selecting their courses.

The ***Graduate Certificate Program in Creative Writing*** is designed for writers wishing to pursue advanced, individualized study and practice in any genre(s): fiction, poetry, drama, non-fiction prose, and multiple genre work. With a diverse and well-published writing faculty, the English Department will work with all students to develop an appropriate course plan to suit their needs. Most courses qualify for teachers' re-certification and professional continuing education. Candidates must submit a writing sample of 5-10 pages along with their application.

To earn a Certificate in Creative Writing, students must complete 15 hours of coursework selected from the following list: ENG 508, 544, 558, 585 (Independent Study), 591, 592, and 593. Special Topics courses with a creative writing focus or creative writing courses available through MUGC Humanities may be substituted for up to 6 hours. A completed manuscript of twenty-five pages of original work constitutes the capstone requirement. A maximum of 9 hours of the certificate program courses, with approval of the chair, would be applicable for those wishing to pursue the M.A. in English.

**ENVIRONMENTAL ENGINEERING (ENVE)**  
**(See Information Technology and Engineering [CITE])**

**ENVIRONMENTAL SCIENCE (ES)**  
**(See Information Technology and Engineering [CITE])**

**EXERCISE SCIENCE, SPORT, AND RECREATION**

The Division of Exercise Science, Sport, and Recreation (ESSR) offers graduate degrees in Exercise Science (M.S.) and Sport Administration (M.S.). Each degree program has distinct areas of emphasis. The Exercise Science program has three areas of emphasis: Athletic Training; Clinical Applied- Cardiac Rehabilitation; and Exercise Physiology. The Sport Administration degree program offers two areas of emphasis: Sport Management; and Recreation and Physical Activity.

Both degree programs require from 32 to 39 hours and successful completion of an oral comprehensive examination or thesis defense. Both thesis and non-thesis options are available.

Admission in good standing is different for the two degree programs. A personal interview may be required. Provisional admission to a program is possible, and will be considered on an individual basis. All students applying must have successfully completed an undergraduate course in either exercise physiology or human physiology. This requirement should be completed within the first 12 hours of graduate study.

Students are limited to six semester hours of transfer credit from other institutions, and limited to a maximum of nine semester hours taught at the 500-level. Provisional admission requiring a 3.0 minimum GPA must be attained within the first 12 hours of graduate coursework. Provisional admission requiring the student to take undergraduate coursework must be completed within the first 12 hours of graduate coursework.

**A. Exercise Science, M.S. Degree**

The M.S. in Exercise Science degree prepares students for allied health and medical 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 disorder/disease to the cardiac transplantation patient as well as the in between – the recreational athlete and those simply wishing to stay healthy by living sensibly. Options include careers as clinicians in cardiopulmonary rehabilitation and diabetes management programs, as athletic trainers, as exercise physiologists, as well as preparation for other medical fields including physical therapy, pharmaceutical and pacemaker sales, as pharmacists, as physician assistants, as physicians, and for advanced degrees in related doctoral programs.

The course of study for the M.S. in Exercise Science degree is a two-year program with a 36-39-hour requirement. Admission to the program requires a 2.75 GPA, an appropriate undergraduate/graduate background, completion of the GRE, three letters of reference, and admission to the Graduate College.

The *Athletic Training Area of Emphasis* is designed to meet the needs of the clinical, high school, middle school, college, professional, industrial, and independent athletic trainer. The program is designed to build on existing knowledge and skills the student has acquired in the student's respective undergraduate program. Elective courses can chose from the approved courses with approval of the student's assigned academic advisor and/or can be determined by the academic advisor depending on the student's background, needs, and/or weaknesses. The emphasis in athletic training can be accomplished by a thesis or non-thesis track. Successful completion of oral comprehensive exam/thesis defense is required for graduation. Six hours of the degree may be fulfilled with coursework outside the Division of ESSR.

