

# Slippery Rock University of Pennsylvania – Curriculum Guide

## Bachelor of Science in Physics – Computational Biophysics Track

### LIBERAL STUDIES REQUIREMENTS (45-46 credits)

See Liberal Studies Guide for Goal and Enrichment choices

#### GOAL COURSE REQUIREMENTS

Complete Goal requirements as indicated below (36-37 credits)

✓	Course	Title	Cr	Gr
<b>Basic Requirements- ENGL101&amp;103 required if student entered SRU prior to Fall 2011. ENGL102 required if student entered SRU Fall 2011 forward.</b>				
	ENGL 101 and ENGL 103 or ENGL	College Writing I and College Writing II or College Writing	3	
	COMM 200	Public Speaking ★	3	
	ENGL 210	Interpreting Literature ★	3	

#### The Arts

	Goal		3	
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#### Global Community (see Liberal Studies Guide for details)

	Goal – Non-US		3	
	Goal – Non – US		3	
	Goal – US		3	

#### Human Institutions/Interpersonal Relationships

	Goal		3	
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#### Science, Technology & Math

	CHEM 107	General Chemistry I ★◇	3	
	CHEM 111	General Chemistry I Lab ★◇	1	
	Goal – Sci		◇ 3	
	MATH 225	Calculus I ★◇	4	

#### Challenges of the Modern Age

	Goal		3	
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### ENRICHMENT COURSE REQUIREMENTS

Choose one course from three of the following Enrichment areas. (9 credits)

#### The Arts

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#### Global Community

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#### Human Institutions/Interpersonal Relationships

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#### Science, Technology & Math

	MATH 230	Calculus II ★◇	4	
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### OTHER BASIC REQUIREMENTS

Check with your advisor 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.

	ACSD 110	Beginning Algebra	3	
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### COMPUTER COMPETENCY (for students entering Fall 2008 and after)

Students must demonstrate "computer competency" by:

	Passed Exam	Pass Computer Competency Exam at SRU Orientation		
<b>OR</b>	CPSC _____	<b>Complete one of the following courses:</b> CPSC 100, 110, 130 or 210 at SRU or another post-secondary institution	1-3	

#### 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 advisors to ensure accurate progress towards degree completion. *The information on this guide is current as of the date below. Students are responsible for curriculum requirements at the time of enrollment at the University.*

★ Indicates this course may have a prerequisite. Please refer to the Undergraduate Online Catalog.

◇ Indicates this course may count as a Major Requirement and a Liberal Studies Requirement, **but you will only receive credit once towards your 120 credit total.**

Student's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Advisor's Name: \_\_\_\_\_

### MAJOR REQUIREMENTS (58 credits)

✓	Course	Title	Cr	Gr
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#### Required Physics Courses ( 27 credits)

	PHYS 212	General Physics II / Lab ★	4	
	PHYS 213	General Physics III / Lab ★	3	
	PHYS 315	Engineering Mechanics II: Dynamics★	3	
	PHYS 331 or MATH 331	Mathematical Methods of Physics ★	3	
	PHYS 371	Optics ★	3	
	PHYS 410	Electricity and Magnetism ★	3	
	PHYS 411	Modern Physics ★	4	
	PHYS 480	Quantum ★	3	

#### Advanced Lab Requirements (4 credits)

	PHYS 381	Advanced Physics Lab ★	2	
	PHYS 382	Optics Lab ★	2	

#### Required Physics Electives (6 credits)

	PHYS 315	Engineering Mechanics II: Dynamics★	3	
	PHYS 375	Thermal Physics ★	3	
	PHYS 385	Computational Physics ★	3	

#### Related Field Work (21 credits)

	CHEM 108	General Chemistry II ★	3	
	CHEM 112	General Chemistry II Lab ★	1	
	MATH 230	Calculus II ★	4	
	MATH 231	Calculus III ★	4	
	MATH 240	Linear Algebra and Differential Equations ★	3	
	MATH 301	Differential Equations I ★	3	
	CPSC 140	Intro to Programming Principles ★	3	

### NATURAL SCIENCE AND MATH COLLEGE-WIDE REQUIREMENTS

Students must take the following four courses (12 credits)

	CHEM 107	General Chemistry I ★◇	3	
	CHEM 111	General Chemistry I Lab ★◇	1	
	MATH 225	Calculus I ★◇	4	
	PHYS 211	General Physics I/Lab ★◇	4	

### CONCENTRATION COURSES (28 creditS)

	BIOL 104	Principles of Biology	4	
	BIOL 250	Genetics★	3	
	BIOL 325	Biometry★	3	
	BIOL 335	Cell Biology★	3	
	BIOL 370	Molecular Biology★	3	
	CPSC 150	Advanced Programming Principles★	3	
	CPSC 374	Algorithms and Data Structures★	3	
	CPSC 498	Machine Learning★	3	
	CHEM 201	Organic Chemistry I★	3	

**QPA REQUIREMENT**  
**2.00 or higher Major QPA**  
**2.00 or higher Overall QPA**

**SlipperyRock**  
University  
of Pennsylvania

PHYSICS – BS  
COMPUTATIONAL BIOPHYSICS TRACK  
Effective Fall 2011 to present  
Enrollment Services  
Revised 9-2011