# FORENSIC SCIENCE M.S. DEGREE PROGRAM

### **About Our Program**



The FEPAC-accredited Forensic Science Program at Marshall University is a two-year academic program leading to a Master of Science in Forensic Science (MSFS). Nationally the MFSC at Marshall University is one of a limited number of FEPAC accredited graduate-level programs (aafs.org). MUFSP offers a unique opportunity for students to learn in and near accredited (ISO 17025) forensic testing and DNA databasing labs.

With the increasing introduction of scientific evidence into court testimony and the demand for standardized educational programs, Marshall University's Forensic Science Program satisfies federal and state standards and guidelines to enable its graduates to enter this fascinating field well equipped to respond to future challenges.

The program includes a five-semester core curriculum with both thesis and non-thesis options. In addition to this strong, broad-based core curriculum. four areas of emphasis are offered that allow students to obtain additional in-depth education and training. Students may select any combination of the emphases, up to 4, which may be completed in the standard five semester program. These areas of emphasis include Crime Scene Investigation, Digital Forensics, DNA Analysis, and Forensic Chemistry. On-site research and service forensic laboratories at the Marshall University Forensic Science Center (MUFSC) provide students with opportunities to participate in inner workings of a forensic laboratory. These include accredited laboratories providing CODIS databasing, parentage testing, and DNA casework, as well as forensic chemistry, digital forensics, and microscopy/comparative sciences. Off -site internships are also available.

#### Admission Policy

Entrance into the Forensic Science Program is restricted to the fall semester only. Applicant materials should be submitted by March 1 to have the best chance for admission for the fall term. The program observes a rolling application policy so that individuals may apply at any time. Applicants are considered after the deadline if openings are available in the program. Students who apply by or before March 1 have a better chance of admission than those who apply after March 1; however, it is not uncommon for applicants to be notified throughout the year.

The program reserves the right to withdraw its offer should the applicant fail to successfully meet all requirements for fall enrollment.

#### Admission Requirements

The complete application process includes:

- 1. Go to www.marshall.edu/graduate. Fill out the Departmental Application **AND** the Application for Graduate Admission
- 2. Completion of a Free Application for Federal Student Aid (FAFSA) as soon after January 1 as possible at www.fafsa.edu.gov.
- 3. Submission of formal transcript(s) documenting that the applicant has:
- Completed a Bachelor's degree in a forensic or natural science, computer science, computer electronic or electrical engineering, information systems or information technology (or its equivalent coursework in a relevant field) from an accredited institution of higher learning.
- Achieved an overall Grade Point Average of 3.0 or better.
- Successfully completed 1 academic year of biology and its associated labs.
- Successfully completed 1 academic year of general chemistry and its associated labs.
- Successfully completed 1 academic year of organic chemistry and its associated labs.
- Successfully completed 1 academic year of physics and its associated labs.
- It should be noted that successful completion of an undergraduate course in biochemistry is recommended, but not required, prior to entry into this program.
- 4. Graduate Record Exam (GRE): Applicants should achieve a score of 150 or higher on the verbal and quantitative sections and a score of 3.5 or higher on the analytical writing section.

#### 5. Formal Letters

- Applicant's Personal Statement providing reasons why he or she should be admitted to the Forensic Science Program.
- 3 Letters of Recommendation on formal letterhead from individuals familiar with applicants' moral character, academic acumen and aptitude, integrity, and work ethic.

\*Qualified applicants may be awarded a 'Conditional Admission,' for one semester to satisfactorily complete select admission requirements.

Full admission to the program, once an offer is made, is also contingent on receipt of final official transcripts, successful completion of a background check\*, documentation of hepatitis B vaccination/titer or formal declination of vaccination, and receipt of other documentation required for enrollment.

\*A background check similar to those required for law enforcement officers are likely to be a condition of employment (Reference NIJ Report NCJ 203099 – Qualifications for a Career in Forensic Science pp7-10.

#### Academic Common Market Information

Academic Common Market (ACM) is a program through which students from states without a M.S. program in Forensic Science may qualify for the equivalent of in-state tuition. As of 2015, those states include: DE, GA, KY, LA, SC. and TN.

#### Financial Aid Information

There are several forms of financial support available to U.S. citizen graduate students who have completed their FAFSA including: loans, graduate and teaching assistantships, work study and scholarship waivers. Please contact Marshall's Financial Assistance Office for more information, sfa@marshall.edu.



