FORENSIC SCIENCE MINOR

Forensic Science is an interdisciplinary academic area of study that draws from a wide range of disciplines including Biology, Biotechnology, Chemistry, Computer Science and Criminal Justice. The mission of the Forensic Science minor is to provide a quality educational experience that will enable students to reach the highest standards of academic excellence through a generalist perspective on the forensic sciences. The program will provide opportunities for the analysis and application of knowledge through exposure to a wide variety of scientific disciplines and professional skill sets.

Requirements for a Forensic Science Minor: 19 credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BT-101</td>
<td>Introduction to Forensic Sciences</td>
<td>10</td>
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<tr>
<td>CJ-103</td>
<td>Evidence Collection and Crime Scene Preservation</td>
<td>3</td>
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<tr>
<td>CJ-401</td>
<td>Forensic Science Senior Seminar</td>
<td>3</td>
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<td>Electives from Biotechnology, Chemistry, Computer Science, Criminal Justice or selection approved by the FS Director</td>
<td>9</td>
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<td>Total Credits</td>
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<td>19</td>
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The Forensic Science Minor is an interdisciplinary program drawing from the faculty of multiple departments at Worcester State University.

- Anne M. Falke, Professor (1997), B.A. University of Rhode Island; Ph.D. University of New Hampshire
- Aparna Mahadev, Professor (1999), B.Sc., M.Sc. University of Madras India; M.S. Indian Institute of Technology India; Ph.D. University of Waterloo Canada
- Penny L. Martin, Director of Forensic Science and Associate Professor (2003), B.S. Weber State College, Utah; M.A. Humboldt State University; Ph.D. University of Miami
- Michael Mayko, Instructor, B.S., M.S. Worcester State University
- Stephen A. Moreale, Professor (2007), B.S. University of Massachusetts, Boston; M.P.A. Golden Gate University; D.P.A. Nova Southeastern University
- Maura Collins Pavao, Professor (2001), B.S. Worcester Polytechnic Institute; M.S., Ph.D. Rutgers University

BT-101 Introduction to Forensic Sciences
LASC Categories: NSP, HBS, LAB
Survey of forensic case studies and the laboratory techniques used to solve crimes including microscopy, chromatography, ballistics and DNA analysis.
Every year. 4 Credits

BT-240 Research Experience for Undergraduates
Lab and/or field based research on a specific research topic under the supervision of a faculty member.
1-6 Credits

BT-408 Directed Study: Biotechnology
Directed study offers students, who because of unusual circumstances may be unable to register for a course when offered, the opportunity to complete an existing course with an established syllabus under the direction and with agreement from a faculty member.
3 Credits

BT-440 Advanced Research Experience
Advanced lab and/or field based research on a specific research topic under the supervision of a faculty member.
1-6 Credits

BT-450 Internship in Biotechnology
Qualified upper-level biotechnology majors can learn experimental techniques by working in a company laboratory or a professional manufacturing environment.
Fall and Spring and every year. 3-6 Credits

CH-250 Instrumental Technology for Forensic Analysis
LASC Categories: NSP, QAC, NLL
Prerequisites: 1 Groups # Take CH-120 and CH-121; Minimum grade C-; # Take CH-112; Minimum grade C-;
Introduction to instrumental techniques used to analyze crime scene evidence. Includes HPLC, IR spectrometry, Atomic spectroscopy, and GC-MS. Three lecture hours and three lab hours per week.
Other or on demand. 4 Credits

CH-408 Directed Study: Chemistry
Directed study offers students, who because of unusual circumstances may be unable to register for a course when offered, the opportunity to complete an existing course with an established syllabus under the direction and with agreement from a faculty member.
3-4 Credits

CH-480 Internship: Chemistry
Project completed at an institution other than Worcester State by a student with a non-Worcester State sponsor and Worcester State liaison.
Every year. 1-6 Credits

CH-490 Independent Study in Chemistry
Advanced independent work on a research problem in chemistry mutually agreed to by the student and the instructor.
Every year. 1-6 Credits

CJ-103 Evidence Collection and Crime Scene Preservation
Prerequisites: BT-101
This course provides students with a theoretical framework for the practice of evidence collection and crime scene preservation. Various techniques and protocols for investigation will be reviewed and linked to methods of collection of physical evidence, as well as the interpretation, accountability and preservation of data. Techniques of documentation and case preparation will also be explored.
Every 2-3 years. 3 Credits

CJ-398 Field Practicum in Criminal Justice
The field practicum class involves the student’s participation in the day-to-day functions of a publicly funded criminal justice agency. The course is designed to provide students with an opportunity to translate the theoretically oriented classroom experience into practical application.
Every year. 3-6 Credits

CJ-399 Independent Study in Criminal Justice
Individual research and independent study related to a particular aspect of criminal justice that is of special interest.
Every year. 3-6 Credits
CJ-401 Forensic Science Senior Seminar
**Prerequisites:** BT-101 and CJ-103
The senior seminar is designed to bring together the diverse areas of knowledge that the student has gained in the area of forensic science. It is a synthesis of classroom knowledge applied to real world forensic science issues. Topics covered emphasize the use of critical thinking skills to analyze, integrate and synthesize research and case studies relevant to the forensic sciences.
Spring only and every year. 3 Credits

CJ-408 Directed Study: Criminal Justice
Directed study offers students, who because of unusual circumstances may be unable to register for a course when offered, the opportunity to complete an existing course with an established syllabus under the direction and with agreement from a faculty member.
Other or on demand. 3 Credits

CS-165 Digital Forensics
**Prerequisites:** CS-155
Digital forensics investigation; data acquisition; processing crime and incident scenes; multiple operating systems and file formats; digital forensics tools, analysis and validation.
Every year. 3 Credits

CS-497 Selected Topics: Computer Science
**Prerequisites:** CS-282
Selection of topics of mutual interest to student and faculty.
Other or on demand. 1-6 Credits

CS-498 Internship: Computer Science
**Prerequisites:** 21 credit hours in Computer Science courses including CS-282
Working in and for an organization where skills can be tested in real situations in order to gain experience, increase knowledge in various functional areas, and establish important contacts with an organization.
Every year. 3 Credits

CS-499 Independent Study: Computer Science
**Prerequisites:** 18 credit hours in Computer Science including CS-282.
An opportunity for advanced students to examine topics not normally taught in other mathematics or computer courses. Geared to the interests of both the student and the instructor.
Every year. 1-6 Credits