

# CHEMISTRY, BACHELOR OF SCIENCE (BS) / PRE-PHARMACY (LECOM) (3+3)

*Slippery Rock University of Pennsylvania* (SLIPPERY ROCK) and *Lake Erie College of Osteopathic Medicine* (LECOM) School of Pharmacy offer a 3+3 Pre-Pharmacy program that culminates with a BS Chemistry degree from SRU and a Doctor of Pharmacy from LECOM if successfully completed. Under the joint agreement between SLIPPERY ROCK and LECOM School of Pharmacy, students must successfully complete the three-year undergraduate program in chemistry at SLIPPERY ROCK and then matriculate into LECOM School of Pharmacy to complete the professional curriculum of the Doctor of Pharmacy degree (Pharm.D.) in three years. After successfully completing the first full year at LECOM, students can earn a BS Chemistry Degree from SRU.

## Selection of Studies for the Program

For admission to Phase I of the Program, students must fulfill the following requirements:

- SAT Scores (or ACT scores) 1100 (total of 24); New SAT of 1240 or higher is preferred; ACT of 26 or better.
- High School Grade Point Average (GPA) 3.4 out of 4.0
- Class rank Top 25% of the class
- Letters of recommendation are not required by LECOM to enter into EAP
- Potential Evidence of scholarly activities and desire to become a pharmacist

LECOM School of Pharmacy will not accept advanced placement credit of science and mathematics courses into Phase I of the program.

## Admission to Phase II of the Program

The LECOM School of Pharmacy will accept **Slippery Rock** students into the professional pharmacy curriculum who meet the criteria listed below:

- Complete the pre-pharmacy curriculum in Phase I of the 3 + 3 Accelerated Program in Pharmacy as described below (or as amended).
- Earn a minimum GPA of **3.4** in Phase I of the Program. No grade lower than a "C."
- Earn a GPA of **3.2** or higher for science courses.
- Must maintain *full-time* student status while at **Slippery Rock** and complete the Program in the specified time frame.

Submit two letters of recommendation. One of these letters **MUST** be from the Health Professions Committee at SLIPPERY ROCK. The letter will address the personal growth of the student during Phase I of the **Program**, as well as the student's maturity, responsibility, and desire to become a pharmacist.

- Demonstrate leadership potential and commitment to the pharmacy profession.
- Submit a completed application for admission to the LECOM School of Pharmacy.

All questions from students accepted into the 3 + 3 Accelerated Pharmacy Program should be directed to the LECOM School of Pharmacy Admissions Office.

## Conferral of Degrees

The Doctor of Pharmacy (Pharm.D.) degree will be conferred upon successful completion of Phase I and Phase II of the Program, both didactic and clinical, and recommendation by both the administration and faculty of the LECOM School of Pharmacy. Conferral of the Pharm.D. degree will be at the end of the three year professional program in pharmacy at the LECOM School of Pharmacy. The Bachelor of Science (B.S.) degree will be conferred on "3+3" students after completion of all SLIPPERY ROCK requirements which includes completion (*with a C or better*) of all courses in the first semester of year one at LECOM.

## Program Learning Outcomes

- Students will demonstrate knowledge of the main disciplines of chemistry, namely *Organic, Analytical, Biological, Physical, and Inorganic* chemistry.
- Students will demonstrate development of technical skills for practical applications of chemistry.
- Students will present collected experimental data in written and oral reports.
- Students and faculty will participate in faculty-led research projects. Students are expected to be actively working in the laboratory under the supervision and guidance of a faculty mentor.

## Related Links

Chemistry - Pre-Pharmacy, BS Program Page (<https://www.sru.edu/academics/majors-and-minors/chemistry-biochemistry-pre-pharmacy-33-lecom/>)

Professional Licensure/Certification Page (<https://www.sru.edu/students/student-consumer-information/professional-licensures/>)

## Curriculum Guide

### GPA Requirement

Major GPA: 2.0 or higher

Overall GPA: 2.0 or higher

### Summary\*

Code	Title	Hours
	Rock Studies 2 Requirements	45
	Other Basic Requirements	0-3
	Major/Concentration Requirements	47
	Natural Science and Math College-Wide Requirements	12
	Electives	16

\* All undergraduate degree programs require a minimum of 120 credits. Some courses meet multiple requirements, but are only counted once toward the 120 credit total required to graduate.

