FORENSIC AND INVESTIGATIVE SCIENCES - BS, SCIENCE EMPHASIS

Forensic and Investigative Sciences, an accredited program by the Forensic Science Education Programs Accreditation Commission (FEPAC), is a major offered by the Department of Entomology and is a growing area of interest for students seeking to gain entry into careers that deal with the collection, preservation, processing and use of evidentiary information to solve problems. A life sciences-based education, which develops skills in problem solving and critical thinking, is essential for career opportunities in this field. 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 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, and veterinary medicine.

Interactions with and among plants, animals and microbes occur regularly. These interactions impact public and environmental health and require life science-based forensic and investigative science to improve the quality of life. Homeland security, criminal investigation, environmental quality, agricultural and public health offer careers for students with forensic and investigative skills. Students can also pursue avenues to forensic careers through degree programs in specialty areas such as chemistry, anthropology, physics, computer science and business.

Forensic and investigative sciences also operate at the crossroads of science and the legal profession, and provide opportunities for students to consider pre-law preparation. There are growing demands for attorneys with knowledge and understanding of science and research to address legal issues and cases where the interpretation of science and/or scientific data and analyses are pivotal. Law schools often seek candidates with diverse backgrounds and interests, and they look closely at curricula that stress analytical and problem-solving skills, critical reading abilities, writing skills, oral communication and listening abilities, general research skills, and task organization and management skills. The Forensic and Investigative Sciences program provides students with opportunities to build these essential skills and knowledge areas through a combination of required and elective courses.

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

Program Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td>FIVS 205</td>
<td>Introduction to Forensic and Investigative Sciences</td>
<td>3</td>
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<tr>
<td>FIVS 308</td>
<td>Forensic Implications of Inheritance</td>
<td>4</td>
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FIVS 316 Biotechnology and Forensics 4
FIVS 401/SCSC 401 Forensic Soil Science 3
FIVS 415 Practice and Principles of Science and Law 3
FIVS 422 Crime Scene Investigation 2
FIVS 431/ENTO 431 The Science of Forensic Entomology 3
FIVS 432/ENTO 432 Applied Forensic Entomology 1
FIVS 435 Case Studies in Problem Solving 3
FIVS 481 Seminar 1 1
FIVS 482 Occupational and Professional Development 2
FIVS 484 Professional Internship or FIVS 491 or Research 2

Natural Science Core Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Credit Hours</th>
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<tr>
<td>BIOL 111</td>
<td>Introductory Biology I</td>
<td>8</td>
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& BIOL 112 and Introductory Biology II 8
| CHEM 101 | Fundamentals of Chemistry I                | 4                     |
& CHEM 111 and Fundamentals of Chemistry Laboratory I 4
| CHEM 102 | Fundamentals of Chemistry II               | 4                     |
& CHEM 112 and Fundamentals of Chemistry Laboratory II 4
| CHEM 227 | Organic Chemistry I                       | 4                     |
& CHEM 237 and Organic Chemistry Laboratory 4
| CHEM 228 | Organic Chemistry II                      | 4                     |
& CHEM 238 and Organic Chemistry Laboratory 4
| CHEM 316 | Quantitative Analysis                      | 3                     |
& CHEM 318 and Quantitative Analysis Laboratory 3
Select one of the following: 3
| MATH 140 | Mathematics for Business and Social Sciences |                     |
| MATH 141 | Finite Mathematics                        |                       |
| MATH 166 | Topics in Contemporary Mathematics II      |                       |
Select one of the following: 3
| MATH 131 | Mathematical Concepts—Calculus            |                       |
| MATH 142 | Business Calculus                         |                       |
| MATH 171 | Analytic Geometry and Calculus            |                       |
| PHYS 201 | College Physics                            | 8                     |
& PHYS 202 and College Physics 8
| STAT 302 | Statistical Methods                       | 3                     |
| AGLS 101 | Modern Agricultural Systems and Renewable Natural Resources 1
| BICH 410 & BICH 411 Comprehensive Biochemistry I and Comprehensive Biochemistry II 6
| BICH 412 | Biochemistry Laboratory I                  | 1                     |

Directed Electives

Select seven hours from the following: 7
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<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td>ANTH 225</td>
<td>Introduction to Biological Anthropology</td>
<td>3</td>
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ANTH 425  Human Osteology
ANTH 427  Human Biological Variation
BIOL 213  Molecular Cell Biology
BIOL 319  Integrated Human Anatomy and Physiology I
BIOL 320  Integrated Human Anatomy and Physiology II
BIOL 351  Fundamentals of Microbiology
BIOL 413  Cell Biology
BIOL 430  Biological Imaging
BIOL 454  Immunology
CHEM 318  Quantitative Analysis Laboratory
CHEM 320  Instrumental Analysis Laboratory
CHEM 325  Physical Chemistry Laboratory I
CHEM 326  Physical Chemistry Laboratory II
CHEM 327  Physical Chemistry I
CHEM 328  Physical Chemistry II
CHEM 362  Descriptive Inorganic Chemistry
CHEM 415  Analytical Chemistry
CHEM 434  Analytical Instrumentation Laboratory
DASC 326/  Food Bacteriology
NFSC 326
ENTO 403  Urban Entomology
ENTO 423  Medical Entomology
ENTO 428  Insect Biotechnology
ENTO 429  Insect Biotechnology Laboratory
FIVS 421  Latent Print Processing
GENE 412  Population and Ecological Genetics
GENE 420  Bioethics
GENE 450  Recombinant DNA and Biotechnology
NFSC 326/  Food Bacteriology
DASC 326
PHYS 221  Optics and Thermal Physics
PSYC 305  Psychology of Adjustment
PSYC 306  Abnormal Psychology
PSYC 371  Forensic Psychology
SCSC 301  Soil Science
SOCI 304  Criminology
VIBS 305  Biomedical Anatomy
VTPB 405  Biomedical Microbiology
VTPP 425  Pharmacology

University Core Curriculum Requirements
American History (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)  6
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)  6
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)  6

Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)  3
Language, philosophy and culture elective (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)  3
Social and behavioral science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)  3

General Elective Requirement
General elective  3

Total Semester Credit Hours  120

1 This course fulfills a writing requirement. See Requirement for a Baccalaureate Degree section.

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