FORENSIC SCIENCE, BA

Contact

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Description

Professionals in technically demanding fields are commonly asked to apply their expertise to other seemingly unrelated disciplines. As a result, they must have a comprehensive understanding of not only their own field, but also secondary knowledge of another broadly based, often interdisciplinary, field of study. A chemist might lend his or her expertise to a matter of legal or ethical importance. A curator might evaluate scientific and historical evidence about a painting's authenticity. A journalist might research a story involving science, medicine, and technology.

Forensic Science is a 25- to 26-credit Integrated Learning Major (ILM) that can complement a variety of other majors, including Anthropology, Biochemistry, Biology, Chemistry, Earth Sciences, Linguistics, Mathematics, Physics, Psychology, and Sociology. Other majors will be considered based on student proposals that include appropriate connection courses and with the approval of the director.

This ILM is designed to provide a broad exposure to the field, increasing employability in a variety of settings related to Forensic Science. Like all ILMs, Forensic Science includes a capstone project where students make contacts with practitioners in their field, complete a research project, and present their findings.

This Integrative Learning Major is intended to provide a broad exposure to the field of forensic science, increasing employability in a variety of careers that relate to forensic science. However, this major will not generally be sufficient to prepare students for forensic laboratory positions unless it is paired with a chemistry, biochemistry, or biology major. Additionally, students interested in a job in the forensic DNA field should be aware that certain undergraduate coursework is required for laboratory positions in the US including courses that cover the subjects of molecular biology, biochemistry, genetics, and statistics.

This ILM may be combined with any other undergraduate major with approval by the program director. While certain majors typically serve as the base major for this ILM, students are encouraged to meet with their forensic science advisor to determine their best choice of a base major. Dually enrolled students must have a base major within Arts and Sciences|Maxwell.

Student Learning Outcomes

1. Scientific Knowledge and Principles - Explain the scientific foundational principles of forensic science and how they relate to area of major. Demonstrate an understanding of the relationship between forensic science and the legal system.
2. Research and Critical Thinking - Demonstrate the ability to use a rationale-based approach in problem solving and/or to evaluate and analyze forensic practices as related to the reliability, accuracy, and limitations of forensic science.
3. Ethics and Quality- Become oriented in the ethical standards, integrity, professionalism, and quality assurance protocols and standards in the field of forensic science.
4. Practical Implementation - Contact an expert and use their feedback to design and conduct a research project.
5. Communication and Collaboration - Effectively communicate scientific principles, research question and project investigation with objectivity and transparency to stakeholders including scientists and non-scientists.

Required

GPA of at least 2.0; and complete all the requirements of one of the following majors: Anthropology, Biology, Biochemistry, Chemistry, Earth Sciences, Linguistics, Mathematics, Physics, Psychology, and Sociology. Other majors will be considered based on student proposals that include appropriate connection courses and with the approval of the program director.

Code	Title	Credits
Required Entry Courses		
CHE 113	Forensic Science (this requirement can alos be satisfied by CHE 106 and CHE 107 or CHE 109 and CHE 129, or BIO 121 and BIO 122)	4
FSC 306	Advanced Forensic Science	3
MAT 221	Elementary Probability and Statistics I (PSY 252 may be taken instead by PSY majors)	4
Connection Courses		
Must take one designated for the primary major		3
FSC 332	Intro to Forensic Anthropology	
ANT 433	Human Osteology (for ANT majors)	
or ANT 436	Bioarchaeology	
FSC 444	Forensic Chemical Analysis (for BIO, BCM majors)	
or BIO 326	Genetics	
or BIO 322	Cell and Molecular Biology	
FSC 444	Forensic Chemical Analysis (for CHE, EAR, PHY majors)	
LIN 375	Forensic Linguistics (for LIN majors)	
MAT 521	Introduction to Probability (for MAT majors)	
PSY 474	Forensic Psychology (for PSY majors)	
or FSC 452	Forensic Mental Health	
SOC 334	Criminal Justice (for SOC majors)	
or SOC 397	Criminology	
Electives		
Three courses; any FSC course may be used even if not listed; courses used for other requirements cannot be also counted as electives:		9
FSC 332	Intro to Forensic Anthropology	
FSC 434	Anatomy & Physiology for Forensic Medicine	
FSC 435	Medicolegal Death Investigation I	
FSC 440	Special Topics in Advanced Forensics	
FSC 441	Forensic Analysis of Biological Evidence with lab	
FSC 444	Forensic Chemical Analysis	

