FORENSIC SCIENCE, BS

Banner Code: SC-BS-FRSC

Academic Advising

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The Bachelor of Science in Forensic Science is a general forensic science degree that covers various fields within forensic science including field and laboratory applications. These topics include areas such as, crime scene investigation, forensic DNA, forensic chemistry, trace evidence, firearms examination, questioned document, fingerprints, arson, and drug analysis.

This degree is intended to provide students with a well-rounded, hands-on forensic science education in order to prepare students for entrance into a graduate-level educational program, and/or entry-level professional careers in public and private forensic laboratories, federal, state, or local government/law enforcement, defense, homeland security and intelligence agencies.

Unique features of this program include innovative curriculum that offers hands-on training with crime scene techniques and crime laboratory methodologies, an outdoor forensic excavation research and training facility, and courses taught by professional and distinguished faculty from various forensic agencies and laboratories.

Admissions & Policies

Admissions

University-wide admissions policies can be found in the Undergraduate Admissions Policies section of this catalog.

To apply for this program, please complete the George Mason University Admissions Application (https://www2.gmu.edu/admissions-aid/apply-now).

Policies

Students must fulfill all Requirements for Bachelor's Degrees, including the Mason Core.

FRSC 302 Forensic Trace Analysis **and** FRSC 304 Forensic Chemistry will satisfy the writing intensive requirement.

For policies governing all undergraduate programs, see AP.5 Undergraduate Policies.

Requirements

Degree Requirements

Total credits: minimum 120

Students should refer to the Admissions & Policies tab for specific policies related to this program.

Students majoring in forensic science must complete their coursework with a minimum GPA of 2.30. No more than three courses with a grade of 'D' (1.00) may be applied to the major.

Students are advised to be aware of prerequisites that may be required for each course in the curriculum.

Forensic Science Core Courses

Code	Title	Credits
FRSC 200	Survey of Forensic Science	3
FRSC 201	Introduction to Criminalistics	3
FRSC 302	Forensic Trace Analysis [1]	3
FRSC 303	Forensic Evidence and Ethics	3
FRSC 304	Forensic Chemistry [1]	3
FRSC 401	Crime Scene Investigations	3
FRSC 405	Independent Research Methods	3
or FRSC 406	Forensic Internship	
FRSC 460	Forensic DNA Analysis	3
FRSC 461	Forensic DNA Analysis Laboratory	1
FRSC 499	Comprehensive Examination	0
CRIM 100	Introduction to Criminal Justice (Mason Core)	3
Total Credits		28

[1] FRSC 302 Forensic Trace Analysis **and** FRSC 304 Forensic Chemistry will satisfy this major's writing-intensive requirement.

Natural Science Core Courses

Code	Title	Credits
BIOL 213	Cell Structure and Function (Mason Core)	4
BIOL 214	Biostatistics for Biology Majors	3-4
or STAT 250	Introductory Statistics I (Mason Core)	
BIOL 311	General Genetics	4
BIOL 430	Advanced Human Anatomy and Physiology I	4
CHEM 211 & CHEM 213	General Chemistry I (Mason Core) and General Chemistry Laboratory I (Mason Core)	4
CHEM 212 & CHEM 214	General Chemistry II (Mason Core) and General Chemistry Laboratory II (Mason Core)	4
CHEM 313	Organic Chemistry I	3
CHEM 314	Organic Chemistry II	3
CHEM 315	Organic Chemistry Lab I	2
CHEM 318	Organic Chemistry Lab II	2
MATH 113	Analytic Geometry and Calculus I (Mason Core)	4-6
or MATH 123 & MATH 124	Calculus with Algebra/Trigonometry, Part A and Calculus with Algebra/Trigonometry, Part B (Mason Core)	
PHYS 243	College Physics I (Mason Core)	3

PHYS 244	College Physics Lab (Mason Core)	1
PHYS 245	College Physics II (Mason Core)	3
PHYS 246	College Physics Lab (Mason Core)	1
Total Credits		45-48

