BIOLOGY, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN PRE-HEALTH PROFESSIONS / ANTIGUA MEDICINE (4+4)

Curriculum Guide

GPA Requirement

Overall GPA: 3.0 or higher
Major GPA: 2.0
Pre-requisite GPA: 3.0 or higher
No “F” or “D” grade in any pre-requisite course

Summary*

Code	Title	Hours
Rock Studies 2 Requirements		45
Other Basic Requirements		0-3
Major Requirements/Concentration		58-60
Natural Science and Math College-Wide Requirements		12
Electives		15-17

* 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
The Rock		
SUBJ 139	Foundations of Academic Discovery [1]	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
Integrated Inquiry		
Creative and Aesthetic Inquiry		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Humanities Inquiry		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Social Science Inquiry		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Natural Science Inquiry		
CHEM 107	General Chemistry I	3
CHEM 111	General Chemistry I Lab	1
Physical Science Inquiry		
PHYS 201	Elements of Physics I with Lab	4
or PHYS 216	University Physics 1 with Lab	
Subtotal		17
Thematic Thread		
Select 12 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) [2]		12
Total Hours		**45**

[1] Course offered in multiple subjects; cannot take course in first major subject

[2] 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	
Total Hours		**0-3**

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/Concentration

- 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
Biology Core Requirements		
BIOL 113	Biology I: Foundations of Ecology, Evolution and Diversity with Lab [1]	4
BIOL 114	Biology II: Foundations of Molecules, Genes and Cells with Lab [1]	4
BIOL 250	Genetics with Lab [1]	4

BIOL 325	Biostatistics and Experimental Design with Lab [1]	3
Subtotal		15
Required Upper-Level Biology		
Select one of the following:		6-8
BIOL 209 & BIOL 309	Human Anatomy and Physiology I and Human Anatomy and Physiology II [1]	
BIOL 340 & BIOL 410	Vertebrate Anatomy with Lab and Animal Physiology with Lab [1]	
BIOL 305	Wetlands and Aquatic Plants/Lab [1]	3
or BIOL 306	Freshwater Biomonitoring/Lab	
or BIOL 350	Evolution	
or BIOL 401	Ecology with Lab	
BIOL 330	Microbiology/Lab [1]	3
BIOL 335	Cell Biology [1]	3
or BIOL 370	Molecular Biology	
Subtotal		15-17
Additional Upper-Level Biology Electives		
Select six credits from courses not chosen above, or any 300/400 level course listed below. Additional electives may be selected from the Marine Science offerings listed below. PLE courses are only offered during the summer months through our affiliation with Pymatuning Laboratory of Ecology.		6
Upper-Level Biology Electives (p. 2) [1]		
Subtotal		6
Related Sciences – Chemistry		
CHEM 108	General Chemistry II [2,4,5]	3
CHEM 112	General Chemistry II Lab [2,4]	1
CHEM 201	Organic Chemistry I [2,4]	3
CHEM 202	Organic Chemistry II [2,4]	3
CHEM 211	Organic Chemistry Laboratory I [2,4]	1
CHEM 212	Organic Chemistry Laboratory II [2,4]	1
Subtotal		12
Related Sciences – Chemistry Advanced Elective		
Select one of the following:		3
CHEM 301	Physical Chemistry 1 [1,4]	
CHEM 335	Biochemistry I [1,4]	
Related Sciences – Physics		
PHYS 202	Elements of Physics II/ Lab [2]	4
or PHYS 217	University Physics 2 with Lab	
Independent Study Option		
Select one of the following options:		3
Independent Study Option		
BIOL 490	Independent Study [1]	
Non-Independent Study Option		
Select 3 credits in BIOL or MARS course from Additional Upper-Level Biology Electives below.		
Upper-Level Biology Electives (p. 2) [1]		
Total Hours		**58-60**

[1] Course counts for 50% of Major requirements and Major GPA

[2] Course counts for 50% of Major requirements but not for Major GPA

[3] Additional electives may be selected from the Marine Science offerings listed below. PLE courses are only offered during the summer months through our affiliation with Pymatuning Laboratory of Ecology.

[4] Course counts for 50% of Major requirements but not for Major GPA

[5] Course can be counted as a Rock Studies 2 Requirement, but earns credit only once toward your 120-credits total.