FSC 451	Forensic Pathology	
FSC 452	Forensic Mental Health	
FSC 453	Forensic Toxicology	
FSC 455	Computational Forensics	
FSC 456	Mobile Forensics and Social Networking	
FSC/BIO 457	Principles of Human Toxicology	
FSC 461	Firearms and Impression Evidence	
FSC 463	Bloodstain Pattern Analysis with lab	
FSC 464	Latent Print Processing with lab	
FSC 465	Latent Prints with practicum	
FSC 467	Forensic Photography with lab	
FSC 468	Crime Scene Investigation with lab	
FSC/BIO 469	Science of Countering Weapons of Mass Destruction	
FSC/BIO 472	Advanced Light Microscopy	
FSC 473	Mechanics of Modern Firearms with lab	
FSC 474	Forensic DNA Analysis with practicum	
FSC 475	Latent Prints II	
FSC/BIO 476	Cold Cases	
FSC 478	Crime Scene Investigation II with lab	
FSC 479	Microbial Forensic Science	
ANT 433	Human Osteology	
ANT 434	Anthropology of Death	
ANT 436	Bioarchaeology	
BIO 322	Cell and Molecular Biology	
BIO 326	Genetics	
BIO 434	Advanced Microscopy Techniques in Cell and Developmental Biology Lab	
BIO 462	Molecular Genetics	
BIO 463	Molecular Biotechnology	
CHE 113	Forensic Science	
CHE 335	Chemical and Biochemical Analysis with Laboratory	
CHE 575	Organic Spectroscopy	
IST 402	Digital Forensics	
LIN 375	Forensic Linguistics	
MAT 521	Introduction to Probability	
NUC 520	Radiochemistry, Nuclear Fuel Reprocessing and Nonproliferation	
PSY 474	Forensic Psychology	
SOC 334	Criminal Justice	
SOC 397	Criminology	
Required Capstone		
FSC 498	Capstone Seminar in Forensic Science	3
Total Credits		**26**

College of Arts and Sciences Requirements

For all Arts and Sciences|Maxwell students, successful completion of a bachelor's degree in this major requires a minimum of 120 credits, 96 of which must be Arts and Sciences|Maxwell credits, completion of the Liberal Arts Core (https://coursecatalog.syracuse.edu/undergraduate/arts-sciences/#text) requirements, and the requirements for this major (30 credits) that are listed above.

Dual Enrollments:

Students dually enrolled in **Newhouse*** and Arts and Sciences|Maxwell will complete a minimum of 122 credits, with at least 90 credits in Arts and Sciences|Maxwell coursework and an Arts and Sciences|Maxwell major.

*Students dually enrolled in the College of Arts and Sciences|Maxwell as first year students must complete the Liberal Arts Core (https://coursecatalog.syracuse.edu/undergraduate/arts-sciences/#text). Students who transfer to the dual program after their first year as singly enrolled students in the Newhouse School will satisfy general requirements for the dual degree program by completing the Newhouse Core Requirements.

Undergraduate University Requirements

The following requirements and experiences apply to all Syracuse University Undergraduate matriculated degree programs.

- IDEA Course Requirement (https://coursecatalog.syracuse.edu/undergraduate/idea-course-requirement/)
- First Year Seminar (https://coursecatalog.syracuse.edu/undergraduate/courses/fys/)