FORENSIC SCIENCE

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#### **QUICK FACTS**

Ranked #1 in the U.S. on the 2007, 2009, 2012, 2013, 2014 and 2015 Forensic Science Assessment Test (FSAT)

Small student to faculty ratio

Students complete a research-based internship in a working laboratory, at the local, state, or federal level

Marshall's Multiple onsite forensic laboratories, as well as a mock Crime Scene House, provide realworld experience

Our alumni span the globe; many are employed by the FBI, ATF, DEA, AFDIL, Secret Service, State Department, state crime labs, private laboratories and agencies

Specializations available in up to four areas of emphasis: Crime Scene Investigation, Digital Forensics, DNA Analysis, and Forensic Chemistry.

Our M.S. Program is Fully FEPAC accredited by the American Academy of Forensic Science—aafs.org in Forensic Science and Digital Forensics



Forensic Science Education Program
Accreditation Commission

# **AREAS OF EMPHASIS**

The FEPAC-accredited Forensic Science Program provides a broad-based graduate level curriculum in forensic science. In addition to the core curriculum, the Marshall University Forensic Science Program offers four areas of emphasis: Crime Scene Investigation, Digital Forensics, DNA Analysis, and Forensic Chemistry. While one area of emphasis is required, students may complete up to four areas of emphasis during their standard five-semester course of study. Completing multiple areas of emphasis is contingent on maintaining good academic standing while enrolled in the program. Our program is unique in that it encourages a variety of specializations.

Digital Forensics		
Course	Hrs	
FSC 605 Forensic Digital Imaging	3	
FSC 609 Network Forensics	3	
FSC 634 Digital Evidence Search & Seizure	3	
FSC 676 Advanced Digital Evidence Detection & Recovery	2	

DNA Analysis	
Course	Hrs
FSC 600 Cell and Molecular Biology OR BSC 550 Molecular Biology	3
FSC 603 Genetics & DNA Laboratory	1
FSC 627 Human Genetics FSC 629 Advanced DNA	2
Technologies	2

Forensic Chemistry		
Course	Hrs	
FSC 608 Forensic Toxicology FSC 626 Advanced Drug Analysis	3	
FSC 626 Advanced Drug Analysis	2	
FSC 628 Chemical Analysis of Trace Evidence	2	

Crime Scene Investigation		
Course	Hrs	
FSC 607 Bloodstain Pattern Analysis FSC 615 Advanced Crime Scene	3	
Investigation FSC 617 Advanced Photography and	3	
Documentation	3	

Visit www.marshall.edu/forensics for more information or to download an Admissions Packet.

Core Curriculum		
Course		Credits
FSC 604	Genetics and DNA Technologies	3
FSC 606	Crime Scene & Death Investigation	2
FSC 612	Forensic Microscopy	2
FSC 618	Forensic Comparative Sciences	2
FSC 619	Forensic Statistics	3
FSC 622	Forensic Analytical Chemistry	3
FSC 623	Forensic Analytical Chemistry Lab	1
FSC 624	Biochemistry	4
FSC 630	Forensic Science Internship	5
FSC 632	Foundations and Fundamentals in	
	Digital Evidence	3
FSC 665	Legal Issues in Forensic Science	3
FSC 680	Seminar (Semesters 1, 2, 4, 5)	4
	Approved Elective	3
	TOTAL	38

#### **Digital Forensics**

Computers and other digital devices hold a wealth of information including text, digital images, audio and video, which can serve as key evidence for solving crimes. Forensic software programs can be used to image digital storage media and the images can be analyzed using a variety of investigative software programs. Mobile phone forensics is an area that is emphasized in the forensic science courses, as well as investigation of computers and gaming devices. The opportunity to participate in hands-on experiences with investigative tools allows students to participate in mock investigations in preparation for careers in this exciting discipline.

## DNA Analysis

The Marshall University Forensic Science Center is home to the academic program as well as a service-oriented DNA laboratory. The Combined DNA Indexing System (CODIS) for West Virginia is a secure facility that uses state-of-the-art technology. MU DNA Lab faculty and staff serve as instructors and supervisors for various DNA-based courses while providing select students with real-world experience, training, and exposure to the inner workings of a forensic DNA laboratory. The DNA emphasis exceeds the DNA Advisory Board standards by requiring a total of 12 graduate level credit hours addressing the DNA guidelines.

#### Forensic Chemistry

Students pursuing careers in forensic drug analysis, toxicology, and trace evidence will benefit from the completion of the Forensic Chemistry emphasis. As some agencies may require 30 or more hours of chemistry coursework, the Forensic Chemistry emphasis provides additional education and hands-on training to meet these federal and state guidelines.

#### Crime Scene Investigation

The Crime Scene Investigation emphasis provides students with the tools and hands-on experience to excel and become leaders in their field. The Forensic Science Program has its own Crime Scene House that allows students to obtain real-world experience and training through the completion of mock crime scene exercises.

#### Internships

All students are required to successfully complete a research-based summer internship in an approved crime laboratory or forensic science-related agency.



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