

# FORENSIC SCIENCE, B.S.

Forensic science is the scientific method of gathering and analyzing evidence. Forensic science at Saint Louis University is an interdisciplinary field that employs the methods, tools and perspectives of biology, chemistry, anthropology, sociology, physics, mathematics and medicine to better understand the intersection of law and science.

Forensic science has gained recent media attention in its application to civil and criminal law. However, the field is much broader and includes the application of forensic science to accidents, natural and man-made disasters, historical/archaeological evaluations of death and life style to more contemporary establishment of death for criminal or civil purposes.

The forensic science major follows the guidelines for accreditation standards of American Academy of Forensic Sciences. The major in this fascinating and quickly developing scientific field enables students to compete with the most accomplished and well-educated students in prestigious universities on a national and global level. Upon completing the major in forensic science, students find themselves not only well versed in scientific methodology, but also prepared to dedicate their understanding of law and science across most industries to the service of others.

Forensic science is an appropriate major for all students who want to pursue graduate studies or professional work in any scientific or professional field. Completion of the major places students in a position to address the scientific basis of civil and criminal law through further legal studies or research.

## Curriculum Overview

Forensic science is an interdisciplinary field that employs the methods, tools and perspectives of biology, chemistry, anthropology, sociology, physics, mathematics and medicine to better understand the intersection of law and science.

## Fieldwork and Research Opportunities

The department has connections with forensic science laboratories in the St. Louis metropolitan area. Fieldwork practicums are required for forensic science majors, including working at an operating forensic science lab and performing the forensic research projects in those labs.

Fieldwork practicums also provide an opportunity for students to be involved in the laboratories, law enforcement agencies and legal and medical organizations in the area. Students meet with the department internship director for assistance in applying to any of the local, regional, national and even international employment opportunities.

The Forensic Science Laboratory is a 1,000-square-foot teaching and research lab with the latest hardware, software and safety equipment, as well as materials used in the application of forensic anthropological techniques. Each spring semester, the lab hosts a crime scene investigation course. The program also hosts a Forensic Science Club that offers forensic-related activities and exploration.

## Careers

Recent graduates who majored in forensic science at SLU work in a variety of fields, including medical examination and research. Alumni have also gone to top graduate programs in the country in the areas of

forensic science, forensic anthropology, pathology, medicine law and health service.

## Admission Requirements

### Freshman

All applications are thoroughly reviewed with the highest degree of individual care and consideration to all credentials that are submitted. Solid academic performance in college preparatory course work is a primary concern in reviewing a freshman applicant's file. College admission test scores (ACT or SAT) are used as an additional indicator of the student's ability to meet the academic rigors of Saint Louis University and are used as qualifiers for certain University scholarship programs. To be considered for admission to any Saint Louis University undergraduate program, the applicant must be graduating from an accredited high school or have an acceptable score on the General Education Development (GED) test.

### Transfer

Applicants must be a graduate of an accredited high school or have an acceptable score on the GED. An official high school transcript and official test scores are required only of those students who have attempted fewer than 24 transferable semester credits (or 30 quarter credits) of college credit. Those having completed 24 or more of college credit need only submit a transcript from previously attended college(s). In reviewing a transfer applicant's file, the office of admission holistically examines the student's academic performance in college-level coursework as an indicator of the student's ability to meet the academic rigors of Saint Louis University.

### International Applicants

All admission policies and requirements for domestic students apply to international students along with the following:

- Demonstrate English Language Proficiency (<http://catalog.slu.edu/academic-policies/office-admission/undergraduate/english-language-proficiency>)
- Proof of financial support must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University
  - A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of study at the University
- Academic records, in English translation, of students who have undertaken postsecondary studies outside the United States must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted.

## Scholarships and Financial Aid

There are two principal ways to help finance a Saint Louis University education:

- Scholarships: awarded based on academic achievement, service, leadership and financial need.
- Financial Aid: provided in the form of grants and loans, some of which require repayment.

For priority consideration for merit-based scholarships, applicants should apply for admission by Dec. 1 and complete a Free Application for Federal Student Aid (FAFSA) by March 1.

For information on other scholarships and financial aid, visit the student financial services office online at <http://finaid.slu.edu>.

