

# BIOLOGY, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN MEDICAL TECHNOLOGY

## 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 - Medical Technology, BS Program Page (<https://www.sru.edu/academics/majors-and-minors/biology-medical-technology/>)

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

## Curriculum Guide

### GPA Requirement

Major GPA: 2.0 or higher

Overall GPA: 2.0 or higher

Core GPA: 2.0 or higher

### Summary\*

Code	Title	Hours
	Rock Studies 2 Requirements	45
	Other Basic Requirements	0-3
	Major/Concentration Requirements	60
	Natural Science and Math College-Wide Requirements	12
	Electives	15

\* 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 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>

## 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/Concentration Requirements

- 60 credits = 42 coursework credits; 18 clinical credits
- 30 major credits must be taken at SRU or PASSHE
- 30 major credits must be taken at the 300 level or above
- 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.
- 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	4
BIOL 114	Biology II: Foundations of Molecules, Genes and Cells with Lab	4
BIOL 250	Genetics with Lab <sup>1,2</sup>	4
BIOL 325	Biostatistics and Experimental Design with Lab	3
Subtotal		15
<b>Required Upper-Level Biology</b>		
BIOL 209	Human Anatomy and Physiology I	4
BIOL 309	Human Anatomy and Physiology II	4
BIOL 316	Immunology with Lab <sup>1</sup>	3
BIOL 330	Microbiology/Lab <sup>1</sup>	3
BIOL 335 or BIOL 370	Cell Biology <sup>1</sup> Molecular Biology	3
Subtotal		17
<b>Related Sciences - Chemistry</b>		
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 202	Organic Chemistry II <sup>3</sup>	3
CHEM 211	Organic Chemistry Laboratory I <sup>3</sup>	1
CHEM 212	Organic Chemistry Laboratory II <sup>3</sup>	1
Subtotal		12
<b>Related Sciences - Physics</b>		
PHYS 202 or PHYS 217	Elements of Physics II/ Lab University Physics 2 with Lab	4
<b>Clinical Experience (12 credits to complete 120 hrs in degree)</b>		

Minimum of 91 hrs on campus plus 1 year (12 months) at an affiliated School of Medical Technology or one acceptable to SRU

BIOL 4TR	Clinical Experience <sup>3</sup>	12
<b>Total Hours</b>		<b>60</b>

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

<sup>2</sup> Core GPA

<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 or MATH 225	Precalculus Calculus I	4
PHYS 201 or PHYS 216	Elements of Physics I with Lab University Physics 1 with Lab	4

### Electives

Code	Title	Hours
BIOL 4TR	Clinical Experience	14

### 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. Career education and development
2. Student-faculty research
3. Volunteering
4. Job Shadowing

### 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 - BS (6108)

Concentration in Medical Technology (MEDT)

This program is effective as of Summer 2023

Revised 02.16.2024

UCC 11.29.2022

## Recommended Four-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 <sup>1</sup>	3
ESAP 101	FIRST Seminar *	1

---

**Hours** **15**

**Spring**

ENGL 104	Critical Reading	3
CHEM 108	General Chemistry II	3
CHEM 112	General Chemistry II Lab	1
BIOL 114	Biology II: Foundations of Molecules, Genes and Cells with Lab	4
MATH 125 or MATH 225	Precalculus or Calculus I	4

---

**Hours** **15**

**Second Year****Fall**

BIOL 209	Human Anatomy and Physiology I	4
BIOL 250	Genetics with Lab	4
CHEM 201	Organic Chemistry I	3
CHEM 211	Organic Chemistry Laboratory I	1
Select one of the following:		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	

---

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

---

**Hours** **15**

**Spring**

BIOL 309	Human Anatomy and Physiology II	4
BIOL 325	Biostatistics and Experimental Design with Lab	3
CHEM 202	Organic Chemistry II	3
CHEM 212	Organic Chemistry Laboratory II	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
Social Science 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

---

**Hours** **17**

**Third Year****Fall**

BIOL 370 or BIOL 335	Molecular Biology or Cell Biology	3
PHYS 201 or PHYS 216	Elements of Physics I with Lab or University Physics 1 with Lab	4
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
Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3

---

**Hours** **16**

**Spring**

BIOL 316	Immunology with Lab	3
----------	---------------------	---

BIOL 330	Microbiology/Lab	3
Elective		2
Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3

---

**Hours** **14**

**Fourth Year****Fall**

BIOL 4TR	School of Medical Technology	14
----------	------------------------------	----

---

**Hours** **14**

**Spring**

BIOL 4TR	School of Medical Technology	14
----------	------------------------------	----

---

**Hours** **14**

---

**Total Hours\*\*** **120**

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

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

\* 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: 6108

Concentration Code: MEDT

Revised date: 07.12.2023