FORENSIC AND INVESTIGATIVE SCIENCES - BS, SCIENCE EMPHASIS

This program teaches students how to use the life sciences, from DNA to ecology, to analyze crime scene evidence or solve mysteries in industrial, regulatory, or medical settings. The Science Emphasis is ideal for students seeking careers that deal with the collection, preservation, processing and use of evidentiary information to solve problems.

Forensic and Investigative Sciences (BS - Science Emphasis), an accredited program by the Forensic Science Education Programs Accreditation Commission (FEPAC), is a life sciences-based education, which develops skills in problem solving and critical thinking, essential for many career opportunities.

Forensic and investigative scientists rely upon state-of-the-art scientific discoveries and technologies as tools to seek answers to critical questions in a variety of settings. Molecular, organismal, environmental, and ecological sources of information are often analyzed and interpreted in industrial, regulatory, legal, medical and associated professions. Graduates will be competitive for employment opportunities in forensic quality assurance laboratories, homeland security and investigative services at local, state and national levels. Graduates will also be well prepared for opportunities to enter post-graduate studies or professional schools including medicine, law, forensic nursing, dentistry, pharmacy, and veterinary medicine.

Forensic science is a critical element of the criminal justice system. Forensic scientists examine and analyze evidence from crime scenes and elsewhere to develop objective findings that can assist in the investigation and prosecution of perpetrators of crime or absolve an innocent person from suspicion.

The forensic scientist's skill is to use all the information available to determine facts. Issues of law and/or fact that may require forensic science expertise range from questions of the validity of a signature on a will, to a claim of products liability, to questions of whether a corporation is complying with environmental laws. The work of the forensic scientist reduces the number of cases entering the overloaded court system by assisting the decision-makers before a case reaches the court. This decision is based on scientific investigation, not circumstantial evidence or the sometimes-unreliable testimony of witnesses.

Common forensic science laboratory disciplines include forensic molecular biology (DNA), forensic chemistry, trace evidence examination (hairs and fibers, paints and polymers, glass, soil, etc.), latent fingerprint examination, firearms and toolmarks examination, handwriting analysis, fire and explosives examinations, forensic toxicology, and digital evidence. Some forensic disciplines practiced outside forensic laboratories include forensic pathology, forensic nursing, forensic psychiatry, forensic entomology, and forensic engineering.

Many forensic scientists work for universities, police agencies (state, city, and local agencies), federal agencies, and criminal investigation arms of the military forces and their support laboratories. Others work for coroners, medical examiners, hospitals, and district attorney's offices.

As crime continues to evolve with technology and society, forensic scientists will be challenged to respond by adapting established technologies and, where necessary, developing new ones. These emerging forensic science disciplines will continue to be of vital importance to the courts and to society in general.

https://entomology.tamu.edu/b-s-forensic-investigative-sciences/

Program Requirements

First Year		
Fall		**Semester Credit Hours**
FIVS 101 or AGLS 101	Introduction to Academic Success in Forensic and Investigative Sciences or Modern Agricultural Systems and Renewable Natural Resources	1
BIOL 111	Introductory Biology I	4
CHEM 119	Fundamentals of Chemistry I	4
FIVS 205	Introduction to Forensic and Investigative Sciences	3
MATH 140	Mathematics for Business and Social Sciences [1]	3
	Semester Credit Hours	**15**
Spring		
BIOL 112	Introductory Biology II	4
CHEM 120	Fundamentals of Chemistry II	4
FIVS 102	Continuing Academic Success in Forensic and Investigative Sciences	1
MATH 142	Business Calculus [2]	3
Communication (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
	Semester Credit Hours	**15**
Second Year		
Fall		
Select one of the following:		4
CHEM 257	Organic Chemistry I - Structure and Function	
CHEM 227 & CHEM 237	Organic Chemistry I and Organic Chemistry Laboratory	
PHYS 201	College Physics	4
American history (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Communication (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
	Semester Credit Hours	**14**
Spring		
PHYS 202	College Physics	4
Select one of the following:		4
CHEM 258	Organic Chemistry II - Reactivity and Applications	
CHEM 228 & CHEM 238	Organic Chemistry II and Organic Chemistry Laboratory	
American history (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3

Language, philosophy and culture (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
	Semester Credit Hours	**14**
Third Year		
Fall		
BICH 410	Comprehensive Biochemistry I	3
BICH 412	Biochemistry Laboratory I	1
CHEM 315	Fundamentals of Quantitative Analysis	3
CHEM 318	Quantitative Analysis Laboratory	1
FIVS 282	Occupational and Professional Development	2
FIVS 308	Forensic Implications of Inheritance	4
Directed elective [3]		2
	Semester Credit Hours	**16**
Spring		
BICH 411	Comprehensive Biochemistry II	3
FIVS 422	Crime Scene Investigation	3
Select one of the following:		3-4
FIVS 401/ SCSC 401	Forensic Soil Science	
FIVS 431/ ENTO 431 & FIVS 432/ ENTO 432	The Science of Forensic Entomology and Applied Forensic Entomology	
FIVS 481	Seminar [4]	1
Government/Political science (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)		3
Creative arts (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creativearts)		3
	Semester Credit Hours	**16**
Fourth Year		
Fall		
FIVS 316	Biotechnology and Forensics	4
FIVS 484 or FIVS 491	Internship or Research	2
Government/Political science (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)		3
Directed elective [3]		3
Directed elective [3]		3
	Semester Credit Hours	**15**
Spring		
FIVS 415	Practice and Principles of Science and Law	3
FIVS 435	Case Studies in Problem Solving [4]	3
STAT 302	Statistical Methods	3
Social and behavioral sciences (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)		3
General elective		2-3
	Semester Credit Hours	**15**
	Total Semester Credit Hours	**120**

[1] MATH 150 and MATH 152 will be accepted in lieu of MATH 140.

[2] MATH 151 will be accepted in lieu of MATH 142.

[3] Students must choose directed electives in consultation with the student's advisor based on career and educational goals and from the current list of approved courses published by the department. Select from the following: ANSC 326/FSTC 326, ANTH 225, ANTH 425, ANTH 427; BIOL 213, BIOL 319, BIOL 320, BIOL 351, BIOL 413, BIOL 430, BIOL 454; CHEM 318, CHEM 325, CHEM 326, CHEM 327, CHEM 328, CHEM 362, CHEM 415, CHEM 434; ENTO 210, ENTO 403, ENTO 423, ENTO 426/VIBS 426, ENTO 428, ENTO 429, ENTO 441, ENTO 442; FIVS 200-499 (https://catalog.tamu.edu/undergraduate/course-descriptions/fivs/); GENE 412, GENE 420/BICH 420; PHLT 300-499 (https://catalog.tamu.edu/undergraduate/course-descriptions/phlt/); PHYS 221, PBSI 305, PBSI 306, PBSI 371; SCSC 301, SOCI 304; VIBS 305, VTPB 405, VTPP 425.

[4] This course fulfills a writing requirement. See Requirement for a Baccalaureate Degree (https://catalog.tamu.edu/undergraduate/general-information/degree-information/#requirementsforabaccalaureatedegreetext) section.

The Forensic and Investigative Sciences program requires students to earn a grade of C or better in all courses within the program curriculum.

University Graduation Requirements:

- Foreign Language (two years of the same language in high school or one year/two semester sequence in college)
- Writing Intensive courses (two courses designated W in major or one W and one C course in major)
- International and Cultural Diversity (https://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses (three credit hours)
- Cultural Discourse (https://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/) course (three credit hours)