The *Clinical Applied Area of Emphasis: Cardiac Rehabilitation* focuses on health promotion, disease prevention, and rehabilitation in the clinical, corporate, commercial, community, and medical settings. The course of study has a strong science orientation. Research clearly shows that seventy percent (70%) of all premature death and chronic disability could be prevented with appropriate life-style changes. This includes sensible nutrition, exercise, smoke cessation, and related behavioral changes. Such intervention and risk factor management can significantly reduce all-cause mortality and morbidity from cardiovascular disease, diabetes, osteoporosis, obesity, mental health disorders, and cancer. Our quality of life, as well, can be improved and our chances for longevity increased. Because of the awareness and the skyrocketing cost of contemporary treatment-oriented health care, our graduates are becoming major players in an alternative approach emphasizing health promotion, disease prevention, and rehabilitation.

The *Exercise Physiology Area of Emphasis* is broadly based upon basic sciences: human anatomy, physiology, chemistry, and biology. Exercise Physiology is chiefly concerned with how the acute and chronic effects of exercise influence various cells, tissues, and physiological systems. Exercise Physiology is a highly integrative field of study that involves examining how the failure or enhancement of one physiological system can influence another. Graduate students have the opportunity to be involved in both

applied research and basic science pertaining to the effects of exercise on physiological systems at both the cellular and molecular levels.

**Course Requirements**

Athletic Training Area of Emphasis .....	36 Hours
Research: PE 670 .....	3
Statistics: EDF 517 or equivalent .....	3
Required: PE 621, HS 579, PE 601, PE 687 .....	12
HS 540 or HS 640 .....	3
HS 548 or 646 .....	3-5
Restricted Electives (as approved by advisor) .....	6
Thesis (HS 681) or Internship (HS 660) .....	6

Clinical Applied Area of Emphasis: Cardiac Rehabilitation .....	39 Hours
Physical Education: PE 601, PE 621, PE 682, PE 683, PE 684, PE 685, PE 687 .....	21
Research: PE 670 .....	3
Statistics: EDF 517 or equivalent .....	3
Restricted Electives .....	6
Clinical Internship (PE 660) .....	6

Exercise Physiology Area of Emphasis .....	39 Hours
Required: PE 578, PE 601, PE 621, PE 642, PE 683, PE 684, PE 687 .....	21
Research: PE 670 .....	3
Statistics: EDF 517 or equivalent .....	3
Restricted Electives .....	6
Thesis (PE 681) or Internship (PE 660) .....	6

**B. Sport Administration, M.S. Degree**

The Sport Administration M.S. degree is a program in the Division of ESSR 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.

Full admission to the M.S. program in Sport Administration requires a background in athletics of participation, support services, or teaching/coaching. Admission to the program is limited and otherwise qualified candidates may be denied admission when the class is filled. Students who are admitted to the program must have successfully completed an undergraduate course in exercise physiology or human anatomy, or must complete the Marshall University course in an undergraduate exercise physiology within the first 12 hours of graduate work.

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 .....	36 Hours
Physical Education: PE 652, PE 670, PE 675, and PE 621 or PE 642 .....	12
Research Course: EDF 517, HST 600, MGT 500 or 601, PSY 517 .....	3
ESSR electives: Select from among PE 501, PE 516, PE 524, PE 525, PE 530, PE 575, PE 580-583, PE 585-588, PE 615, PE 620, PE 643, PE 660, PE 696, PLS 511 .....	15
External Minor .....	6

Recreation & Physical Activity Area of Emphasis .....	36 Hours
Physical Education Required: PE 670, and PE 621 or PE 642 .....	6
Research Course: EDF 517, HST 600, PSY 517 .....	3
ESSR Electives (Select courses with the approval of advisor) .....	21
External Minor .....	6

(continued)

## **FAMILY AND CONSUMER SCIENCE (FCS)**

Students are admitted to the Master of Arts in Family and Consumer Sciences (FCS) program by submitting the following:

