



COLLEGE OF LETTERS AND SCIENCES

# MASTER OF FORENSIC SCIENCES

## Applying Science to Criminal Investigation

A Master of Forensic Sciences degree from National University is grounded in the study of basic human anatomy, components of death investigation, analysis of disease and trauma, and identification of unknown dead persons. Whether you are seeking a career specifically in the forensic sciences or hoping to advance your skills in law enforcement, lab work, law, investigation, or another profession, you'll learn valuable and applicable skills in this leading-edge field. Learn how to professionally interact with forensic pathologists and investigators and how to apply scientific methods to the resolution of legal problems.

The program provides two areas of specialization to choose from:

- The specialization in Criminalistics includes courses in trace evidence, advanced forensic toxicology, advanced forensic serology and DNA, forensic anthropology and archeology, and more.

- The specialization in Investigation focuses on advanced forensic investigative techniques for the field, giving you a comprehensive understanding of the concepts underlying the forensic sciences.

### Program Highlights:

- Entire program can be completed online
- Learn technical procedures and methods of collection, preservation, and chain-of-custody management of evidence
- Gain practical knowledge of basic forensic photography for courtroom or trial presentation
- Use computer and multimedia forensics to investigate and interpret evidence
- Explore complex issues that straddle the interests of society and the rights of individuals in criminal procedures
- Integrate scientific research to address challenges in forensic science

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## MASTER OF FORENSIC SCIENCES

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The Master of Forensic Sciences (MFS) is a specialized professional degree designed for law enforcement, lab personnel, attorneys, investigators, and other professionals seeking to upgrade their existing skills, as well as individuals who are interested in pursuing a career in the forensic sciences, law, law enforcement, private or governmental laboratories, jails and corrections, and the Medical Examiner's Office. The field of forensics focuses on the application of scientific methods to the resolution of legal problems.

The Master of Forensic Sciences degree program offers two areas of specialization. Students are required to take one specialization.

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Explain basic human anatomy, component of death investigation and techniques used for analysis of diseases and trauma, identification of unknown dead bodies; and to professionally interact with the forensic pathologist and medico-legal death investigators.
- Apply the technical procedures and methods of collection, preservation, chain of custody, analysis, comparison and report preparation of the biological, trace and toxicological evidentiary evidence.
- Analyze the basic principles and the role of crime scene investigators in forensic and legal procedures.
- Apply the basic principles of forensic photography, and explain the legal issues related to forensic photography and courtroom or trial presentation.
- Evaluate the legal and psychological issues involved in competency to stand trial, diminished capacity, and insanity defenses.
- Understand friction ridge skin differential development and how it applies to the classification of fingerprints and the methodology used in forensic individualization.
- Utilize theories, techniques and practices to all criminal and civil investigation.
- Use investigative techniques in the processing and interpretation of evidence of computer and multimedia forensics.
- Analyze the legal, ethical, and constitutional tensions between the interests of society, and the rights of individuals in connection with various criminal procedures and contexts.
- Integrate scientific research methodology to explore issues in forensic science.

### Degree Requirements

To receive an MFS, students must complete at least 54 quarter units of graduate coursework. A total of 13.5 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and provided the units were not used in earning another advanced degree. Students should refer to the section on graduate admission requirements for specific information regarding application and evaluation.

Students must have an undergraduate degree in a laboratory science in order to enroll in the MFS with a Specialization in Criminalistics. The MFS with a Specialization in Investigation does not have a specific major requirement for the undergraduate degree.

For students in the BS in Criminal Justice Administration/MFS transition program, the University will waive the forensic sciences course(s) taken as part of the bachelor's degree (see BS in Criminal Justice transition program), but these students must still meet the residency requirements for the MFS.

Students should consult the academic director to determine at what point in the sequence they may enter the program.

### Core Requirements

(8 courses; 36 quarter units)

FSC 630	Forensic Pathology I
FSC 642	Forensic Pathology II
	<i>Prerequisite: FSC 630</i>
FSC 635	Forensic Anthropology
FSC 648*	Forensic Photography
FSC 647	Crime Scene Investigation
FSC 623	Fingerprint Analysis
FSC 621	Digital Evidence
FSC 662**	Supervised Research Project
	<i>Prerequisite: Satisfactory completion of all FSC courses, including area of specialization and/or elective courses or obtain approval of the Program Lead.</i>

\* Students will be required to obtain their own photographic equipment, which must meet the requirements of the course. All digital cameras to be used must meet the same standards as film based forensic cameras, which includes: interchangeable lenses, manual settings for shutter and aperture, and the ability to use an external, off camera electronic flash attachment.

\*\* This is a two-month, one-meeting-per week course with a significant research component. Grading is by H, S, or U. Students who do not complete the Research Project within the two month period are eligible, at the discretion of the instructor, to receive a grade of ?IP? with a maximum of a onetime six-month extension. Students who do not complete the project at the end of the extension period will need to retake FSC 662. No grade of "I" (Incomplete) can be given for this course.

### Program Electives

(2 courses; 9 quarter units)

Students can take courses with the preapproval of the Program Lead who should be consulted prior to scheduling of any elective.

The following is recommended:

FSC 651 Topics in Forensic Sciences

### Specialization in Criminalistics

This Specialization in Criminalistics requires that students have an undergraduate degree in physical science (chemistry, biology or chemistry/biology, laboratory science) or approval of the Program Lead. The program culminates in a supervised master's research project directed by full-time faculty and a committee of associate and core adjunct faculty selected by the students from their program.

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply the technical procedures and methods of collection, preservation, chain of custody, analysis, comparison and report preparation of the biological, trace and toxicological evidentiary evidence.

### Program Requirements

(4 courses; 18 quarter units)

FSC 632	Trace Evidence
FSC 633	Advanced Forensic Toxicology
FSC 634	Forensic Serology and DNA
FSC 636	Advanced Forensic DNA Analysis
	<i>Prerequisite: FSC 634</i>

### Specialization in Investigation

This Specialization in Investigation is designed to provide graduate education in the most current and advanced forensic investigative techniques available in the field, with a wide understanding of the concepts underlying the forensic sciences. This program is suitable for those students who are interested in pursuing a career in forensic crime and death investigations. The program also allows individuals who are currently working in forensic investigation areas to develop and upgrade their individual educational skills. The program also includes forensic-related writing and research. The program culminates in a supervised master's research project directed by full-time faculty and a committee of associate and core adjunct faculty selected by students from their program.

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply the technical procedures and methods of collection, preservation, chain of custody, analysis, comparison and report preparation of the biological, trace and toxicological evidentiary evidence.
- Evaluate the legal and psychological issues involved in competency to stand trial, diminished capacity, and insanity defenses.
- Apply profiling knowledge and crime scene analysis methods to crime scene variables.
- Analyze the legal, ethical, and constitutional tensions between the interests of society, and the rights of individuals in connection with various criminal procedures and contexts.
- Utilize theories, techniques and practices to all criminal and civil investigation.

### Program Requirements

(4 courses; 18 quarter units)

FSC 620	Advanced Criminalistics
FSC 643	Forensic Psychology
FSC 622	Law and Criminal Procedure
FSC 631	Major Case Investigation