Additional Courses

Code	Title	Credits
Select 13 credits from the following:		13
FRSC 415	Selected Topics in Forensic Science	
BINF 401	Bioinformatics and Computational Biology I	
BINF 402	Bioinformatics and Computational Biology II	
BIOL 305	Biology of Microorganisms	
BIOL 306	Biology of Microorganisms Laboratory	
BIOL 404	Medical Microbiology	
BIOL 405	Microbial Genetics	
BIOL 431	Advanced Human Anatomy and Physiology II	
BIOL 452	Immunology	
BIOL 453	Immunology Laboratory	
BIOL 482	Introduction to Molecular Genetics	
BIOL 484	Eukaryotic Cell Biology	
CHEM 321	Quantitative Chemical Analysis	
CHEM 331	Physical Chemistry I	
CHEM 332	Physical Chemistry II	
CHEM 336	Physical Chemistry Lab I	
CHEM 337	Physical Chemistry Lab II	
CHEM 422	Instrumental Methods of Chemical Analysis	
CHEM 423	Instrumental Methods of Chemical Analysis Laboratory	
CHEM 427	Aquatic Environmental Chemistry	
CHEM 441	Properties and Bonding of Inorganic Compounds	
CHEM 446	Bioinorganic Chemistry	
CHEM 463	General Biochemistry I	
CHEM 464	General Biochemistry II	
CHEM 465	Biochemistry Lab	
Total Credits		13

Mason Core and Electives

In order to meet a minimum of 120 credits, this degree requires an additional 31-34 credits, which may be applied toward any remaining Mason Core requirements, Requirements for Bachelor's Degrees, and elective courses. Students are strongly encouraged to consult with their advisors to ensure that they fulfill all requirements.

Mason Core

Some Mason Core requirements may already be fulfilled by the major requirements listed above. Students are strongly encouraged to consult their advisors to ensure they fulfill all remaining Mason Core requirements.

Code	Title	Credits
Foundation Requirements		
Written Communication (ENGH 101)		3
Oral Communication		3
Quantitative Reasoning		3
Information Technology and Computing		3
Exploration Requirements		
Arts		3
Global Understanding		3
Literature		3
Natural Science		7
Social and Behavioral Sciences		3
Western Civilization/World History		3
Integration Requirements		
Written Communications (ENGH 302)		3
Writing-Intensive [1]		3
Synthesis/Capstone [2]		3
Total Credits		40

1 Most programs include the writing-intensive course designated for the major as part of the major requirements; this course is therefore not counted towards the total required for Mason Core.

2 Minimum 3 credits required.

Accelerated Master's

Forensic Science, BS/Forensic Science, Accelerated MS Overview

Highly qualified Mason undergraduate forensic science majors may apply to the accelerated master's degree with a concentration in either crime scene investigation, forensic biology analysis, forensic chemistry analysis, or forensic/biometric identity analysis. Students who have completed between 75 and 100 credits toward the bachelor's degree are invited to apply. Students are eligible to enter this program and enroll in graduate courses after successfully completing 90 undergraduate credits, inclusive of prerequisites, toward the Forensic (https://catalog.gmu.edu/colleges-schools/science/chemistry-biochemistry/chemistry-bs) Science, BS (https://catalog.gmu.edu/colleges-schools/science/forensic-program/forensic-science-bs) degree. This flexibility makes it possible for students to complete graduate coursework during their final year. If accepted, students will be able to earn the Forensic (https://catalog.gmu.edu/colleges-schools/science/chemistry-biochemistry/chemistry-bs) Science, BS (https://catalog.gmu.edu/colleges-schools/science/forensic-program/forensic-science-bs) and the Forensic Science, MS (https://catalog.gmu.edu/colleges-schools/science/forensic-program/forensic-science-ms) after satisfactory completion of 150 credits.

For more detailed information, see AP.6.7 Bachelor's/Accelerated Master's Degrees (https://catalog.gmu.edu/policies/academic/graduate-policies/#ap-6-7). For policies governing all graduate degrees, see AP.6 Graduate Policies (https://catalog.gmu.edu/policies/academic/graduate-policies).

Concentration Declaration

Students must declare their intended concentration upon application. In the event that a student wishes to change their concentration, students

may request to change their concentration by submitting a letter to the Forensic Science Program Director detailing the request and providing justification. These requests and possible substitutions/waivers will be considered on a case-by-case basis and only when the appropriate admissions requirements are met.