- A transcript showing a completed undergraduate degree with a minimum 2.5 GPA;
- A letter of application outlining the student's goals for an M.A. in Family and Consumer Science;
- 12 hours of coursework in Family and Consumer Science or a closely related field (examples: nutrition, human development, family resource management, design in the near environment). Students who do not have sufficient background may fulfill this requirement by completing approved undergraduate Family and Consumer Science courses sufficient to assure success in Family and Consumer Sciences graduate studies;
- A minimum of 1000 (quantitative and verbal) on the GRE if undergraduate GPA is below 3.0, or a minimum of 800 (quantitative and verbal) on the GRE if undergraduate GPA is a 3.0 or above.

The Master of Arts in Family and Consumer Science requires 32 semester hours of graduate work, of which not more than 6 hours may be earned by a thesis. If a thesis is not submitted, a minimum of 36 hours of coursework must be completed. Each graduate is expected to conduct independent research through a special problem and problem report or thesis. Courses in statistics and/or research methods are required of all students. EDF 517 and EDF 621 or EDF 625 are often selected.

A minimum of 18 hours in Family and Consumer Science is required, including FCS 600. In addition a thesis, FCS 681, or a problem report, FCS 684 and 679, is required. One minor with a minimum of 9 hours is recommended. The remaining hours are planned to meet the individual student's professional needs. Prospective students should contact the Family and Consumer Science program coordinator for further information.

## **FORENSIC SCIENCE (FSC)**

The Master of Science degree in Forensic Science is a two-year curriculum which provides a thesis and non-thesis track. The thesis track stresses a research component where students conduct original research and prepare, as well as defend, a written thesis based on their investigation. The thesis track requires that the student complete a minimum of FSC 685 (3 credit hours) and FSC 681 (3 credit hours) in addition to the general or emphasis curricula. Class attendance is mandatory. Students are also required to participate in a summer internship program and to pass a written, comprehensive examination at the end of their final semester in the program. Applicants to the Forensic Science program must apply for admission through the Marshall University Graduate Admissions Office, 100 Angus E. Peyton Drive, South Charleston, WV 25303-1600. Application to the program requires that the student provide the following formal documentation:

- Applicants must have successfully completed a bachelor's degree in biology, chemistry, or forensic science (or its equivalent coursework in a relevant field) from an accredited institution of higher education to include a grade of B or better in the following courses for science majors:
  - General chemistry I and II with associated labs
  - Organic chemistry I and II with associated labs
  - Biology I and II with associated labs
  - Physics I and II with associated labs
- 3.0 Grade Point Average (GPA) or higher
- 1100 or higher cumulative score on the verbal and quantitative section on the Graduate Record Examination (GRE) (GRE taken prior to October 1, 2002 requires a minimum of 1500 for application)
- Official transcripts documenting the above academic requirements
- A cover letter expressing the student's desire to be admitted to the Forensic Science Program
- 3 formal letters of recommendation (on letterhead) from individuals familiar with the applicant's relevant academic, professional and moral character

All application materials must be received by March 1 to be considered for Fall term enrollment in any given year.

Upon formal admission to the program, forensic science students are required to provide documentation that they have been vaccinated for hepatitis B or to sign a formal hepatitis B vaccination declination statement. A special fee structure is in place for forensic science students. For more information on fees, call (304) 690-4363, ext. 201, or e-mail *forensics@marshall.edu*.

### Core Curriculum

To permit the development of areas of emphasis, while maintaining a broad-based forensic science education, a core curriculum has been established, as follows:

	Hrs.
FSC 606, Crime Scene and Death Investigation .....	2
FSC 618, Forensic Comparative Sciences .....	2
FSC 612, Forensic Microscopy .....	2
FSC 604, Genetics and DNA Technologies .....	3
FSC 622, Forensic Analytical Chemistry I .....	3
Seminar (4 semesters @ 1 hr. per semester) .....	4
Internship .....	5
FSC 665, Legal Issues in Forensic Science .....	3
MTH 519, Statistical Issues in Forensic Science .....	3
FSC 632, Foundations and Fundamentals in Digital Evidence .....	3
FSC 624, Forensic Biochemistry .....	4
Approved Electives or Thesis .....	4
<b>Total Core Requirements .....</b>	<b>38</b>

### Areas of Emphasis

*Computer Forensics.* Criminals now use computers to carry out a variety of crimes, from viral attacks to financial fraud. This emphasis will prepare students for positions in law enforcement and private corporations to combat the threat of these computer-savvy criminals.

