

# BIOLOGY, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN PRE-HEALTH PROFESSIONS / PRE-PHYSICAL THERAPY (SRU) (3+3)

## Program Learning Outcomes

- **Competence in Laboratory and Research Skills: To conduct, assess, and communicate research investigations using established scientific practices.** (SRU UG 1, 2, 3, 4, 5, 7, 10)
- **Core Concepts for Biological Literacy:** (SRU UG 1, 2, 3, 4, 5, 7, 9)
  - Knowledge/Content
    - Evolution
    - Structure and function across all levels of biological organization
    - Diversity and interactions of life
    - Information flow, exchange and storage in biological systems
  - Critical Thinking/Problem Solving
    - Connect information from cognate science courses and liberal arts courses to biological concepts
    - Apply scientific information to current and future societal problems
- **Participation in Diverse, Enriching Scientific Activities:** Apply technical and professional skills in hands-on laboratory, clinical or field experiences. (SRU UG 1, 2, 3, 4, 5, 7, 8, 9)
- **Professional Attitude:** Graduates demonstrate professional attitude, behavior, and ability to interact with people from diverse backgrounds and cultures. (SRU UG 1, 5, 7, 8, 9)

## Related Links

Biology - Pre-Health Professions/Pre-Physical Therapy, BS Program Page (<https://www.sru.edu/academics/majors-and-minors/biology-pre-physical-therapy/>)

Biology Department Page (<https://www.sru.edu/academics/colleges-and-departments/ches/departments/biology/>)

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

## Curriculum Guide

### GPA Requirement

#### 1st Major: Biology

- Overall GPA: 2.00 or higher
- Major GPA (only includes Biology courses): 2.00 or higher

#### 2nd Major: Pre-PT SRU 3+3 Biology

- Overall GPA: 3.00 or higher

## Summary\*

Code	Title	Hours
	Rock Studies 2 Requirements	45
	Other Basic Requirements	0-3
	Computer Competency	0-3
	Major Requirements	47-48
	Natural Science and Math College-Wide Requirements	12
	Electives	27-28

\* 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. However, because this is a pre-professional program, credits taken during the 1<sup>st</sup> year of the graduate program are applied toward the undergraduate credit hours to meet the 120 credits required for your undergraduate degree.

## 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 125	Precalculus	4
	or MATH 225	Calculus I
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	General Chemistry I	3
CHEM 111	General Chemistry I Lab	1
<i>Physical Sciences Inquiry</i>		
PHYS 201	Elements of Physics I with Lab	4
	or PHYS 216	University Physics 1 with Lab
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>2</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> 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>

## Computer Competency

Code	Title	Hours
Demonstrate "computer competency" by one of the following:		0-3
Pass Computer Competency Exam OR		
Select one of the following at SRU or another post-secondary institution:		
CPSC 100	Introduction to Computing for Liberal Arts	
CPSC 110	Computer Concepts	
CPSC 130	Introduction to Computing and Programming	
PE 202	Technology for Wellness	
<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 desiring a Biology Major must maintain at least a 2.000 average in Biology.
- Students must earn a "C" or better in both Biology I with Lab (BIOL 113 and Biology II with Lab (BIOL 114) before proceeding to their next biology course.
- Students must earn a "C" or better in both Genetics with Lab (BIOL 250) and Biometry with Lab (BIOL 325) prior to graduating.
- If you choose to pursue Pre-Physical Therapy SRU 3+3 Biology and are not accepted into the DPT program, then additional coursework is required to complete a first major of Biology-Professional. Please refer to the Biology-Professional Curriculum Guide.
- To view the SRU policy on senior undergraduate students earning graduate credit, click here (<https://catalog.sru.edu/academic-policies/senior-undergraduate-students-earning-graduate-credit/>).

Code	Title	Hours
<b>Biology Core Requirements</b>		
BIOL 113	Biology I: Foundations of Ecology, Evolution and Diversity with Lab <sup>1</sup>	4
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
BIOL 325	Biostatistics and Experimental Design with Lab <sup>1</sup>	3
<b>Subtotal</b>		<b>15</b>

### Required Upper-Level Biology

BIOL 209 & BIOL 309	Human Anatomy and Physiology I and Human Anatomy and Physiology II <sup>1</sup>	8
BIOL 305	Wetlands and Aquatic Plants/Lab <sup>1</sup>	3
or BIOL 306	Freshwater Biomonitoring/Lab	
or BIOL 350	Evolution	
or BIOL 401	Ecology with Lab	
BIOL 330	Microbiology/Lab <sup>1</sup>	3
BIOL 335	Cell Biology <sup>1</sup>	3
or BIOL 370	Molecular Biology	
<b>Subtotal</b>		<b>17</b>

### Related Sciences – Chemistry

CHEM 108	General Chemistry II <sup>3</sup>	3
CHEM 112	General Chemistry II Lab <sup>3</sup>	1
CHEM 201	Organic Chemistry I <sup>3</sup>	3
CHEM 211	Organic Chemistry Laboratory I <sup>3</sup>	1
<b>Subtotal</b>		<b>8</b>

### Related Sciences - Chemistry Advanced Elective

Select one of the following:		3-4
CHEM 202 & CHEM 212	Organic Chemistry II and Organic Chemistry Laboratory II <sup>1</sup>	
Upper-Level Biology Electives (p. ) <sup>1</sup>		

### Related Sciences - Physics

PHYS 202	Elements of Physics II/ Lab <sup>3</sup>	4
or PHYS 217	University Physics 2 with Lab	

**Total Hours** **47-48**

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

<sup>2</sup> It is recommended that students take PSYC 105 and their additional PSYC course as thread courses.

