### FORENSIC SCIENCE

What can I do with this major?

<table>
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<tr>
<th>AREAS</th>
<th>EMPLOYERS</th>
<th>STRATEGIES</th>
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<tbody>
<tr>
<td>Many students specialize in forensic science at the graduate level. Some areas of specialization follow.</td>
<td>Forensic laboratories: Medical examiner, Coroner, Police department, Sheriff, Crime, District attorney</td>
<td>Complete a bachelor's degree in biology, molecular biology, chemistry, physics or a related science. Supplement major with math, English, public speaking and forensic science classes.</td>
</tr>
</tbody>
</table>
| **CRIMINALISTICS**
Crime Scene Reconstruction and Mapping
Fingerprint Examination
Firearm and Toolmark Identification
Fire and Explosives Investigation
Trace Evidence Collection
DNA Collection and Testing
Drug Analysis
Photography
Blood Spatter
Wildlife Forensics
Computer Evidence Examination/Computer Forensic Science | Federal agencies: Drug Enforcement Agency, Bureau of Alcohol, Tobacco and Firearms
U.S. Department of Justice
Federal Bureau of Investigation
Central Intelligence Agency
U.S. Secret Service
Federal Emergency Management Agency
U.S. Fish and Wildlife Service
Consulting firms | Choose courses with laboratory components to build instrumentation skills. |
| **TOXICOLOGY**
Ante-mortem Investigation (DUI)
Post-mortem Investigation
Drug Testing (sweat, hair, saliva, blood, urine, etc.):
  - Workplace
  - Crime-related Investigation (homicide, sexual assault)
Human Performance Monitoring
Animal Performance Monitoring
Environmental Contamination Testing | Laboratories: Law enforcement/crime, Hospital, Medical examiner, Coroner, Horseracing, Sports testing, Private, University, Government
Consulting firms | Seek experience though volunteer positions and/or internships in criminal justice settings. |
| **Laboratories:**
  - Law enforcement/crime
  - Hospital
  - Medical examiner
  - Coroner
  - Horseracing
  - Sports testing
  - Private
  - University
  - Government
  - Consulting firms | Consider completing a forensic research project in partnership with a professor. |
| **Consulting firms** | Join student chapters of professional organizations such as the Association for Crime Scene Reconstruction and the American Academy of Forensic Sciences. |
| **Laboratories** | Attain proficiency in writing and understanding scientific reports. |
| **Consulting firms** | Pursue certification by the American Board of Criminalistics. |
| **Laboratories** | Earn a master’s degree for advanced opportunities. |
| **Consulting firms** | Complete an undergraduate degree in a science such as chemistry, clinical chemistry, medicinal chemistry, pharmacology or related field. |
| **Laboratories** | Supplement degree with coursework in physics, computer science, statistics, math and forensic science. |
| **Consulting firms** | Seek laboratory experience to develop knowledge of analytical chemistry techniques and instruments such as gas and liquid chromatography, mass spectrophotometry, UV-Visible spectrophotometry, etc. |
TOXICOLOGY Continued

Develop excellent report writing and public speaking skills, as forensic toxicologists may be required to describe complex processes to people without scientific training.

Join student chapters of professional organizations such as the American Academy of Forensic Sciences.

Plan to pursue a master’s degree or Ph.D. in forensic toxicology for increased opportunities.

Investigate certification options offered by The American Board of Forensic Toxicology or The Forensic Toxicology Certification Board.

QUESTIONED DOCUMENTS

Document (handwritten, typed, printed, copied, etc.)
- Examination/Analysis
- Comparison
- Authentication
- Dating
- Alteration Detection
- Restoration

Police departments
Sheriff offices
Crime labs
Law offices
Insurance companies
Hospitals
Government agencies:
  - State and federal bureaus of investigation
  - U.S. Postal Inspection Service Headquarters
  - U.S. Secret Service
  - U.S. Armed Forces
Private practice

Obtain a bachelor's degree in a science discipline such as biology or chemistry.

Take courses in forensic document examination, forensic science, criminal justice or criminalistics.

Cultivate attention to detail and laboratory techniques used for physical and chemical analyses.

Develop communication skills including public speaking to provide expert testimonials and written communication skills for compiling reports.

Become familiar with various types of paper, ink, toner, correction material, printing processes, etc.

Maintain current knowledge of new technologies in the field through journals i.e. Journal of the American Society of Questioned Document Examiners and/or membership in professional organizations such as the American Academy of Forensic Sciences.

Plan to complete a two-year apprenticeship under the supervision of a recognized professional affiliated with the American Board of Forensic Document Examiners.
Forensic odontologists typically serve as general dentists and perform “on call” forensic examinations on contractual bases.