The emphasis requirements are as follows:

FSC 609, Introduction to Cybercrimes .....	3
IS 651, Information Security .....	3
FSC 605, Forensic Digital Imaging .....	3
FSC 676, Advanced Digital Evidence Recovery .....	2
<b>Total Emphasis requirements .....</b>	<b>11</b>
<b>Total including Forensic Science core .....</b>	<b>49</b>

*DNA Analysis.* Marshall's Forensic Science Center is home to both this academic program and the Combined DNA Index System (CODIS) laboratory, which performs convicted felon and parentage DNA testing. Due to this association, students gain valuable experience in and out of the classroom with respect to DNA analysis and facility operation.

The emphasis requirements are as follows:

FSC 603, Genetics and DNA Technologies Lab .....	1
BMS 614, Human Genetics, or another Forensic Science faculty-approved, graduate level course with a genetics or DNA emphasis .....	3
BMS 600, Cell and Molecular Biology, or BSC 550, Molecular Biology .....	3
<b>Total Emphasis requirements .....</b>	<b>7</b>
<b>Total including Forensic Science core .....</b>	<b>45</b>

*Forensic Chemistry.* This emphasis will provide students interested in careers in forensic drug analysis, toxicology, and trace evidence analysis additional coursework needed for those forensic disciplines. Some state and federal agencies require 30 or more hours of chemistry-related coursework for these disciplines. This emphasis requires a minimum of 9 hours of additional coursework, as follows:

FSC 608, Forensic Toxicology .....	3
FSC 626, Advanced Drug Analysis .....	2
FSC 628, Forensic Analytical Chemistry II .....	3
Graduate-level Chemistry course, or FSC Independent Study or FSC Special Topics course in a forensic chemistry-related area .....	1
<b>Total Emphasis requirements .....</b>	<b>9</b>
<b>Total including Forensic Science core .....</b>	<b>47</b>

### FRENCH (FRN)

The Department of Modern Languages offers courses which may be appropriate as a minor in some programs.

(continued)

## **GEOGRAPHY (GEO)**

Students wishing to earn a master's degree in geography have the option of selecting either a Master of Arts or Master of Science degree. While the core requirements are the same for both degrees, the M.S. degree requires that the student complete six credit hours of graduate science courses outside the department. The M.S. option allows students to specialize in a more technical/science-based program leading to employment in environmental planning, computer cartography, GIS/remote sensing, conservation, or physical geography. Students pursuing an M.A. degree may choose an emphasis in planning, GIS, political geography, or general human geography. A minor in a related discipline outside the department is strongly recommended for students pursuing the M.A. degree. The M.A. minor allows students to draw upon expertise in a related field and enrich their academic development. Both the M.S. and M.A. degree options prepare the graduate for advanced work at the doctoral level.

Since we tailor the program to the specific needs of the individual student, offer a flexible curriculum, and keep our offerings updated with changes in the field and the job market, many of our students secure employment as professional geographers before graduation. Graduates of the program include urban and regional planners, GIS professionals, cartographers, environmental specialists, economic development consultants, city/county government workers, and international trade consultants, just to name a few.

The prerequisite for a graduate major is 12 semester hours of undergraduate coursework in geography or permission from the faculty.

### **Degree Requirements**

The requirements for the master's degree consist of 1) meeting the general requirements for the Graduate College; 2) completing one of the following: thesis, applied project, or comprehensive exams; and 3) completing not fewer than 24 hours of graduate coursework in geography.