<sup>3</sup> Course counts for 50% of Major requirements but not for 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	3
CHEM 111	General Chemistry I Lab	1
MATH 125	Precalculus	4
or MATH 225	Calculus I	
PHYS 201	Elements of Physics I with Lab	4
or PHYS 216	University Physics 1 with Lab	

## Additional Physical Therapy Prerequisite Courses

Code	Title	Hours
PSYC 105	Introduction to Psychology <sup>2</sup>	3
PSYC (additional)	See My Rock Audit for options <sup>2</sup>	
<b>Total Hours</b>		<b>3</b>

## 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. Volunteering
2. Job Shadowing

## Doctor of Physical Therapy (DPT) Prerequisite Admission Requirements – Pre-Physical Therapy SRU 3+3

### For Application Requirements

Please refer to Slippery Rock University's Physical Therapy (Doctor of Physical Therapy) website for requirements: [www.sru.edu/PT](http://www.sru.edu/PT) (<http://www.sru.edu/PT/>).

### Rock Studies 2

Code	Title	Hours
<b>Prerequisite Courses - SRU Physical Therapy</b>		
Select one of the following:		6-8
BIOL 209 & BIOL 309	Human Anatomy and Physiology I and Human Anatomy and Physiology II	
BIOL 340 & BIOL 410	Vertebrate Anatomy with Lab and Animal Physiology with Lab	
CHEM 107 & CHEM 111	General Chemistry I and General Chemistry I Lab	4
CHEM 108 & CHEM 112	General Chemistry II and General Chemistry II Lab	4
Select one of the following:		8
PHYS 201 & PHYS 202	Elements of Physics I with Lab and Elements of Physics II/ Lab	
PHYS 216 & PHYS 217	University Physics 1 with Lab and University Physics 2 with Lab	
STAT 152 or BIOL 325	Elementary Statistics I Biostatistics and Experimental Design with Lab	3
PSYC 105	Introduction to Psychology	3
PSYC 244 or PSYC 276	Developmental Psychology Introduction to Abnormal Psychology	3
<b>Total Hours</b>		<b>31-33</b>

### Requirements for Pre-Physical Therapy SRU 3+3

If any of these requirements are not met, the 3+3 designation will be removed from the student's record:

1. A 3.0 or higher overall GPA must be maintained by the student.
2. The student can only be enrolled in the Pre-Physical Therapy SRU 3+3 program for a maximum of three (3) years, full-time continuous enrollment (fall/spring).

### Provision

Should a Pre-Physical Therapy SRU 3+3 student be unsuccessful in completing the 1st two semesters (fall or spring) of the Doctor of Physical Therapy Program and wants to complete the original undergraduate degree, it is solely up to the discretion of the undergraduate program Department Chair to determine which, if any, Physical Therapy courses will count toward the completion of his/her undergraduate degree. In addition, students must complete any unfulfilled requirements of their undergraduate major. Students may

still apply to the Doctor of Physical Therapy Program with an earned Bachelor's degree.

## 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

BIOLOGY - PRE-HEALTH PROFESSIONS - BS (6108)

PRE-PT SRU 3+3 (61P8)

This program is effective as of Summer 202

Revised 05.15.2023

UCC 11.29.2022

## RECOMMENDED THREE-YEAR PLAN

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
ENGL 102	Critical Writing	3
BIOL 113	Biology I: Foundations of Ecology, Evolution and Diversity with Lab	4
CHEM 107	General Chemistry I	3
CHEM 111	General Chemistry I Lab	1
SUBJ 139	Foundations of Academic Discovery *	3
ESAP 101	FIRST Seminar <sup>1</sup>	1
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
ENGL 104	Critical Reading	3
BIOL 114	Biology II: Foundations of Molecules, Genes and Cells with Lab	4
CHEM 108	General Chemistry II	3
CHEM 112	General Chemistry II Lab	1
Creative & Aesthetic Inquiry ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
Humanities Inquiry ( <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>Second Year</b>		
<b>Fall</b>		
Select one of the following:		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	
BIOL 250	Genetics with Lab	4
CHEM 201	Organic Chemistry I	3
CHEM 211	Organic Chemistry Laboratory I	1
Social Science Inquiry ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> )		3

Thematic Thread Requirement - PSYC 105 is recommended 3 Major/Concentration: 6108  
 (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/) 2nd Major: 61P8  
 Revised: 06.14.2023

Declare a Thematic Thread <sup>2</sup>

**Hours 17**

**Spring**

BIOL 209 Human Anatomy and Physiology I 4

BIOL 325 Biostatistics and Experimental Design with Lab 3

BIOL 300+ Upper Level BIOL Elective 3

Thematic Thread Requirement (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) 3

Thematic Thread Requirement (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) 3

**Hours 16**

**Third Year**

**Fall**

BIOL 309 Human Anatomy and Physiology II 4

PHYS 201 Elements of Physics I with Lab 4  
 or PHYS 216 or University Physics 1 with Lab

MATH 225 Calculus I 4  
 or MATH 125 or Precalculus

Thematic Thread Requirement (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) 3

**Hours 15**

**Spring**

BIOL 330 Microbiology/Lab 3

BIOL 335 Cell Biology 3

BIOL 350 Evolution 3

PHYS 202 Elements of Physics II/ Lab 4  
 or PHYS 217 or University Physics 2 with Lab

Additional Psychology Course 3

**Hours 16**

**Fourth Year**

**Fall**

Physical Therapy Program 12

**Hours 12**

**Spring**

Physical Therapy Program 12

**Hours 12**

**Total Hours\*\* 120**

<sup>1</sup> Students are encouraged to take ESAP 101 as a Free Elective.

<sup>2</sup> Work with your Academic Adviser to declare a Thematic Thread by the end of your fall semester in your second year.

\* Course offered in multiple subjects; cannot take course in first major subject.

\*\* 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.