There is no specific major required to apply to dental school, though many students major in biological sciences. Research prerequisites for dental schools, and choose an undergraduate major that matches your interests and program requirements.

Develop attention to detail, fine motor skills and patience.

Earn superior undergraduate grades and secure strong faculty recommendations for admission to top-tier dental schools.

Prepare for the Dental Admissions Test (DAT), as DAT scores are a major consideration for acceptance into dental school.

Plan to shadow dentists and conduct informational interviews, particularly with those who perform forensic examinations.

Join student chapters of related organizations such as The American Society of Forensic Odontology and/or the American Academy of Forensic Sciences.

Expect to spend about eight years in school, four at the undergraduate level and four for dental school.

Pursue certification offered by the American Board of Forensic Odontology, which requires documentation of work in the field and examinations.

**ODONTOLOGY**
- Post-mortem Identification (mass fatalities, homicide)
- Age Estimation
- Bite Mark Analysis (assault, abuse)
- DNA Collection and Testing (salivary)
- Dental Malpractice

**AREAS**

**EMPLOYERS**
- Medical examiners
- Coroners
- Government agencies
- U.S. Armed Forces
- Law firms
- Clinics
- Private practice

**STRATEGIES**

Medical examiners
Coroners
Government agencies
U.S. Armed Forces
Law firms
Clinics
Private practice

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Forensic pathologists are medical doctors who have completed M.D. or D.O. degrees.

There is no specific major required to apply to medical school. However, most medical schools require significant study in biology, chemistry, organic chemistry and physics.

Research prerequisites for medical schools, and choose an undergraduate focus that meets program requirements.

Supplement coursework with forensic science classes to increase knowledge of principles, practices and techniques relevant to investigations.

Earn high grades and seek strong faculty recommendations for admission to medical school.

Prepare appropriately to earn a high Medical College Admission Test (MCAT) score.

Volunteer/shadow in healthcare environments such as hospitals, clinics or medical examiner offices.

Participate in student chapters of health or forensic-related professional organizations such as the National Association of Medical Examiners; pursue leadership roles.

Develop strong oral and written communication skills for speaking with non-medical professionals, including victim families and jurors, and for completing detailed reports.

Demonstrate manual dexterity, fine motor and problem solving skills.

Expect to spend 13-15 years in school, four at the undergraduate level, four for medical school and four to five years of residency. Candidates must complete an additional one to two year forensic pathology fellowship to sit for the American Board of Pathology forensic pathology examination/certification.

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<td>Post-mortem Investigation</td>
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<td>Post-mortem Identification</td>
<td>College and university medical schools</td>
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<td>Post-mortem Examination/Autopsy</td>
<td>Hospitals</td>
<td>Supplement coursework with forensic science classes to increase knowledge of principles, practices and techniques relevant to investigations.</td>
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<td>Cause/Time of Death Determination</td>
<td>Private organizations</td>
<td>Earn high grades and seek strong faculty recommendations for admission to medical school.</td>
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<tr>
<td>Physical Evidence Collection/Analysis</td>
<td></td>
<td>Prepare appropriately to earn a high Medical College Admission Test (MCAT) score.</td>
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<td>Disease Study</td>
<td></td>
<td>Volunteer/shadow in healthcare environments such as hospitals, clinics or medical examiner offices.</td>
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<td>Clinical Forensic Pathology (investigations of the living)</td>
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<td>Participate in student chapters of health or forensic-related professional organizations such as the National Association of Medical Examiners; pursue leadership roles.</td>
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<td>Injury Interpretation (abuse)</td>
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<td>Develop strong oral and written communication skills for speaking with non-medical professionals, including victim families and jurors, and for completing detailed reports.</td>
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<td>PHYSICAL EVIDENCE COLLECTION/ANALYSIS</td>
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### Areas

**Physical/Forensic Anthropology**
- Human Skeletal Recovery
- Human Skeletal Identification
  - Age Estimation
  - Ancestry, Sex, Stature Determination
  - Cause/Time of Death Determination
- Animal Skeletal Identification
- Soil/Vegetation Analysis
- Crime Scene Investigation
- Facial Reproduction
- Body Decomposition
- Injury Interpretation
- Teaching

### Employers

- Medical examiners
- Law enforcement agencies
- Private labs
- Local, state and federal government
- U.S. Armed Forces
  - Armed Forces Institute of Pathology
  - Joint POW/MIA Accounting Command (JPAC)
- Museums
- Non-government organizations i.e. ad hoc tribunals
- Colleges and universities

