

# BIOLOGY, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN PROFESSIONAL / PRE-PHYSICAL THERAPY (SRU) (TRADITIONAL) - LIBERAL STUDIES

## 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
	Liberal Studies Requirements	45-46
	Other Basic Requirements	0-3
	Computer Competency	0-3
	Major/Concentration Requirements	59-60
	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.

### Liberal Studies Requirements

Code	Title	Hours
<b>Goal Course Requirements</b>		
<i>Basic Requirements</i>		
ENGL 102	Critical Writing	3
ENGL 104	Critical Reading	3
COMM 200	Civil Discourse: Theory & Practice	3
<i>The Arts</i>		
Goal ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		3
<i>Global Community</i>		
Goal-Non-US ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		3
Goal-Non-US ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		3
Goal-US ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		3
<i>Human Institutions/Interpersonal Relationships</i>		
Goal ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		3
<i>Science, Technology &amp; Math</i>		
Select 9-10 credits of the following:		9-10

CHEM 107	General Chemistry I	
CHEM 111	General Chemistry I Lab	
MATH 225	Calculus I	
PHYS 211	General Physics I with Lab	
<i>Challenges of the Modern Age</i>		
Goal ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		3
Subtotal		36-37
<b>Enrichment Course Requirements</b>		
Select one course from three of the following Enrichment Areas:		9
The Arts ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		
Global Community ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		
Human Institutions/Interpersonal Relationships ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> )		
Science, Technology & Math ( <a href="http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/">http://catalog.sru.edu/undergraduate/liberal-studies/liberal-studies-guide/</a> ) <sup>1</sup>		
Subtotal		9
Total Hours		45-46

### Note

<sup>1</sup> CHEM 108<sup>2</sup>

<sup>2</sup> Course counts for 50% of Major requirements but not for Major GPA

### 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:		
Meet required minimum SAT or ACT math score OR		
ACSD 110	Beginning Algebra	0-3
Total Hours		0-3

### Computer Competency

Code	Title	Hours
Demonstrate "computer competency" by one of the following:		
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	
Total Hours		0-3

### 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.

- Before progressing to a 200-level course, students must achieve a 2.000 average in Principles of Biology - BIOL 104.
- Students may register in 200-level courses in any order, but must maintain a Biology average of 2.000 or better and must complete the 200 core sequence before progressing to 300 and 400-level courses in the major.
- A student must repeat any 200-level course that brings the Biology average below a 2.000.
- Students should complete all 200-level Biology requirements by the end of their sophomore year.
- If you have questions about Financial Aid, visit their website (<https://www.sru.edu/admissions/financial-aid/>).
- To view the SRU policy on senior undergraduate students earning graduate credit, click here (<http://catalog.sru.edu/undergraduate/academic-policies/senior-undergraduate-students-earning-graduate-credit/>).

Code	Title	Hours
<b>Biology Core Requirements</b>		
BIOL 104	Principles of Biology with Lab <sup>1,2</sup>	4
BIOL 201	General Botany with Lab <sup>1,2</sup>	4
BIOL 212	General Zoology with Lab <sup>1,2</sup>	4
BIOL 250	Genetics with Lab <sup>1,2</sup>	4
Subtotal		16
<b>Required Upper-Level Biology</b>		
BIOL 492	Biology Seminar <sup>1</sup>	1
Subtotal		1
<b>Upper-Level Biology Electives</b>		
Select five courses of the following:		15
BIOL 325	Biometry with Lab <sup>1</sup>	
BIOL 330	Microbiology/Lab <sup>1</sup>	
BIOL 335	Cell Biology/Lab <sup>1</sup>	
BIOL 340	Vertebrate Anatomy with Lab <sup>1</sup>	
BIOL 370	Molecular Biology with Lab <sup>1</sup>	
BIOL 401	Ecology with Lab <sup>1</sup>	
BIOL 410	Animal Physiology with Lab <sup>1</sup>	
BIOL 451	Plant Physiology/Lab <sup>1</sup>	
Subtotal		15
<b>Additional Upper-Level Biology Electives</b>		
Select 6 credits which can come 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)		
Subtotal		6
<b>Related Sciences – Chemistry</b>		
CHEM 108	General Chemistry II <sup>4</sup>	3
CHEM 112	General Chemistry II Lab <sup>4</sup>	1
CHEM 201	Organic Chemistry I <sup>4</sup>	3
CHEM 202	Organic Chemistry II <sup>4</sup>	3
CHEM 211	Organic Chemistry Laboratory I <sup>4</sup>	1
CHEM 212	Organic Chemistry Laboratory II <sup>4</sup>	1
Subtotal		12
<b>Related Sciences – Chemistry Advanced Elective</b>		

Select one of the following:		3
CHEM 301	Physical Chemistry I <sup>4</sup>	
CHEM 335	Biochemistry I <sup>4</sup>	

**Related Sciences – Physics**

Select one of the following:		3-4
PHYS 213	General Physics III/ Lab <sup>4</sup>	
Any 300/400 level BIOL elective <sup>5</sup>		

**Independent Study Option***Independent Study Option*

CHEM 490	Independent Study	
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*Non-Independent Study Option*

Select 3 credits in BIOL or MARS course from Additional Upper-Level Biology Electives

Upper-Level Biology Electives (p. 2)

**Major Field Test**

Field Test required of all Biology students before graduation

Total Hours	56-57
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- Course counts for 50% of Major requirements and Major GPA
  - Core GPA
  - 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.
  - Course counts for 50% of Major requirements but not for Major GPA
  - With the exception of BIOL 300, BIOL 314, BIOL 315, BIOL 316, BIOL 319, BIOL 345
- \* 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 225	Calculus I	4
PHYS 211	General Physics I with Lab	4