### **Required Courses:**

GEO 521\* Concepts and Methods in Geography

GEO 540\* Quantitative Methods in Geography

GEO 609 Geographical Research

Any graduate-level GIS course, minimum three credit hours.

\* Requirement waived if course was taken at the 400 level as a Marshall undergraduate.

## **GEOLOGY (GLY)**

Marshall University does not offer a graduate degree in Geology, but students interested in this field may pursue a Master of Science in Physical Science. This degree program is offered in cooperation with the Departments of Chemistry, Mathematics and Physical Science and Physics. For the Geology concentration, the writing of a thesis is required.

## **HEALTH CARE ADMINISTRATION (See BUSINESS)**

## **HISTORY (HST)**

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 enroll for graduate work but may be asked to take undergraduate courses suggested by the Director of Graduate Studies before admission to the degree program.

A student pursuing the Master of Arts degree in history must submit a Plan of Study in the semester no later than the completion of 18 graduate credit hours. A student must earn a quality point average of at least 3.0 (*B*) on all graduate work applicable to the degree. The application, bearing a record of courses completed, must be made on a form secured from the Graduate Dean's Office.

A student who receives a second grade of *C* or below at any time while pursuing the Master of Arts degree in History must withdraw 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.

A history student whose program requires a thesis must earn 32 hours of credit in graduate courses. Of these 32 hours, credit not to exceed 6 hours may be granted for the thesis. The student must enroll in History 681 Thesis 1-6 hours, for which he or she is allowed not more than 6 hours of credit. A history student whose program does not require a thesis must complete 36 hours of graduate coursework.

A minimum of 30 hours must be earned in the major field and a minimum of 6 hours in a minor field. Students choosing a minor field must do so with the approval of the departmental Director of Graduate Studies. On recommendation of the Graduate Dean the requirement of a minor may be waived. History students are required to complete History 600 Methodology Seminar in Historical Methods. Students must earn credit hours in as many 600 level courses as in 500 level courses.

It is recommended that students earn credit hours in a wide distribution of historical areas and periods from a diversity of instructors.

The Graduate Record Examination (GRE) General Test is required of all applicants to the graduate program in History. The GRE scores must be sent by the Educational Testing Service directly to Marshall University when the student applies for admission.

## **HOME ECONOMICS (See Family and Consumer Sciences)**

### **HUMAN RESOURCE MANAGEMENT (See BUSINESS)**

#### **HUMANITIES**

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 emphasis (Arts and Society; Cultural Studies; Historical Studies; Literary Studies). Although the student's plan may encompass courses from more than one area of emphasis, 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.

Students seeking a Master of Arts in Humanities should apply as degree students. Applicants to the degree program must meet the following requirements: (a) a score of 450 or above (40%) on the verbal section of the Graduate Record Examination (GRE) General Test or an equivalent score on the Miller Analogies Test (MAT); (b) an undergraduate major in the humanities, and (c) an overall undergraduate grade point average of 3.0 on a scale of 4, or a score in or above the 40th percentile in one of the following areas of the Graduate Record Examination Subject Tests: French, German, Spanish, history, literature in English, music, philosophy.

Applicants who do not meet these requirements may gain admission to the degree program by completing the following provisions: 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).

Degree students have the options of a thesis or final project. Those 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 and 604 and two others (Humn 601, 602, 603, or 605); II. Area of Emphasis (minimum of 15 hours); III. Program Electives (3-12 hours); IV. Independent Research Project (3 hours) or Thesis (6 hours). Within an area of emphasis, 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.

*Graduate Certificate Program:* 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.

*(continued)*

*Note:* Course Listings for Humanities begin on page 195. 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.