## Learning Outcomes

1. Graduates will be able to identify and explain major concepts and their categories of evidence, patterns of evidence, trends in forensic science, and the scientific basis of investigative and analytical methods.
2. Graduates will be able to recognize the limitations of evidence and the ethical responsibilities linked to decision making.
3. Graduates will be able to recognize, explain and apply basic research methods in forensic science, including research design, data analysis and interpretation.
4. Graduates will be able to engage in skeptical inquiry, think critically and creatively, and use a scientific approach to solve problems related to behavior and mental processes. Students will also be able to recognize the holistic nature of forensic science, law, society and ethics.
5. Graduates will be able to apply the knowledge of ethical issues inherent in the forensic sciences and the skill to be able to contribute to the profession through careful documentation and reporting of evidence, and the recognition and ethical reporting of errors.

## Requirements

Code	Title	Credits
<b>Core Requirements</b>		
College core requirements (p. 2)		54-63
For additional information about core courses ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/#policiestext">http://catalog.slu.edu/colleges-schools/arts-sciences/#policiestext</a> )		
<b>Biology Requirement</b>		
BIOL 1240	Principles of Biology I	3
BIOL 1245	Principles of Biology I Laboratory	1
BIOL 1260	Principles of Biology II	3
BIOL 1265	Principles of Biology II Laboratory	1
<b>Chemistry Requirement</b>		
CHEM 1110	General Chemistry 1	3
CHEM 1115	General Chemistry 1 Laboratory	1
CHEM 1120	General Chemistry 2	3
CHEM 1125	General Chemistry 2 Laboratory	1
CHEM 2410	Organic Chemistry 1	3
CHEM 2415	Organic Chemistry 1 Laboratory	1
CHEM 2420	Organic Chemistry 2	3
CHEM 2425	Organic Chemistry 2 Laboratory	1
<b>Physics Requirement</b>		
PHYS 1310	Physics I	3
PHYS 1320	Physics I Laboratory	1
PHYS 1330	Physics II	3
PHYS 1340	Physics II Laboratory	1
<b>Mathematics Requirement</b>		
MATH 1510	Calculus I	4
<b>Statistics Requirement</b>		
MATH 1300	Elementary Statistics with Computers	3
SOC 4015	Quantitative Research Methods	3
<b>Sociology and Anthropology Requirement</b>		
ANTH 3280	Forensic Anthropology	3

FRSC 2600	Survey of Forensic Science	3
FRSC 3620	Chemical Forensics (w/Lab)	4
FRSC 3630	Forensic Biology (w/Lab)	4
FRSC 4550	Crime Scene Investigation (w/Lab)	4
SOC 3590	Law and Society	3
FRSC 4020	Forensic Science Practicum I	1-3
FRSC 4610	Death Investigation	2

### Elective Courses

Select 12 credits as a science specialization including a minimum of two laboratory courses from courses such as:

BIOL 3020	Biochemistry and Molecular Biology
BIOL 3030	Principles of Genetics
BIOL 3040 & BIOL 3060	Cell Structure & Function and Cell Structure & Function Laboratory
BIOL 3100	Experiments in Genetics Lab
BIOL 4580	Applied Population Genetics
BIOL 4640 & BIOL 4650	General Microbiology and General Microbiology Laboratory
BIOL 4700	Molecular Biology
CHEM 2200 & CHEM 2205	Analytical Chemistry 1 and Analytical Chemistry 1 Laboratory
CHEM 3330	Physical Chemistry 1
CHEM 4500	Inorganic Chemistry
CHEM 4610 & CHEM 4615	Biochemistry 1 and Biochemistry 1 Laboratory
MATH 1520	Calculus II

Total Credits 132-143

## Continuation Standards

Students with a major in Forensic Science must maintain a 2.00 GPA in their major coursework.