### Rock Studies 2 Requirements

Code	Title	Hours
<b>The Rock</b>		
SUBJ 139	Foundations of Academic Discovery <sup>1</sup>	3
ENGL 102	Critical Writing	3
ENGL 104	Critical Reading	3

MATH 225	Calculus I <sup>2</sup>	4
Select one of the following:		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	
Subtotal		16
<b>Integrated Inquiry</b>		
<i>Creative and Aesthetic Inquiry</i>		
Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<i>Humanities Inquiry</i>		
Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<i>Social Science Inquiry</i>		
Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<i>Natural Sciences Inquiry</i>		
CHEM 107 & CHEM 111	General Chemistry I and General Chemistry I Lab <sup>2</sup>	4
<i>Physical Sciences Inquiry</i>		
PHYS 216	University Physics 1 with Lab <sup>2</sup>	4
Subtotal		17
<b>Thematic Thread</b>		
Select 12 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) <sup>3</sup>		12
<b>Total Hours</b>		<b>45</b>

<sup>1</sup> Course offered in multiple subjects; cannot take course in first major subject

<sup>2</sup> Course counts for 50% of Major requirements and Major GPA

<sup>3</sup> One course from each category; six credits must be 300-level or above; no more than 4 credits from one subject area; specific courses required in first major, regardless of prefix of course, cannot be used to satisfy thread requirements; any course with same prefix as first major cannot be used to satisfy thread requirements, even if it is not a course in the first major.

## Basic Math Requirement

Check with your adviser or a current degree audit report to see if you have been exempted from this course. The credit earned in this course will not be counted toward the 120 credit hour minimum needed to earn a degree.

Code	Title	Hours
Complete one of the following:		0-3
Meet required minimum SAT or ACT math score OR		
ESAP 110	Beginning Algebra	
<b>Total Hours</b>		<b>0-3</b>

## DIVERSITY, EQUITY, AND INCLUSION REQUIREMENT

Students must take and pass a course with the Diversity, Equity, and Inclusion (DEI) designation prior to graduation. Students can meet this requirement by taking any DEI - designated course in any program at any time during their undergraduate career.

## Major Requirements

- Students may not withdraw from any course.
- Please meet with adviser for Rock Studies 2 recommended courses for Pre-Pharmacy
- Recommended Rock Studies 2 Courses:
  - ECON 201 OR ECON 202
  - PSYC 105 OR INDP 201

Code	Title	Hours
<b>Required Courses</b>		
CHEM 108	General Chemistry II <sup>1</sup>	3
CHEM 112	General Chemistry II Lab <sup>1</sup>	1
CHEM 201	Organic Chemistry I <sup>1</sup>	3
CHEM 211	Organic Chemistry Laboratory I <sup>1</sup>	1
CHEM 202	Organic Chemistry II <sup>1</sup>	3
CHEM 212	Organic Chemistry Laboratory II <sup>1</sup>	1
CHEM 301	Physical Chemistry I <sup>1</sup>	3
CHEM 321	Physical Chemistry Laboratory I <sup>1</sup>	1
CHEM 335	Biochemistry I <sup>1</sup>	3
CHEM 336	Biochemistry Laboratory I <sup>1</sup>	1
CHEM 337	Biochemistry II	3
CHEM 338	Biochemistry Laboratory II	1
Subtotal		24
<b>Chemistry Electives</b>		
Select one of the following:		4
CHEM 350 & CHEM 351	Analytical Chemistry and Analytical Chemistry Lab <sup>1</sup>	
CHEM 425 & CHEM 426	Instrumental Analysis and Instrumental Analysis Laboratory <sup>1</sup>	
Subtotal		4
<b>Required Math and Science Courses</b>		
BIOL 114	Biology II: Foundations of Molecules, Genes and Cells with Lab <sup>1</sup>	4
BIOL 250	Genetics with Lab <sup>1</sup>	4
MATH 230	Calculus II <sup>1</sup>	4
PHYS 217	University Physics 2 with Lab <sup>1</sup>	4
STAT 152	Elementary Statistics I <sup>1</sup>	3
Subtotal		19
<b>Total Hours</b>		<b>47</b>

<sup>1</sup> Course counts for 50% of Major requirements and Major GPA

\* Some courses may require pre-requisites. Please see course descriptions to determine if there are any pre-requisites for that specific course.

