



Forensic Science | Major

“My physical chemistry classes prepared me for my internship at the Bucks County Crime Lab. The faculty and staff at Alvernia helped me advance toward my goal of becoming a Forensic Chemist.”—Ashley Lippincott '10, DrugScan, Doylestown, PA

PROGRAM HIGHLIGHTS IN BRIEF

Alvernia is a Franciscan university dedicated to academic achievement, community service and the professional and personal fulfillment of our students. Classes in forensic science are taught by dedicated faculty, committed to the ideal that science can bring tremendous power to the investigation and resolution of human events, activities and conflicts.

Science courses are taught in the O’Pake Science Center, a \$9.3 million state-of-the-art teaching and research facility, which opened in 2006. The O’Pake Science Center added 31,582 square feet of classroom, laboratory, and faculty office space to Alvernia’s campus. Two floors of laboratory/classroom space, all of which have the latest in educational technology, allow students to employ a variety of laboratory materials and equipment for use in examination of trace evidence like hairs & fibers, fingerprints, tire and shoe-print impressions, blood and DNA evidence, forensic pathology & anthropology, questioned documents, illicit drugs, gun-powder (GSR), explosive & arson components, ballistics & firearms examination as well as accident investigation. Chemical and toxicological analyses are facilitated by instrumentation including UV/Vis, Infrared and Fluorescence spectro-photometers, HPLC, GC, GC-Mass Spec. and Raman spectrometry, flame/graphite-furnace Atomic Analyzer, as well as a high energy LASER-coupled spectrometer.

ACADEMIC QUALITY

The Department of Science & Mathematics, together with the Department of Criminal Justice, provides a course of study that introduces students to the various applications of Biology, Chemistry and Physics to the investigation of events with legal and/or liability implications.

Students also take coursework where they learn basic investigative theory, including an understanding of the legal rules for handling and presenting evidence, as well as exploring the mind and motivation behind criminal behavior. Forensic Science majors are prepared to work with coroners and medical examiners, crime labs and in a variety of other public service and law enforcement careers.

The Forensic Science major provides qualified students an opportunity to integrate experiences in criminal justice and scientific disciplines through a practicum experience where students are encouraged to seek out internship opportunities in their area of interest. Recently, our students have successfully interned with various county coroner’s and medical examiner’s offices, state and local police departments and district attorney’s offices, as well as numerous academic and commercial analytical laboratories.

CAREER SUCCESS

Graduates of Alvernia University’s Forensic Science program will be highly qualified to work for law enforcement agencies such as the Drug Enforcement Administration (DEA), Food & Drug Administration (FDA), Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA). Forensic training also prepares the student to work for private industries in their analytical, environmental or toxicology laboratories. Students can also pursue graduate work or careers in medicine or law.

CAREER OPPORTUNITIES *(Additional education beyond a bachelor's may be required.)*

Chemical Engineer	Food Scientist
Chemistry Technology	Forensic Chemist
Color Development Chemist	Forensic Scientist
Consumer Protection Specialist	Forensic Toxicologist
Crime Lab Analyst	Science Laboratory Assistant
Criminalist	Soil Scientist
Environmental Health Specialist	System Analyst
Fire Protection Engineer	Tissue Technologist
Food Drug Analyst	

CURRICULUM OVERVIEW

Forensic Science Major (88 Credits)

CHE 104	General Chemistry I
CHE 105	General Chemistry II
CHE 107	Laboratory Safety
CHE 110	General Chemistry I Lab
CHE 111	General Chemistry II Lab
CHE 201	Organic Chemistry I
CHE 202	Organic Chemistry II
CHE 210	Organic Chemistry I Lab
CHE 211	Organic Chemistry II Lab
CHE 212	Analytical Chemistry w/Lab
CHE 221	Instrumental Analysis
CHE 301	Physical Chemistry I
CHE 402/CJ 403	Senior Seminar in Criminal Justice
CHE 405	Forensic Chemistry w/Lab
CHE 480	Chemistry Internship -OR-
CHE 316	Introduction to Chemistry Research -OR-
CHE 317	Experimentation in Chemistry Research -OR-
CHE 407	Data Analysis in Math/Science Research -OR-
CJ 101	Introduction to Criminal Justice
CJ 175	Fundamentals of Criminal Investigation
CJ 203	Criminalistics
CJ 207	Rules of Evidence
CJ 275	Criminology
CJ 403	Senior Seminar in Criminal Justice
CJ 408	Agency Practicum

Math/Science Requirements (29 Credits)

BIO 103	Principles of Biology
BIO 115	Human Form & Function
BIO 116	Human Form & Function Lab
MAT 209	Probability and Statistics
MAT 220	Math/Statistics Computer Lab
MAT 230	Calculus I
PHY 110	General Physics I
PHY 111	General Physics II

Forensic Science Electives (6-8 credits)

CHE 315	Forensic Toxicology
CHE 401/410	Biochemistry w/Lab
BIO 303	Genetics
BIO 309	Molecular Genetics Lab
BIO 304	Cell Biology
BIO 311	Cellular Physiology Lab
BIO 315	Forensic Medicine
BIO 405	Pharmacology
BIO 409	Immunology

Forensic Science Minor (22 credits)

CHE 104	General Chemistry I
CHE 110	General Chemistry I Lab
CHE 212	Analytical Chemistry -OR-
CHE 401	Biochemistry -AND-
CHE 410	Biochemistry Laboratory
CHE 405	Forensic Chemistry
BIO 103	Principles of Biology I
BIO 303	Genetics -OR-
BIO 304	Cell Biology -OR-
BIO 405	Pharmacology

3 credits of CJ electives* (203 recommended)

CONTACT INFORMATION

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