

Forensic Science



WHAT IS FORENSIC SCIENCE?

“Forensics” originates from the Latin word forensis, which means public, to the public discussion or debate, argumentative, and rhetorical. Today, however, the more modern definition of “Forensic” is that which relates to or is suitable to a court of law. Therefore, Forensic Science is science used for the purpose of law. Forensic Science is an occupation found all over the world, and it aims to resolve civil disputes, to justly enforce criminal laws and government regulations, and to protect public health. With the goal of seeking truth and justice in a legal proceeding, a job in this field focuses on finding and processing objective and unbiased evidence.

If you seek a rewarding job that lies at the cross sections of science, public health, and public safety, Forensic Science may be right for you!

WHAT DO FORENSIC SCIENTISTS DO?

Forensic scientists must be accurate, methodical, detailed and above all, unbiased. The ability to keep detailed notes and to write clear, concise, and accurate reports is vital.

- Examine and provide analysis of items provided to them Personally go to the scene to conduct an on-site analysis, gather evidence or document facts for later analysis.
- Identify and then conduct the examinations, tests or analyses that are appropriate and relevant to the issue in dispute.
- Interpret results and write a clear, concise report documenting the steps followed to reach this conclusion.
- A forensic scientist with a solid, documented background of education, training and

experience in the scientific discipline used to conduct the examinations, testing or analysis about which the forensic scientist wants to testify, would qualify as an expert witness in a court of law.

DISCIPLINES WITHIN FORENSIC SCIENCE

The American Academy of Forensic Sciences is organized into eleven sections representing the different areas of interest, education, and expertise of individual members. In addition to educational requirements, most fields will require Board certification.

- **Anthropology:** reconstruct information about a person’s life and death through the study of the skeleton. Often earn a PhD in Anthropology.
- **Criminalistics:** analyze physical evidence using standardized, scientific processing techniques and report the results within the justice system. Often earn a MS in forensic science.
- **Digital and Multimedia Services:** a developing field that applies forensic practices to digital data. Often earn a BS in COS/Engineering and train through an apprenticeship.
- **Engineering Sciences:** “problem solvers who are brought into an investigation with no clear definition as to what they are going to do, but with the expectation that they will do something useful” using their disciplinary training. Often specialists within their discipline.
- **General:** spans the multitude of ways that forensic science is practiced but does not fit within the narrower definitions for other sections of the AAFS.
- **Jurisprudence:** specialize in providing counsel during matters being tried in court. Must have achieved a law degree.
- **Odontology:** Forensic dentistry is the application of dental knowledge, primarily for the identification of human remains. Must attain a DDS/DMD degree.

FORENSIC SCIENCE

- **Pathology/Biology:** Forensic pathologists are MDs/DOs who perform autopsies to determine cause and manner of death. Forensic biologists apply life sciences knowledge to investigations; they typically possess a MS and/or PhD in a biological science.
- **Psychiatry & Behavioral Sciences:** work with attorneys and judges to offer expert testimony and provide guidance on assessment of issues such as competence and mental illness as it relates to criminal responsibility. May be psychiatrists with an MD/DO degree or psychologists, who have completed a PhD/PsyD. Psychologists can complete a post-doctoral fellowship in forensic psychology.
- **Questioned Documents:** provide analysis of writing instruments, writing mediums, and office machine products. Often have a bachelor's degree in forensic science or a related area; must then complete a minimum 24 month training program.
- **Toxicology:** investigates how drugs and chemicals may have factored into an issue under investigation within three subfields: postmortem forensic toxicology, human performance toxicology, and forensic drug testing. A bachelor's degree with solid life/physical science training followed by higher education is common.

SAMPLE GRADUATE SCHOOLS FOR FORENSIC SCIENCE

The Forensic Science Education Programs Accreditation Commission (FEPAC) awarded its first accreditation in 2004. Attending an FEPAC accredited program ensures that the program meets educational criteria deemed valuable within the profession. Other criteria you may use to select schools include curriculum, access to forensic laboratory and internship opportunities, career placement rates, and location.

- Michigan State University
 - MS in Forensic Science
- Boston University School of Medicine
 - MS in Biomedical Forensic Science MS in Forensic Anthropology
- John Jay College of Criminal Justice
 - MS in Forensic Science
- University of Illinois Chicago College of Pharmacy
 - MS in Forensic Science

COMMON APPLICATION REQUIREMENTS FOR MS/PHD PROGRAMS

- Application deadlines will typically be in the semester before expected matriculation.
- Most programs will require a personal statement, GRE or MCAT, CV/resume, and letters of recommendation.
- Some programs will have a minimum GPA and/or GRE requirement.
- Applicants should have academic or experiential training appropriate to the concentration sought. For example, applicants interested in the Forensic Chemistry concentration should have a BS in Chemistry, Biochemistry, or Chemical Engineering; those interested in the Forensic Biology concentration should have a bachelors in Biology,
- Human Biology, Cell and Molecular Biology, Genetics, Biochemistry, etc.; and applicants interested in the Forensic Anthropology concentration should have a bachelors in Anthropology with an emphasis in Physical Anthropology.
- Criminal backgrounds checks are often required

FOR ADDITIONAL INFORMATION

- American Academy of Forensic Sciences: aaafs.org
- Explore Health Careers Forensic Science Profile: explorehealthcareers.org/field/forensic-science
- Career Services resources: careerservices.princeton.edu/undergraduate-students/major-career-choices/industries-professions/forensics-criminology
- List of FEPAC Accredited Programs: fepac-edu.org/accredited-universities
- Forensic Scientist Hall of Fame: forensicsciencetechnician.net/forensics-hall-of-fame-10-forensic-scientists-who-made-history
- NJ Association of Forensic Scientists: njafs.org

