

# FORENSIC SCIENCE

<b>Graduate Program Head</b>	Santhosh Girirajan
<b>Program Code</b>	FRNSC
<b>Campus(es)</b>	University Park (M.P.S.)
<b>Degrees Conferred</b>	Master of Professional Studies (M.P.S.)
<b>The Graduate Faculty</b>	View ( <a href="https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=FRNSC">https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=FRNSC</a> )

The Master of Professional Studies (M.P.S.) in Forensic Science is a professional master's degree program housed in the Eberly College of Science. The curriculum provides students with innovative, hands-on, multidisciplinary learning approaches to criminalistics, forensic chemistry, forensic molecular biology, crime scene investigation, courtroom proceedings, and relevant ethical and social issues. Students have the option to select from one of two emphases, either forensic chemistry or forensic molecular biology. In addition, students will develop strong research and presentation skills.

## Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<https://gradschool.psu.edu/graduate-admissions/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

The Master of Professional Studies degree in Forensic Science is appropriate for students with a baccalaureate degree in the biological sciences, chemistry, or a related field of study. Applicants are required to have a minimum cumulative GPA of 3.00 (on a 4.00 scale) in their undergraduate degree. Submission of GRE scores is optional. In addition, each applicant is asked to provide a personal statement describing professional interests and career goals and two letters of reference. Letters of reference should be submitted by the student's undergraduate adviser, research adviser, an instructor for an upper level course taken as part of their major, internship supervisor, or employer (only if the applicant was employed in a position related to forensic science or a relevant natural/physical science). Individuals providing letters of reference will also be required to complete a subjective evaluation of the applicant. Official transcripts from each institution of higher education attended as an undergraduate or graduate student must be submitted. Applicants may be selected for interview by members of the forensic science faculty. Admission to the program is based upon a thorough review of all applicant qualifications.

The language of instruction at Penn State is English. English proficiency test scores (TOEFL/IELTS) may be required for international applicants. See GCAC-305 Admission Requirements for International Students (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students/>) for more information.

## Degree Requirements

### Master of Professional Studies (M.P.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

## Chemistry Emphasis

A minimum of 42 credits are required for completion of the program, with at least 18 credits from courses at the 500 and 800-level. Students must take 25 credits of required coursework, 11 additional credits of Chemistry-based coursework, and at least 6 credits of Elective coursework. Elective credits are selected from courses that are determined appropriate based on educational interest and career track. A research project with a comprehensive research paper of publication quality, and accompanying oral presentation, serve as the culminating experience for completion of the M.P.S. in Forensic Science.

## Molecular Biology Emphasis

A minimum of 42 credits are required for completion of the program, with at least 18 credits from courses at the 500 and 800-level. Students must take 25 credits of required coursework, 11 additional credits of Molecular Biology-based coursework, and at least 6 credits of Elective coursework. Elective credits are selected from courses that are determined appropriate based on educational interest and career track. A research project with a comprehensive research paper of publication quality, and accompanying oral presentation, serve as the culminating experience for completion of the M.P.S. in Forensic Science.

Code	Title	Credits
<b>Required Courses</b>		
FRNSC 400	Courtroom Proceedings and Testimony	1
FRNSC 410	A Scientific Approach to Crime Scene Investigation	2
FRNSC 411	Criminalistics: Trace and Impression Evidence	3
FRNSC 413	Criminalistics: Biology	3
FRNSC 415W	Laboratory in Crime Scene Investigation	2
FRNSC 532	Drug Chemistry and Toxicology	3
FRNSC 801	Professional Development in Forensic Science <sup>1</sup>	3
FRNSC 841	Forensic Seminar Series	1
FRNSC 861	Ethics in Forensic Science	1
<b>Additional Courses</b>		
Select an emphasis area and complete required course work from a list of approved emphasis courses maintained by the program office.		11
<b>Electives</b>		
Select at least 6 credits of 400, 500, or 800 level coursework relevant to the emphasis in consultation with a program adviser.		6
<b>Culminating Experience</b>		
FRNSC 894	Research Projects in Forensic Science (Research paper and oral presentation.)	6
<b>Total Credits</b>		<b>42</b>

## Minor

A graduate minor is available in any approved graduate major or dual-title program. The default requirements for a graduate minor are stated in Graduate Council policies listed under GCAC-600 Research Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>) and GCAC-700 Professional Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>), depending on the type of degree the student is pursuing:

- GCAC-611 Minor - Research Doctorate (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-611-minor-research-doctorate/>)

- GCAC-641 Minor - Research Master's (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-641-minor-research-masters/>)
- GCAC-709 Minor - Professional Doctorate (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-709-professional-doctoral-minor/>)
- GCAC-741 Minor - Professional Master's (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-741-masters-minor-professional/>)

## Student Aid

Graduate assistantships available to students in this program and other forms of student aid are described in the Tuition & Funding (<https://gradschool.psu.edu/graduate-funding/>) section of The Graduate School's website. Students on graduate assistantships must adhere to the course load limits (<https://gradschool.psu.edu/graduate-education-policies/gsad/gsad-900/gsad-901-graduate-assistants/>) set by The Graduate School.

Two scholarship opportunities are available for Forensic Science graduate students are the Walter K. and Lynn-Marie C. Wieland Graduate Scholarship in Forensic Science and the William Elwood Graduate Student Scholarship in Forensic Science. The Wieland Scholarship provides full tuition and stipend for one student based on academic excellence. The Elwood Scholarship provides an award based on academic excellence.

## Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Forensic Science (FRNSC) Course List (<https://bulletins.psu.edu/university-course-descriptions/graduate/frnsc/>)

## Learning Outcomes

1. **KNOW:** Students will develop an understanding of the scientific principles of crime scene investigation and reconstruction, including evidence collection and preservation.
2. **APPLY/CREATE:** Students will receive intensive hands-on training in forensic laboratory methodologies with respect to the analysis of evidence.
3. **COMMUNICATE:** Students will develop written communication skills for presentation of their findings in accordance with established professional guidelines.
4. **COMMUNICATE:** Students will develop oral communication skills for discussing the scientific method in a laboratory setting and effectively testifying in a court of law.  
**THINK:** Students will develop an understanding of the importance of the interaction between law enforcement, scientists and the legal profession.
5. **PROFESSIONAL PRACTICE:** Students will develop an understanding of the importance of professionalism and ethical behavior in the forensic science community.

## Contact

<b>Campus</b>	University Park
<b>Graduate Program Head</b>	Santhosh Girirajan
<b>Director of Graduate Studies (DGS) or Professor-in-Charge (PIC)</b>	Jason Brooks
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<b>Program Website</b>	View ( <a href="https://science.psu.edu/bmb/forensics/">https://science.psu.edu/bmb/forensics/</a> )