## **INDUSTRIAL AND EMPLOYEE RELATIONS (See HUMAN RESROUCE MANAGEMENT in BUSINESS)**

### **INFORMATION TECHNOLOGY AND ENGINEERING (CITE)**

The College of Information Technology and Engineering (CITE) has offices on both Huntington and South Charleston campuses. CITE offers master's degree programs and professional development short courses in Engineering, Information Technology, Environmental Science, Safety, and Technology Management. Courses are offered Huntington, South Charleston, and other locations by arrangement, at times convenient to working professionals. Following are the master's degree programs offered:

Engineering (M.S.E.) with Areas of Emphasis in:

- Engineering Management
- Environmental Engineering

Environmental Science (M.S.)

Information Systems (M.S.)

Safety (M.S.) with Areas of Emphasis in:

- Ergonomics
- Industrial Hygiene
- Occupational Safety and Health
- Mine Safety
- Safety Management

Technology Management (M.S.) with Areas of Emphasis in:

- Environmental Management
- Information Technology
- Manufacturing Systems
- Transportation Systems and Technologies

Following are descriptions, admission requirements, and program requirements for each of the five CITE M.S. degree programs.

### **ENGINEERING**

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. The program offers a broad core curriculum with opportunities for concentrated study in two areas of emphasis: Engineering Management and Environmental Engineering.

#### **Admission Requirements**

Each applicant for admission to the M. S. in Engineering program must have an undergraduate engineering degree from an ABET-accredited college or university, and 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 GRE
- Have an undergraduate GPA of 2.75 or above
- Have passed the FE exam and/or the P.E. exam

Also, foreign nationals must score at the mean or above on the TOEFL, and must have met all other admission criteria *prior* to registering for the first semester of courses.

#### **Degree Requirements**

Each degree candidate is required to complete at least 36 graduate credit hours, consisting of 15 credit hours of core courses plus 21 additional hours of required courses and electives in the applicable area of emphasis, with a cumulative Grade Point Average of 3.0 for the courses included in the student's Plan of Study. Each degree-seeking student must have an approved "Plan of Study," developed with a faculty advisor, that must be filed with the CITE dean no later than the semester in which the student

completes the 9<sup>th</sup> credit hour. Please consult the Academic Regulations portion of the *Graduate Catalog* for other information.

The Engineering program culminates with the comprehensive graduate project. This project is not the traditional graduate thesis with a research orientation, but rather a real-life, industry-type project in which the student undertakes an assignment that requires synthesis of all of the coursework and its application to a typical problem from a relevant subject area.

**Core courses:**

EM 660	Project Management .....	3 hrs.
ENGR 610	Applied Statistics .....	3 hrs.
ENGR 620	Computer Applications (or approved equivalent) .....	3 hrs.
TE 698	Comprehensive Project Formulation .....	3 hrs.
TE 699	Comprehensive Project .....	3 hrs.

**Requirements for areas of emphasis:**

*Engineering Management:*

EM 620	Management of Technical Human Resources and Organizations .....	3 hrs.
EM 675	Engineering Economics (or TM equivalent) .....	3 hrs.
IE 670	Operations Management .....	3 hrs.
	Four approved CITE elective courses .....	12 hrs.

*Environmental Engineering:*

ES 614	Environmental Risk Assessment .....	3 hrs.
ENVE 681	Environmental Engineering Design .....	3 hrs.
ENVE 615	Environmental Chemistry .....	3 hrs.
ES 660	Environmental Law I .....	3 hrs.
	One of the following courses: Air Pollution Design, Air Pollutant Dispersion Modeling, Environmental Geotechnology, Groundwater Principles .....	3 hrs.
	Two approved elective courses .....	6 hrs.

**ENVIRONMENTAL SCIENCE**

**Graduate Degree 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**

For regular admission, applicants to the Environmental Science program must complete General Admission and Program requirements *prior* to registering for the first semester of courses.

*1. General Admission Requirements*

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

*2. Program Requirements*

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);

*(continued)*

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 (3 hrs.)

ENGR 610, Applied Statistics (3 hrs.)

TE 698, Comprehensive Project Formulation - after completion of 18 hours (3 hrs.)