### Strategies

- Obtain a bachelor’s degree in anthropology or a related field such as biology or sociology with a minor in anthropology.
- Complete additional coursework in forensic science, statistics, archaeological recovery, GIS, anatomy and skeletal biology.
- Demonstrate curiosity, analytical thinking skills and the ability to persevere through potentially lengthy assignments.
- Develop strong oral communication skills, and learn to write detailed scientific reports.
- Seek student-membership in professional organizations such as the American Academy of Forensic Sciences.
- Gain research experience by assisting professors or other professionals with forensic anthropology casework.
- Seek internships or volunteer opportunities in museums, and prepare to relocate to access the most employment opportunities.
- Maintain a high grade point average and establish strong recommendations for admission to top graduate programs in the field.
- Plan to earn at least a Master’s degree in anthropology to access most jobs in the field.
- Earn a Ph.D. in physical or forensic anthropology for university and college faculty positions and advanced research posts. Many forensic anthropologists teach and conduct research in addition to casework.
- Research certification offered through the American Board of Forensic Anthropology, which requires demonstrated experience and examinations.
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<td><strong>FORENSIC PSYCHIATRY/PSYCHOLOGY</strong>&lt;br&gt;Criminal Responsibility Determination&lt;br&gt;Competency Determination&lt;br&gt;Risk Assessment&lt;br&gt;Sex Offender&lt;br&gt;Violence&lt;br&gt;Suicide&lt;br&gt;Evaluation&lt;br&gt;Involuntary Hospitalization&lt;br&gt;Right to Refuse Treatment&lt;br&gt;Disability Compensation&lt;br&gt;Family/Domestic Consultation&lt;br&gt;Custody&lt;br&gt;Juvenile Delinquency&lt;br&gt;Parental Fitness&lt;br&gt;Abuse&lt;br&gt;Adoption&lt;br&gt;Sexual Harassment&lt;br&gt;Workplace Violence</td>
<td>Hospitals including prison and state facilities&lt;br&gt;Local, state and federal government&lt;br&gt;Departments of correction&lt;br&gt;Federal Bureau of Investigation&lt;br&gt;Colleges and universities&lt;br&gt;Private practice</td>
<td>Develop social perceptiveness, active listening, oral and written communication, critical thinking and problem solving skills for employment in psychiatry/psychology. Earn exceptional grades, secure faculty recommendations and plan for the Medical College Admission Test (MCAT) or the Graduate Record Exam (GRE), respectively. Seek volunteer, part-time, internship and/or research experience with professors or clinicians. Join related student chapters of professional organizations and stay current on research in the field. Forensic psychiatrists are medical doctors with a specialty in forensic training. They complete M.D. degrees, residency in psychiatry and often an additional two years of post-residency training in forensic psychiatry. Plan to spend at least 12 years in school. Research prerequisites for medical colleges, and choose an undergraduate major that meets your interests and program requirements. Learn the requirements for competency in forensic psychiatry sponsored by the American Board of Psychiatry and Neurology. Forensic psychologists obtain Ph.D. degrees in psychology. They generally earn undergraduate degrees in a behavioral science such as psychology, sociology, anthropology, etc. then complete four to seven years of graduate study. Plan to pursue a post-doctoral fellowship in forensic psychology. Secure licensure through your state psychology licensing board. Inquire about forensic psychology certification through the American Board of Professional Practice in Psychology.</td>
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</table>
Students interested in forensic science should note that countless undergraduate majors, minors and concentrations may lead to work in this field. The coursework is primarily science-based. Students pursuing this path should plan to complete numerous classes in chemistry and biology.

Beware of inaccuracies of the forensic science field as portrayed on television. Research the field and requirements carefully in advance.

Most professional forensic science positions require a graduate degree. Research admissions requirements, take prerequisite courses and plan for admission exams.

Demonstrate curiosity, analytical thinking and attention to detail for precise documentation of procedures and findings.

Develop tolerance for working in extreme conditions at times and in proximity to injury and/or death.

Expect to work irregular, “on call” hours.

Gain relevant work experience through internships, part-time jobs or volunteer positions.

Join professional associations and community organizations to stay abreast of current issues in the field and to develop networking contacts.

Earn master's degree for some post-secondary teaching positions.

Earn Ph.D. for professor positions which can include research, teaching, supervision and lab administration.

Forensic scientists may deliver expert testimony in court proceedings. Learn to communicate and collaborate effectively with people in and outside of the criminal justice system including attorneys, judges and members of juries.

Plan to participate in ongoing training to maintain up-to-date knowledge of technologies/advances in your specialty area.

Research and maintain current certification for your specialty through accredited organizations.

Some law enforcement officers work in the forensic science field after receiving specialized training offered by agencies.

There is no specific path for becoming a profiler. One must have a proven track record as an investigator before being considered for specific training in this area.

Engineering science is a growing field within forensic science. Professionals earn engineering degrees and specialize in areas such as accident reconstruction, failure analysis, quality review, design review, etc. Findings are often applied to litigation and regulation.