* 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 Upper-Level Biology Electives

Code	Title	Hours
BIOL 301	Forest Ecology (PLE) [1]	3
BIOL 302	Ecology of Amphibians & Reptiles/Lab (PLE) [1]	3
BIOL 303	Behavioral Ecology/Lab (PLE) [1]	3
BIOL 305	Wetlands and Aquatic Plants/Lab [1]	3
BIOL 306	Freshwater Biomonitoring/Lab [1]	3
BIOL 307	Vertebrate Ecology/Lab (PLE) [1]	3
BIOL 308	Aquatic Ecosystem Management / Lab (PLE) [1]	3
BIOL 310	Plant Diversity with Lab [1]	3
BIOL 311	Entomology/Lab [1]	3
BIOL 312	Zoology with Lab [1]	3
BIOL 313	Herpetology/Lab (PLE) [1]	3
BIOL 314	Parasitology with Lab [1]	3
BIOL 316	Immunology with Lab [1]	3
BIOL 317	Ecology and Fungi (PLE) [1]	3
BIOL 320	Ornithology/Lab [1]	3
BIOL 321	Wildlife Management/Lab (PLE) [1]	3
BIOL 322	Conservation Biology/Lab (PLE) [1]	3
BIOL 323	Stream Ecology/Lab (PLE) [1]	3
BIOL 326	Field Methods in Biogeography/Lab (PLE) [1]	3
BIOL 327	Limnology/Lab (PLE) [1]	3
BIOL 331	Mammology/Lab (PLE) [1]	3
BIOL 343	Embryology with Lab [1]	3
BIOL 350	Evolution [1]	3
BIOL 356	Field Ecology / Lab (PLE) [1]	3
BIOL 357	Environmental Microbiology with Lab [1]	4
BIOL 360	Field Botany [1]	3
BIOL 361	Flora of Western Pennsylvania (PLE) [1]	3
BIOL 371	Vertebrate Field Zoology [1]	3
BIOL 373	Ichthyology/Lab (PLE) [1]	3
BIOL 375	Ecology of Fish / Lab (PLE) [1]	3

BIOL 380	Endocrinology [1]	3
BIOL 402	Biogeography/Lab (PLE) [1]	3
BIOL 405	Animal Physiological Ecology with Lab [1]	4
BIOL 409	Pathophysiology [1]	3
BIOL 412	Population Biology (PLE) [1]	3
BIOL 430	Pathogenic Microbiology [1]	3
BIOL 435	Cellular and Molecular Analysis Laboratory [1]	3
BIOL 450	Biology Internship [1]	3
BIOL 470	Histology with Lab [1]	3
BIOL 498	Selected Topics [1]	3
MARS 221	Marine Invertebrates [1]	3
MARS 241	Marine Biology [1]	3
MARS 250	Wetland Ecology [1]	3
MARS 260	Marine Ecology [1]	3
MARS 270	Coastal Vegetation [1]	3
MARS 298	Selected Topics [1]	3
MARS 300	Behavior of Marine Organisms [1]	3
MARS 310	The Mammals of Coastal Ecosystems [1]	3
MARS 320	Marine Microbiology [1]	3
MARS 330	Tropical Invertebrates	3
MARS 342	Marine Botany [1]	3
MARS 343	Marine Ichthyology [1]	3
MARS 344	Anatomy of Marine Chordates [1]	3
MARS 345	Ornithology [1]	3
MARS 350	Physiology of Marine Invertebrates [1]	3
MARS 398	Selected Topics [1]	3
MARS 420	Marine Micropaleontology [1]	3
MARS 431	Ecology of Marine Plankton [1]	3
MARS 441	Biology of Molluscs [1]	3
MARS 490	Independent Study [1]	3
MARS 491	Coral Reef Ecology [1]	3
MARS 492	Marine Mammals [1]	3
MARS 498	Selected Topics [1]	3
MARS 500	Problems in Marine Science [1]	3

[1] 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. Student-faculty research
2. Internships
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 - PRE-HEALTH PROFESSIONS- BS
American University of Antigua College of Medicine (4+4) (61AM)
This program is effective as of Summer 2023
Revised 06.02.2023
UCC 11.29.2022