TE 699, Comprehensive Project - after completion of 27 hours (3 hrs.)

### **Additional Degree Requirements for Program**

#### *Required Courses*

ES 614, Environmental Risk Assessment (3 hrs.)

ENVE 615, Environmental Chemistry (or ES 646 or SFT 651) (3 hrs.)

ES 660, Environmental Law I (or ES 662 or ES 655) (3 hrs.)

ES 620, Environmental Management Systems (3 hrs.)

#### *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 completing 18 credit hours.

## **INFORMATION SYSTEMS**

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 to 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**

Each applicant for admission to the M. S. in Information Systems program must have an undergraduate degree from an accredited college or university, and 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
- Have passed the FE exam and/or the P.E. exam

Also, foreign nationals must score at the mean or above on the TOEFL, and must have met all CITE admission criteria *prior* to registering for the first semester of courses.

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
- A reasonable quantitative or mathematical maturity. College algebra and statistics with a grade of *B* would minimally meet this requirement
- Ability to use microcomputer systems for word processing, spreadsheet analysis, telecommunications, and data management
- Reasonable communication skills demonstrated by being able to write a coherent, grammatically correct, short theme that clearly communicates an idea.

### Prerequisites

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 500 and 510 - Computer Systems and Structured Programming I and II
- Mathematical Maturity: College algebra or IE 610 - Statistical Design
- 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 at the graduate level, 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
IS 625	Software Engineering
EM 660	Project Management
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.

### SAFETY (SFT)

#### Graduate Degree 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 is divided into several areas of emphasis: Ergonomics, Industrial Hygiene, Occupational Safety and Health, Safety Management. 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

For regular admission, applicants to the Environmental Science and Safety programs must complete General Admission and Program requirements *prior* to registering for the first semester of courses.

*(continued)*

1. *General Admission Requirements*

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

2. *Program Requirements*

In addition to the general requirements all students entering a program must have completed prior to admission the following courses or their equivalents:

SAFETY EMPHASIS:

- Occupational Safety and Health - MTH 130 or equivalent, PHY 101 and 101L or equivalent, and CHM 203 or equivalent
- Safety Management - MTH 130 or equivalent, PHY 101 and 101L or equivalent, and CHM 203 or equivalent
- Occupational Health - MTH 130 or equivalent, PHY 101 and 101L or equivalent, and CHM 203 and 204 or equivalent

**Core Courses**

SFT 599, Occupational Safety Program Management .....	3
SFT 610, Philosophical and Psychological Concepts in Occupational Safety and Health .....	3
SFT 630, Current Literature and Research in Occupational Safety and Health .....	3

**Areas of Emphasis**

**Occupational Safety and Health**

<i>Required Courses</i>	<i>Hours</i>
SFT 540, Industrial Fire Prevention .....	3
SFT 554, Industrial Hygiene I .....	3
SFT 597, Occupational Safety Program Development .....	3
SFT 645, Safety Engineering and Equipment Design .....	3
SFT 660, Human Factors in Accident Prevention OR SFT 560, Fundamentals of Ergonomics .....	3
ES 660, Environmental Law I .....	3
<i>Electives:</i> Students must take the remaining 9 hours of electives from the following .....	9
SFT 589, Process Safety Management .....	3
SFT 565, Incident Investigation Techniques .....	3
SFT 553, International Safety .....	3
SFT 650, Internship .....	3
Or students may take the thesis option.	