**Additional Physical Therapy Prerequisite Courses**

Code	Title	Hours
BIOL 216	Anatomy and Physiology I with Lab	3
BIOL 217	Anatomy and Physiology II with Lab	3
PSYC 105	Introduction to Psychology	3
PSYC XXX	See My Rock Audit for options	3

**Additional Upper-Level Biology Electives**

Code	Title	Hours
BIOL 301	Forest Ecology <sup>1</sup>	3
BIOL 302	Ecology of Amphibians & Reptiles/Lab <sup>1</sup>	3
BIOL 303	Behavioral Ecology/Lab <sup>1</sup>	3
BIOL 305	Wetlands and Aquatic Plants/Lab <sup>1</sup>	3
BIOL 306	Freshwater Biomonitoring/Lab <sup>1</sup>	3
BIOL 307	Vertebrate Ecology/Lab <sup>1</sup>	3
BIOL 308	Aquatic Ecosystem Management / Lab <sup>1</sup>	3

BIOL 310	Plant Systematics with Lab <sup>1</sup>	3
BIOL 311	Entomology/Lab <sup>1</sup>	3
BIOL 313	Herpetology/Lab <sup>1</sup>	3
BIOL 314	Medical Parasitology with Lab <sup>1</sup>	1
BIOL 315	Medical Mycology/Lab <sup>1</sup>	1
BIOL 316	Medical Immunology with Lab <sup>1</sup>	1
BIOL 317	Ecology and Fungi <sup>1</sup>	3
BIOL 319	Medical Virology with a Lab	1
BIOL 320	Ornithology/Lab <sup>1</sup>	3
BIOL 321	Wildlife Management/Lab <sup>1</sup>	3
BIOL 322	Conservation Biology/Lab <sup>1</sup>	3
BIOL 323	Stream Ecology/Lab <sup>1</sup>	3
BIOL 326	Field Methods in Biogeography/Lab <sup>1</sup>	3
BIOL 327	Limnology/Lab <sup>1</sup>	3
BIOL 331	Mammalogy/Lab <sup>1</sup>	3
BIOL 343	Embryology with Lab <sup>1</sup>	3
BIOL 345	Introduction to Biological Electron Microscopy <sup>1</sup>	2
BIOL 350	Evolution <sup>1</sup>	3
BIOL 356	Field Ecology / Lab <sup>1</sup>	3
BIOL 357	Environmental Microbiology with Lab <sup>1</sup>	4
BIOL 360	Field Botany <sup>1</sup>	3
BIOL 361	Flora of Western Pennsylvania <sup>1</sup>	3
BIOL 371	Vertebrate Field Zoology <sup>1</sup>	3
BIOL 373	Ichthyology/Lab <sup>1</sup>	3
BIOL 375	Ecology of Fish / Lab <sup>1</sup>	3
BIOL 402	Biogeography/Lab <sup>1</sup>	3
BIOL 405	Animal Physiological Ecology with Lab <sup>1</sup>	4
BIOL 412	Population Biology <sup>1</sup>	3
BIOL 430	Pathogenic Microbiology with Lab <sup>1</sup>	3
BIOL 450	Biology Internship <sup>1</sup>	3
BIOL 465	Plant Anatomy with Lab <sup>1</sup>	3
BIOL 470	Histology with Lab <sup>1</sup>	3
BIOL 498	Selected Topics <sup>1</sup>	3
MARS 221	Marine Invertebrates <sup>1</sup>	3
MARS 241	Marine Biology <sup>1</sup>	3
MARS 250	Wetland Ecology <sup>1</sup>	3
MARS 260	Marine Ecology <sup>1</sup>	3
MARS 270	Coastal Vegetation <sup>1</sup>	3
MARS 298	Selected Topics <sup>1</sup>	3
MARS 300	Behavior of Marine Organisms <sup>1</sup>	3
MARS 310	The Mammals of Coastal Ecosystems <sup>1</sup>	3
MARS 320	Marine Microbiology <sup>1</sup>	3
MARS 330	Tropical Invertebrates <sup>1</sup>	3
MARS 342	Marine Botany <sup>1</sup>	3
MARS 343	Marine Ichthyology <sup>1</sup>	3
MARS 344	Anatomy of Marine Chordates <sup>1</sup>	3
MARS 345	Ornithology <sup>1</sup>	3
MARS 350	Physiology of Marine Invertebrates <sup>1</sup>	3
MARS 398	Selected Topics <sup>1</sup>	3
MARS 420	Marine Micropaleontology <sup>1</sup>	3
MARS 431	Ecology of Marine Plankton <sup>1</sup>	3

MARS 441	Biology of Molluscs <sup>1</sup>	3
MARS 490	Independent Study <sup>1</sup>	3
MARS 491	Coral Reef Ecology <sup>1</sup>	3
MARS 492	Marine Mammals <sup>1</sup>	3
MARS 498	Selected Topics <sup>1</sup>	3
MARS 500	Problems in Marine Science <sup>1</sup>	3

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

## Doctor of Physical Therapy (DPT) Prerequisite Admission Requirements

### 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/>)

### Liberal Studies and Rock Studies

Code	Title	Hours
<b>Prerequisite Courses - SRU Physical Therapy</b>		
Select one of the following:		6
BIOL 216 & BIOL 217	Anatomy and Physiology I with Lab and Anatomy and Physiology II with Lab	
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 211 & PHYS 213	General Physics I with Lab and General Physics III/ Lab	
STAT 152 or BIOL 325	Elementary Statistics I or Biometry with Lab	3
PSYC 105	Introduction to Psychology	3
Additional Psychology Course <sup>1</sup>		3
Total Hours		31

<sup>1</sup> See My Rock Audit for specific courses.

## 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 - Professional - BS (6108)

Pre-PT Traditional

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