Application Requirements

Applicants to all graduate programs at George Mason University must meet the admission standards and application requirements for graduate study as specified in the Graduate Admissions Policies (https://catalog.gmu.edu/admissions/graduate-policies) section of this catalog.

Application requirements for this accelerated master's program include one letter of recommendation from a Forensic Science Program faculty member or advisor. Additionally, a detailed goal statement is required to include why you are interested in the MS in forensic science degree, career goals and professional aspirations, and proposed area of interest of your final Research Project. The GRE and resume are not required for admission into this program.

Successful applicants will have completed each of the following courses or equivalent with a GPA of 3.00 or higher.

FRSC 200 Survey of Forensic Science
FRSC 201 Introduction to Criminalistics
FRSC 302 Forensic Trace Analysis
FRSC 303 Forensic Evidence and Ethics
BIOL 213 Cell Structure and Function (Mason Core)
CHEM 211 General Chemistry I (Mason Core) and CHEM 213 General Chemistry Laboratory I (Mason Core)
CHEM 212 General Chemistry II (Mason Core) and CHEM 214 General Chemistry Laboratory II (Mason Core)

While undergraduate students, accelerated master's students complete six credits of graduate courses as indicated on their Accelerated Master's Program Application with a minimum grade of 3.00 in each course. Students must meet with an advisor to approve eligible graduate coursework. Once admitted to the accelerated master's program, students must maintain a minimum cumulative GPA of 3.0 in all coursework. On completion and conferral of the undergraduate degree in the semester indicated in the application, they submit the Bachelor's/Accelerated Master's Transition Form and are admitted to graduate status.

As graduate students, accelerated master's students have an advanced standing. They must meet all master's degree requirements except for the two courses (6 credits) they completed as undergraduates. Students must begin their master's program the semester immediately following conferral of the undergraduate degree.

Forensic Biology Analysis Concentration Applicants:

In order to obtain a career as a DNA Analyst, the student should have undergraduate coursework in Statistics, Molecular Biology, Genetics, and Biochemistry.

Reserve Graduate Credit

Students may take up to 6 additional graduate credits as reserve graduate credit. These credits do not apply to the undergraduate degree. To apply these credits to the master's degree, students should use the Bachelor's/Accelerated Master's Transition Form.

The ability to take courses, including ones not listed above, for reserve graduate credit is available to all high achieving undergraduates with the permission of the department. Permission is normally granted only to qualified Mason seniors within 15 hours of graduation. See the Graduate Course Enrollment by Undergraduates (https://catalog.gmu.edu/policies/academic/registration-attendance/#text) section of this catalog for more information.

Premium Tuition

Students enrolled in this professional MS program are charged at a differential (premium) tuition rate. Therefore, any courses or secondary programs that they may enroll in are subject to the differential tuition rate. The Forensics Graduate Certificate (https://catalog.gmu.edu/colleges-schools/science/forensic-program/forensics-graduate-certificate) has the same premium tuition rate, making it the ideal program for concurrent enrollment (if desired).

Criminal Background Check

The successful passing of a Virginia Department of Forensic Sciences background check is required prior to gaining access to FRSC 540 Advanced Forensic Chemistry, FRSC 541 Forensic Chemistry Laboratory, FRSC 560 Advanced Forensic DNA Sciences, and FRSC 561 Forensic DNA Laboratory.

Course Notes

- FRSC 560 Advanced Forensic DNA Sciences **and** FRSC 561 Forensic DNA Laboratory

Students shall have completed undergraduate coursework in molecular and/or cell biology, as well as genetics, or students must obtain permission of the instructor prior to taking FRSC 560 Advanced Forensic DNA Sciences and FRSC 561 Forensic DNA Laboratory.

- FRSC 540 Advanced Forensic Chemistry **and** FRSC 541 Forensic Chemistry Laboratory.

Students shall have completed undergraduate coursework in general chemistry including polarity and acid/base chemistry. Students shall also have completed Organic Chemistry and be able to identify functional groups and other chemistry structures that make up a molecule. Exposure to instrumental techniques such as gas chromatography, mass spectrometry and infrared spectroscopy is recommended or permission of instructor.