**Total (including core) .....** 36

**Safety Management**

<i>Required Courses</i>	<i>Hours</i>
CMM 508, Leadership and Group Communication or CMM 420, Communication and Conflict .....	3
CMM 520, Communication and Conflict .....	3
PSY 518, Psychology of Personnel OR PSY 520, Introduction to Industrial Organizational Psychology .....	3
MKT 511, Marketing and Management .....	3
ES 620, Environmental Management Systems .....	3
ES 660, Environmental Law I .....	3
SFT 554, Industrial Hygiene I .....	3
SFT 597, Occupational Safety Program Development .....	3
SFT 660, Human Factors in Accident Prevention .....	3
<i>Electives:</i> Student is to choose three (3) additional hours of 600-level courses	

(continued)

with advisor's permission or elect thesis option .....	3
<b>Total (including core) .....</b>	<b>36</b>

**Occupational Health**

<i>Required Courses</i>	<i>Hours</i>
SFT 560, Fundamentals of Ergonomics .....	3
SFT 647, Industrial Hygiene II .....	3
SFT 647L, Quantitative Industrial Hygiene Laboratory .....	3
SFT 649, Biophysical Hazards and Monitoring .....	3
SFT 651, Toxicology and Epidemiology .....	3
SFT 661, Advanced Ergonomics .....	3
SFT 663, Work Environment Issues .....	3
SFT 679, Problem Report .....	3
<i>Electives:</i> Students must take the remaining 3 hours of electives from the following .....	3
SFT 589, Process Safety Management .....	3
SFT 660, Human Factors in Accident Prevention .....	3
SFT 553, International Safety .....	3
Others as approved by advisor.	
<b>Total (including core) .....</b>	<b>36</b>

**Mine Safety (MSF)**

The Mine Safety graduate program is offered in cooperation with the National Mine Safety and Health Academy, 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. The Division Chair of Environmental Science and Safety Technology grants permission for admission to this area of emphasis. Please contact the Division Chair for further information prior to applying for admission to this program.

**TECHNOLOGY MANAGEMENT**

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 course work 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 both Huntington and South Charleston. All courses necessary to complete the M.S. in Technology Management in any of the available emphases will be offered at both sites, and other locations upon demand.

**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

**Degrees Awarded**

M.S. in Technology Management with emphasis in Environmental Management; M.S. in Technology Management with emphasis in Information Technology; M.S. in Technology Management with emphasis in Manufacturing Systems; M.S. in Technology Management with emphasis in Transportation Systems and Technologies.

**Admission Requirements**

For regular admission, applicants to the program must complete the following *prior to* registering for the first semester of courses:

(continued)

- 1) Have an undergraduate GPA of 2.5 or greater. There is no stipulation concerning the undergraduate major; however, the degree must be from an accredited college or university.
  - 2) Satisfy at least one of the following:
    - Score at the mean or above on the Analytical Writing portion of the GRE (4.2 or greater) and achieve a composite score on the Verbal and Quantitative portions of the GRE greater than or equal to the sum of the two individual means (1070 or greater).
    - Score at the mean or above on the Analytical Writing portion of the GMAT, and achieve a composite score on the Verbal and Quantitative portions of the GMAT greater than or equal to the sum of the two individual means (526 or greater).
    - Have previously completed a master's degree from an accredited college or university.
    - Have 10 or more years of relevant professional work experience (documented in the written summary required in item 3, below).
- International students must satisfy either the GRE or GMAT requirement.
- 3) 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.
  - 4) Complete an interview with the TM program director or designee, with part of the interview consisting of discussion of the written summary.

### **Degree Requirements**

Degree requirements consist of eight core courses (22 semester hours), four area-of-emphasis courses (12 semester hours), and a capstone project (3 semester hours), for a total of 37 semester hours. You must have the Technology Management advisor's approval to enroll in Technology Management degree program courses.

### **Core Courses**

TM 600 Program Introduction Seminar  
 TM 610 Technology and Innovation Management  
 TM 612 Economic and Financial Analysis for Technology Management  
 TM 615 Information Technology Strategies  
 TM 620 Technology Planning  
 TM 630 Quality and Productivity Methods  
 EM 620 Management of Technical Human Resources and Organizations  
 EM 660 Project Management

Completion of these eight core courses will qualify a participant for a certificate in technology management, if he/she elects not to complete the degree.

Each student pursuing the degree 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 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 Forensics

Other courses may be taken with permission of the student's advisor.