

Madonna University

Forensic Science • College of Science & Mathematics

About the Program

Overview

The Forensic Science major seeks to provide students with basic knowledge and laboratory skills in the biological and physical sciences that will prepare graduates for employment as forensic technicians. This program was designed with the assistance of regional crime lab supervisors to meet the qualifications needed for practitioners in this field.

Unique Features

- Liberal arts context
- Scholarly instructors available to work with the student in both the classroom and laboratory
- Eligible for accreditation by the American Academy of Forensic Sciences

Job Activities

Forensic science technicians investigate crimes by analyzing physical evidence, working in both public and private laboratory settings. Often, they specialize in areas such as DNA analysis or firearm examination or perform tests on weapons or substances such as fiber, hair, tissue, or body fluids to determine significance to the investigation. They also prepare reports to document their findings and the laboratory techniques used. When criminal cases come to trial, forensic science technicians often provide testimony as expert witnesses on specific laboratory findings by identifying and classifying evidence collected at the crime scene.

Additional Program Requirements:

- Hepatitis immunization
- Background check
- Participation in a national standardized assessment exam (e.g., American Board of Criminalists) prior to graduation.

Plan of Study – Bachelor of Science in Forensic Science

Required Major Courses:

BIO 1030	General Biology I	4 s.h.
BIO 2260	Microbiology	4 s.h.
BIO 3010	Genetics	4 s.h.
BIO 4410	Molecular Biology	3 s.h.
CHM 1110	General Chem I	4 s.h.
CHM 1120	General Chem II	4 s.h.
CHM 2210	Organic Chem I	4 s.h.
CHM 2220	Organic Chem II	4 s.h.
CHM 3310	Quantitative Analysis	4 s.h.
CHM 3610	Biochemistry I	4 s.h.
CHM 4510	Instrumental Analysis	4 s.h.
FOR 1010	Introduction to Forensic Science	3 s.h.
FOR 3050	Criminal Procedure	3 s.h.
FOR 3110	Criminal Investigation	3 s.h.
FOR 3210	Criminology	3 s.h.
FOR 4620	Methods in Forensic Biology	3 s.h.
FOR 4630	Methods in Forensic Chemistry	3 s.h.
FOR 4950	Senior Seminar	2 s.h.

Electives

3 s.h.
selected from: 66 s.h.

BIO 3210	General Ecology (3 s.h.)	
BIO 3280	Immunology (4 s.h.)	
BIO 4010	Population Genetics (FOR) (3 s.h.)	
CHM 3620	Biochemistry II (4 s.h.)	
CHM 4410	Physical Chemistry I (4 s.h.)	
CHM 4420	Physical Chemistry II (4 s.h.)	
CHM 3510	Advanced Inorganic Chemistry (4 s.h.)	
CJ 2650	Criminal Law (3 s.h.)	
CJ 4230	Homicide Investigation (3 s.h.)	
FOR 4910	Cooperative Education (1-3 s.h.)	
FOR 4920	Cooperative Education (1-3 s.h.)	
FOR 4930	Internship in Forensic Science (1-4 s.h.)	
MTH 2520	Calculus w/Analytic Geometry II (4 s.h.)	
PSY 3820	Forensic Psychology (3 s.h.)	

Required Support Courses:

MTH 2300	Business Calculus <u>or</u>	
MTH 2510	Calculus w/Analytic Geometry I	4-5 s.h.
MTH 2350	Probability & Statistics	4 s.h.
PHY 2530	Gen Physics I	4 s.h.
PHY 2540	Gen Physics II	4 s.h.

Support Total 16-17 s.h.

Total Major Semester Hours 82-83 s.h.

You may also request an information sheet on Dual-Track: Forensic Science and Criminal Justice.



Certificate of Completion in DNA Analysis

Required Certificate Courses:

BIO 3010 Genetics	4 s.h.
BIO 3610 Molecular Biology	3 s.h.
BIO 4010 Population Genetics (FOR)	3 s.h.
CHM 3610 Biochemistry I	4 s.h.
FOR 4620 Forensic Biology	3 s.h.
MTH 2350 Probability and Statistics	4 s.h.
	21 s.h.

For Admissions Information

Application and any transcripts are to be submitted directly to:

Office of Undergraduate
Admissions

Madonna University
36600 Schoolcraft Road
Livonia, Michigan 48150-1176
(734) 432-5339
(800) 852-4951, ext. 5339
FAX: (734) 432-5424

Web: www.madonna.edu
E-mail: admissions@madonna.edu

For Program Information

Ellen Oliver Smith, Ph.D.
Forensic Science Program Director
Dept. of Biological & Health
Sciences

Madonna University
36600 Schoolcraft Road
Livonia, Michigan 48150-1176

(734) 432-5514
(800) 852-4951, ext. 5514
FAX: (734) 432-5393

Web: www.madonna.edu
E-mail: esmith@madonna.edu

Madonna University reserves the right to withdraw or modify information in this brochure.

See Advisor/Admissions Office for current information.

Madonna University guarantees the right to equal educational opportunity without discrimination because of race, religion, sex, national origin, age, or disabilities.

Forensic Science Post-Bachelor Certificate of Achievement

The Post-Bachelor Certificate of Achievement in Forensic Science is available to degree-holding students whose prior degree majors are too heavy in science to allow a Second Bachelor program in Forensic Science.

Required Certificate Courses:

Each student's plan is individually written to cover those courses of the total 85-87 s.h. listed that were not taken for the original bachelor degree. The plan requires all of the following courses not previously completed with a grade of C (2.0) or better:

Forensic Science Required Major Courses	66 s.h.
Forensic Science Required Support Courses	16-17 s.h.
RST 4110 Medical Ethics (PHL) <u>or</u>	
RST 4140 Life/Death Issues	3-4 s.h.
Total	85-87 s.h.

While the minimum requirement for the certificate is 30 s.h. post-bachelor at Madonna University, meeting all requirements makes the plans of some students longer. For those for whom the plan might be short, additional courses to fulfill the 30 s.h. residency requirement are available from the Forensic Science electives group.

Science and mathematics courses taken more than seven years previously may need to be repeated, at the discretion of the program director. (This policy is general across all College of Science and Mathematics programs.)

Program Goals

- Integrate theoretical and practical knowledge of contemporary instrumentation and methodology in forensic science technology and apply them to the analysis of forensic evidence.
- Demonstrate self-reliant technical skills in documenting scientific laboratory observations.
- Apply ethical principles in conducting forensic analysis.
- Display a sensitive approach to current problems and trends in forensic science.
- Meet nationally recognized standards for certification in forensic science (e.g., American Board of Criminalists).

Employment Outlook

While forensic laboratory job openings in Michigan currently are rare, nationally the employment outlook continues to remain strong because:

- Reliance on civilian personnel by police agencies is increasing.
- Analysis of samples is needed for DNA databanks of convicted offenders (state and national).
- Re-opening of old cases mandates additional technician time and expertise.
- Evidence related to acts of terrorism, including microorganisms, must be examined by workers familiar with microbes.
- Increasingly, private labs are being used by defense teams and private investigators.