### Bachelor of Science Core Curriculum Requirements

Code	Title	Credits
<b>Core Components and Credits</b>		
Foundations of Discourse ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/foundations-discourse">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/foundations-discourse</a> )		3
Diversity in the U.S. ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/cultural-diversity">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/cultural-diversity</a> )		3
Global Citizenship ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/global-citizenship">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/global-citizenship</a> )		3
Foreign Language ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/foreign-language">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/foreign-language</a> )		0-9
Fine Arts ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/fine-arts">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/fine-arts</a> )		3
Literature ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/literature">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/literature</a> )		6
Mathematics ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/mathematics">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/mathematics</a> )		4
Science ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/sciences">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/sciences</a> )		8
Philosophy ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/philosophy">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/philosophy</a> )		6
Social Science ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/social-science">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/social-science</a> )		6

Theology ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/theology">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/theology</a> )	6
World History ( <a href="http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/world-history">http://catalog.slu.edu/colleges-schools/arts-sciences/bs-core/world-history</a> )	6
<b>Total Credits</b>	<b>54-63</b>

**Graduation Requirements**

- Complete a minimum of 120 credits (excluding pre-college level courses [numbered below 1000]).
- Complete either the College of Arts and Sciences Bachelor of Arts or Bachelor of Science Core Curriculum Requirements
- Complete Major Requirements: minimum 30 credits required.
- Complete remaining credits with a second major, minor, certificate, and/or elective credits to reach the minimum of 120 credits required for graduation.
- Achieve at least a 2.00 cumulative grade point average, a 2.00 grade point average in the major(s) and a 2.00 grade point average in the minor/certificate, or related elective credits.
- Complete Dept/Program specific academic and performance requirements.
- Complete at least 50% of the coursework for the major and 75% for the minor/certificate through Saint Louis University or an approved study abroad program.
- Complete 30 of the final 36 credits through Saint Louis University or an approved study abroad program.
- Complete an online degree application by the required University deadline.

**Roadmap**

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

Course	Title	Credits
<b>Year One</b>		
<b>Fall</b>		
CHEM 1110 & CHEM 1115	General Chemistry 1 and General Chemistry 1 Laboratory	4
BIOL 1240 & BIOL 1245	Principles of Biology I and Principles of Biology I Laboratory	4
MATH 1510	Calculus I	4
PHIL 1050	Introduction to Philosophy: Self and Reality	3
	<b>Credits</b>	<b>15</b>
<b>Spring</b>		
CHEM 1120 & CHEM 1125	General Chemistry 2 and General Chemistry 2 Laboratory	4
BIOL 1260 & BIOL 1265	Principles of Biology II and Principles of Biology II Laboratory	4
MATH 1300	Elementary Statistics with Computers	3
HIST 1110	Origins of the Modern World to 1500	3

THEO 1000	Theological Foundations	3
	<b>Credits</b>	<b>17</b>

**Year Two**

**Fall**

CHEM 2410 & CHEM 2415	Organic Chemistry 1 and Organic Chemistry 1 Laboratory	4
PHYS 1310 & PHYS 1320	Physics I and Physics I Laboratory	4
Theology 2xxx		3
HIST 1120	Origins of the Modern World, 1500 to Present	3
English 1xxx		3
	<b>Credits</b>	<b>17</b>

**Spring**

CHEM 2420 & CHEM 2425	Organic Chemistry 2 and Organic Chemistry 2 Laboratory	4
FRSC 2600	Survey of Forensic Science	3
PHIL 2050	Ethics	3
Fine Art		3
PHYS 1330 & PHYS 1340	Physics II and Physics II Laboratory	4
	<b>Credits</b>	<b>17</b>

**Year Three**

**Fall**

FRSC 3630	Forensic Biology	4
FRSC 4020	Forensic Science Practicum I <sup>1</sup>	3
English 3XXX		3
ANTH 1200	Introduction to Anthropology (Global Div.)	3
Science Elective		4
	<b>Credits</b>	<b>17</b>

**Spring**

FRSC 3620	Chemical Forensics	4
SOC 3570	Sociological Theories of Crime	3
Foreign Language		3
SOC 1110 or SOC 1120	Introduction to Sociology: Diversity Emphasis or Introduction to Sociology: Diversity and Health Emphasis	3
Elective		4
	<b>Credits</b>	<b>17</b>

**Summer**

Delete summers if not needed		
FRSC 4020	Forensic Science Practicum I	3
	<b>Credits</b>	<b>3</b>

**Year Four**

**Fall**

FRSC 4550	Crime Scene Investigation	4
FRSC 4610	Death Investigation	2
General Electives		6-9
	<b>Credits</b>	<b>12-15</b>

**Spring**

ANTH 3280	Forensic Anthropology	3
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General Electives	9-12
Credits	12-15
Total Credits	127-133

<sup>1</sup> Students should plan to take this course or the Summer session for this academic year.