

# FORENSIC SCIENCE (BS)

Loyola's strong reputation in the sciences, along with its successful track record in preparing students for the health professions, enables forensic science graduates to begin highly successful careers in this dynamic field.

The Program is fully accredited by The Forensic Education Programs Accreditation Commission (FEPAC). Learn more about FEPAC on their website. (<https://www.fepac-edu.org/>)

This major combines coursework from biology, chemistry, criminal justice, mathematics, physics, in addition to forensic science courses.

## Program Content and Sensitive Topics

The Forensic Science Program curriculum, by its very nature, includes sensitive topics such as drug overdose, drug-facilitated sexual assault, sexual violence, domestic violence, postmortem forensic toxicology, homicides, and other violent crime. Our faculty endeavor to handle these topics with the appropriate respect, professionalism, gravity, and discretion. However, students should be aware that these and other topics involving criminal behavior are covered in numerous courses throughout the curriculum. Some courses also include in-depth discussion and case studies.

## Curriculum

The forensic science major requires 85-87 credit hours of coursework.

The curriculum delivers a broad knowledge base and covers the three major areas in forensic science laboratories: pattern, biology-DNA, and chemistry. Students in this program are required to include the following classes in their curriculum:

Code	Title	Hours
<b>Laboratory Science Courses</b>		
BIOL 101	General Biology I	3
BIOL 111	General Biology I Lab	1
BIOL 102	General Biology II	3
BIOL 112	General Biology II Lab	1
BIOL 282	Genetics	3
BIOL 283	Genetics Laboratory	1
BIOL 366 / CHEM 361	Cell Physiology & Biochemistry	3
BIOL 366L	Cell Physiology & Biochemistry Lab	3
CHEM 160	Chemical Structure and Properties	3
CHEM 161	Chemical Structure and Properties Laboratory	1
CHEM 180	Chemical Reactivity I	3
CHEM 181	Chemical Reactivity I Lab	1
CHEM 240	Chemical Reactivity II	3
CHEM 241	Chemical Reactivity II Laboratory	1
CHEM 260	Quantitative Methods in Chemistry	3
CHEM 272	Analytical Chemistry Laboratory	2
CHEM 280	Environmental & Chemical Analysis	3
PHYS 111 & 111L	College Physics I Lec / Dis and College Physics Laboratory I	4
PHYS 112 & 112L	College Physics II Lec/Disc and College Physics Lab II	4
<b>Forensic Science and Criminal Justice Courses</b>		

CJC 101	Criminal Justice in a Global Context	3
FRSC 340	Introduction to Forensic Science	3
FRSC 341	Forensic Ethics and Professional Practice	3
FRSC 342	Expert Witness Testimony and Court Room Demeanor	3
FRSC 343	Physical Organic Chemistry for Forensic Science	3
FRSC 350 & 350L	Pattern Evidence I and Pattern Evidence Lab I	4
FRSC 360 & 360L	Forensic Drug Chemistry I and Forensic Drug Chemistry Laboratory I	5
FRSC 370 & 370L	Forensic Biology and Forensic Biology Laboratory	4
<b>Forensic Capstone</b>		
Select one of the following:		3-5
FRSC 361 & 361L	Forensic Toxicology I and Forensic Toxicology Laboratory I	
FRSC 371	Forensic Molecular Biology Lecture and Laboratory	
ANTH 396	Internship in Anthropology <sup>1</sup>	
<b>Ancillary Courses</b>		
MATH 131	Applied Calculus I	3
MATH 132	Applied Calculus II	3
BIOL 335 or STAT 335	Intro to Biostatistics Introduction to Biostatistics	3
<b>Total Hours</b>		<b>86-88</b>

<sup>1</sup> Requires ANTH 326 Human Osteology Lec/Lab as a prerequisite

In addition to fulfilling major requirements to earn an undergraduate degree, students are required to complete Loyola's Core Curriculum (<https://catalog.luc.edu/undergraduate/university-requirements/university-core/>), which teaches them important skills and values. Students also develop their own interests by taking general electives.

## Electives

Code	Title	Hours
Students in this program are encouraged, but not required, to select elective courses from the following list:		
ANTH 324	Human Evolution	3
ANTH 326	Human Osteology Lec/Lab	4
BIOL 242	Human Structure and Function I	4
BIOL 359 / ANTH 359	Paleopathology	3
BIOL 243	Human Structure and Function II	4
BIOL 251	Cell Biology	3
BIOL 341	Histology Lec/Lab	4
BIOL 342	Human Anatomy	4
BIOL 363	Entomology Lec/Lab	4
BIOL 389	Introduction to Pharmacology	3
FRSC 390	Forensic Science Internship	3-4
FRSC 392	Forensic Science Seminar	1
FRSC 394	Forensic Science Research	1-4
FRSC 395	Special Topics in the Forensic Science	3
CJC 201	Theories of Criminal Behavior	3
CJC 202	Criminal Courts	3
CJC 203	Policing	3

CJC 322	Criminal Law	3
CJC 323	Criminal Procedure	3
CJC 371	Victimology	3

### Suggested Sequence of Courses

Students **not** placing in MATH 118 Precalculus II or higher cannot start the Chemistry sequence until MATH 117 Precalculus I is completed with a grade of C- or better. Such students are advised to enroll in first-year Chemistry courses in the summer sessions (after meeting the math requirement) in order to complete the major in four years.

