

The background features a series of concentric circles in light gray, some solid and some dashed, creating a ripple effect. A large, solid blue oval is centered on the page, containing the text 'Forensic Chemistry' in white. A thick, dark gray curved line sweeps across the bottom left, partially overlapping the blue oval.

# Forensic Chemistry

# General Chemistry Discipline

Forensics

Product development

Process development

Analysis

Testing

Biotechnology

Consulting

Quality assurance/Quality control

Management

Environmental analyses

# General Chemistry Discipline Employers

## Government:

- U.S. Food and Drug Administration
- U.S. Environmental Protection Agency
- U.S. Department of Agriculture
- National Institutes of Health
- Public health departments

## Industries:

- chemical, pharmaceutical, biotechnology, food, feed, cosmetics, agricultural, environmental, petroleum, consumer products

Private research labs and organizations

Colleges and universities

Consulting firms

# General Chemistry Discipline Strategies

Develop strong verbal, written, teamwork and problem-solving skills.

Choose courses with laboratory components to build experimental and instrumentation skills.

Gain experience in area of interest through internships, research with professors and/or complete a senior research project.

Consider taking a course in grant writing.

Earn master's degree in chemistry for advanced positions, greater responsibility and higher pay.

Obtain Ph.D. to direct research projects and lead research teams.

Enroll in undergraduate research early in your college career.

# 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

# Criminalistics Employers

## Forensic laboratories:

- Medical examiner
- Coroner
- Police department
- Sheriff
- Crime
- District attorney

## 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

# Criminalistics Strategies

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.

Choose courses with laboratory components to build instrumentation skills.

Seek experience through volunteer positions and/or internships in criminal justice settings.

Consider completing a forensic research project in partnership with a professor.

Join student chapters of professional organizations such as the Association for Crime Scene Reconstruction and the American Academy of Forensic Sciences.

Attain proficiency in writing and understanding scientific reports.

Pursue certification by the American Board of Criminalistics.

Earn a master's degree for advanced opportunities.

# General Forensic Science Information

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.

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.

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

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.