## Natural Science and Math College-Wide Requirements

Code	Title	Hours
CHEM 107	General Chemistry I <sup>1</sup>	3
CHEM 111	General Chemistry I Lab <sup>1</sup>	1
MATH 225	Calculus I <sup>1</sup>	4
PHYS 216	University Physics 1 with Lab <sup>1</sup>	4

<sup>1</sup> Course counts for 50% of Major requirements and Major GPA

## Co-curricular and Experiential Learning

Students are encouraged to explore additional curricular and co-curricular opportunities. There is a strong correlation between long-term student success and participation in the following types of programs and activities:

1. High-Impact Practice (HIP) designated classes (e.g., Organic Chemistry II Lab)
2. Student-faculty research
3. Student leadership development (Chemistry Club)
4. Career education and development
5. Internships
6. Student teaching (serve as Lab Assistants and tutors)
7. Volunteering

## Important Curriculum Guide Notes

This Curriculum Guide is provided to help SRU students and prospective students better understand their intended major curriculum. Enrolled SRU students should note that the My Rock Audit may place already-earned and/or in progress courses in different, yet valid, curriculum categories. Enrolled SRU students should use the My Rock Audit Report and materials and information provided by their faculty advisers to ensure accurate progress towards degree completion. *The information on this guide is current as of the date listed. Students are responsible for curriculum requirements at the time of enrollment at the University.*

PASSHE - Pennsylvania State System of Higher Education Institutions

CHEMISTRY - BS (6118)

Biochemistry w/3+3 Pre-Pharmacy (61P4)

This program is effective as of Summer 2022

Revised 07.06.2022

UCC 03.22.2022

## Recommended Three-Year Plan

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
CHEM 107 & CHEM 111	General Chemistry I and General Chemistry I Lab	4
ENGL 102	Critical Writing	3
ESAP 101	FIRST Seminar *	1
BIOL 114	Biology II: Foundations of Molecules, Genes and Cells with Lab	4
Select one of the following:		3-4
MATH 120	Intermediate Algebra (if necessary)	
MATH 125	Precalculus (if necessary)	
MATH 225	Calculus I (if necessary)	
MATH 230	Calculus II	
SUBJ 139	Foundations of Academic Discovery <sup>1</sup>	3
<b>Hours</b>		<b>18-19</b>
<b>Spring</b>		
CHEM 108 & CHEM 112	General Chemistry II and General Chemistry II Lab	4
BIOL 250	Genetics with Lab	4
SUBJ 139	Foundations of Academic Discovery	3
Select one of the following:		4

MATH 125	Precalculus (if necessary)	
MATH 225	Calculus I (if necessary)	
MATH 230	Calculus II	
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<b>Hours</b>		<b>18</b>
<b>Second Year</b>		
<b>Fall</b>		
CHEM 201 & CHEM 211	Organic Chemistry I and Organic Chemistry Laboratory I	4
ENGL 104	Critical Reading	3
PHYS 216	University Physics 1 with Lab	4
STAT 152	Elementary Statistics I	3
Select one of the following:		4
MATH 225	Calculus I (if necessary)	
MATH 230	Calculus II	
<b>Hours</b>		<b>18</b>
<b>Spring</b>		
CHEM 202 & CHEM 212	Organic Chemistry II and Organic Chemistry Laboratory II	4
MATH 230	Calculus II	4
PHYS 217	University Physics 2 with Lab	4
Select one of the following (Civil Discourse Requirement):		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<b>Hours</b>		<b>18</b>
<b>Third Year</b>		
<b>Fall</b>		
Select one of the following:		7-8
In even years, select:		
CHEM 442	Inorganic Chemistry	
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		
In odd years, select:		
CHEM 301 & CHEM 321	Physical Chemistry 1 and Physical Chemistry Laboratory I	
CHEM 350 & CHEM 351	Analytical Chemistry and Analytical Chemistry Lab	
CHEM 335 & CHEM 336	Biochemistry I and Biochemistry Laboratory I	4
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
Select one of the following:		4
In odd years, select:		
CHEM 442	Inorganic Chemistry	
CHEM 460	Materials Chemistry	

CHEM 337	Biochemistry II	4
& CHEM 338	and Biochemistry Laboratory II	
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<b>Hours</b>		<b>17</b>
<b>Total Hours**</b>		<b>106-108</b>

<sup>1</sup> Course offered in multiple subjects; cannot take course in first major subject

\* Students are encouraged to take ESAP 101 as a Free Elective.

*\*\* This document is meant to serve as a guide. Some planners may show more than 120 credits because faculty have created flexibility in choosing courses. However, only 120 credits are required to obtain a degree. Please consult with your academic adviser and refer to your curriculum guide prior to registering for courses. This plan should be reviewed, and verified, by you and your academic adviser at least once each academic year.*

Major Code: 6118

Concentration Code: 61P4

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