The below sequence of courses is meant to be used as a suggested path for completing coursework. An individual student's completion of requirements depends on course offerings in a given term as well as the start term for a major or graduate study. Students should consult their advisor for assistance with course selection.

Course	Title	Hours
<b>Year 1</b>		
<b>Fall</b>		
BIOL 101	General Biology I	3
BIOL 111	General Biology I Lab	1
CHEM 160	Chemical Structure and Properties	3
CHEM 161	Chemical Structure and Properties Laboratory	1
MATH 131 or MATH 161	Applied Calculus I or Calculus I	3
UCWR 110	Writing Responsibly	3
UNIV 101	First Year Seminar	1
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
BIOL 102	General Biology II	3
BIOL 112	General Biology II Lab	1
CHEM 180	Chemical Reactivity I	3
CHEM 181	Chemical Reactivity I Lab	1
MATH 132 or MATH 162	Applied Calculus II or Calculus II	3
CJC 101	Criminal Justice in a Global Context	3
Philosophical Foundational Core <sup>1</sup>		3
<b>Hours</b>		<b>17</b>
<b>Year 2</b>		
<b>Fall</b>		
PHYS 111	College Physics I Lec / Dis	3
PHYS 111L	College Physics Laboratory I	1
CHEM 240	Chemical Reactivity II	3
CHEM 241	Chemical Reactivity II Laboratory	1
FRSC 340	Introduction to Forensic Science	3
Historical Foundational Core <sup>1</sup>		3
Ethics Core <sup>1</sup>		3
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
PHYS 112	College Physics II Lec/Disc	3
PHYS 112L	College Physics Lab II	1
CHEM 260	Quantitative Methods in Chemistry	3
CHEM 272	Analytical Chemistry Laboratory	2

FRSC 341	Forensic Ethics and Professional Practice	3
Literary Foundational Core <sup>1</sup>		3
Theological Foundational Core <sup>1</sup>		3
<b>Hours</b>		<b>18</b>
<b>Year 3</b>		
<b>Fall</b>		
BIOL 282	Genetics	3
BIOL 283	Genetics Laboratory	1
CHEM 280	Environmental & Chemical Analysis	3
FRSC 343	Physical Organic Chemistry for Forensic Science	3
FRSC 350	Pattern Evidence I	3
FRSC 350L	Pattern Evidence Lab I	1
Foreign Language 101 <sup>1</sup>		3
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
BIOL 366 / CHEM 361	Cell Physiology & Biochemistry	3
BIOL 366L	Cell Physiology & Biochemistry Lab <sup>2</sup>	3
STAT 335	Introduction to Biostatistics	3
FRSC 342	Expert Witness Testimony and Court Room Demeanor	3
Foreign Language 102 <sup>1</sup>		3
Societal/Cultural Foundation Core <sup>1</sup>		3
<b>Hours</b>		<b>18</b>
<b>Year 4</b>		
<b>Fall</b>		
FRSC 360	Forensic Drug Chemistry I	3
FRSC 360L	Forensic Drug Chemistry Laboratory I	2
FRSC 370	Forensic Biology	3
FRSC 370L	Forensic Biology Laboratory	1
Artistic Core <sup>1</sup>		3
Literary Tier 2 Core <sup>1</sup>		3
Philosophical Tier 2 Core <sup>1</sup>		3
<b>Hours</b>		<b>18</b>
<b>Spring</b>		
FRSC 361 & 361L or FRSC 371 or ANTH 396	Forensic Toxicology I or Forensic Molecular Biology Lecture and Laboratory or Internship in Anthropology	3
FRSC 390 or FRSC 394	Forensic Science Internship <sup>1,2</sup> or Forensic Science Research	3-4
Historical Tier 2 Core <sup>1</sup>		3
Societal/Cultural Tier 2 Core <sup>1</sup>		3
Theological Tier 2 Core <sup>1</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Total Hours</b>		<b>135-136</b>

<sup>1</sup> Scheduling of this course is flexible

<sup>2</sup> BIOL 366L, FRSC 390, and FRSC 394 satisfy the Engaged Learning requirements.

## Additional Undergraduate Graduation Requirements

All Undergraduate students are required to complete the University Core, at least one Engaged Learning course, and UNIV 101. SCPS students are not required to take UNIV 101. Nursing students in the Accelerated BSN program are not required to take core or UNIV 101. You can find more information in the University Requirements (<https://catalog.luc.edu/undergraduate/university-requirements/>) area.

## Learning Outcomes

The Forensic Science Program is dedicated to:

- Provide forensic science students with a solid foundation in the natural sciences.
- Educate forensic science students in a broad range of forensic analytical techniques and in the various aspects of forensic science professional practice and allow students to develop critical thinking skills required to solve problems encountered in the forensic sciences.
- Prepare forensic science students for entry-level positions in forensic science laboratories and graduate/professional schools in the forensic sciences.