

# Slippery Rock University of Pennsylvania – Curriculum Guide

## Bachelor of Arts in Physics Pre-Engineering with Youngstown State University Track

LIBERAL STUDIES REQUIREMENTS (48-49 credits)				
See Liberal Studies Guide for Goal and Enrichment choices				
GOAL COURSE REQUIREMENTS				
Complete Goal requirements as indicated below (39-40 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 102	College Writing I and College Writing II or College Writing	3 3 3	
	COMM 200	Public Speaking ★	3	
	ENGL 210	Interpreting Literature ★	3	
<b>The Arts</b>				
	Goal		3	
<b>Global Community (see Liberal Studies Guide for details)</b>				
	Goal – Non-US		3	
	Goal – Non – US		3	
	Goal – US		3	
<b>Human Institutions/Interpersonal Relationships</b>				
	Goal		3	
<b>Science, Technology &amp; Math</b>				
	CHEM 107	General Chemistry I ★◇	3	
	CHEM 111	General Chemistry I Lab ★◇	1	
	Goal – Sci		◇ 3	
	MATH 225	Calculus I ★◇	4	
<b>Challenges of the Modern Age</b>				
	Goal		3	
ENRICHMENT COURSE REQUIREMENTS				
Choose one course from three of the following Enrichment areas. (9 credits)				
<b>The Arts</b>				
<b>Global Community</b>				
<b>Human Institutions/Interpersonal Relationships</b>				
<b>Science, Technology &amp; Math</b>				
	MATH 230	Calculus II ★◇	4	

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	

BA MODERN LANGUAGE REQUIREMENT				
Exemption from these courses may be possible based on the student's performance on a placement exam given by the Modern Language and Cultures department. (0-9 credits)				

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 _____	Complete one of the following courses: 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 Name: \_\_\_\_\_ Date: \_\_\_\_\_

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

MAJOR REQUIREMENTS (58 credits)				
✓	Course	Title	Cr	Gr
<b>Required Physics Courses (19 credits)</b>				
	PHYS 140	Engineering Graphics I	2	
	PHYS 141	Engineering Graphics II ★	1	
	PHYS 211	General Physics I / Lab ★	4	
	PHYS 212	General Physics II / Lab ★	4	
	PHYS 213	General Physics III / Lab ★	3	
	PHYS 314	Engineering Mechanics I★	3	
	PHYS 331	Mathematical Methods of Physics ★	3	
<b>Major Related Electives (9 credits)</b>				
<b>Elective courses need to be selected based upon area of Engineering chosen. Please contact your Advisor for specific courses.</b>				
	PHYS 315	Engineering Mechanics II: Dynamics ★	3	
	PHYS 325	Analog & Digital Electronics / Lab★	3	
	PHYS 371	Optics ★	3	
	PHYS 381	Advanced Physics Lab ★	2	
	PHYS 410	Electricity and Magnetism ★	3	
	PHYS 411	Modern Physics ★	4	
	PHYS 480	Quantum ★	3	
	CHEM 201	Organic Chemistry I ★	3	
	CHEM 202	Organic Chemistry II ★	3	
	CHEM 211	Organic Chemistry I Lab ★	1	
	CHEM 212	Organic Chemistry II Lab ★	1	
	CHEM / PHYS 301	Physical Chemistry I ★	3	
	EGEO 101	Physical Geology	1	
	EGEO 202	Earth History ★	3	
	EGEO 111	Physical Geology Lab★	1	
	EGEO 212	Earth History Lab ★	1	
	EGEO 201	Earth Materials and Processes / Lab★	3	
	EGEO 327	Structural Geology★	3	
	EGEO 360	Introduction to Hydrology / Lab★	3	
	CPSC 150	Advanced Programming Principles ★	4	
	CPSC 232	Select Computer Language ★	3	
	CPSC 370	Computer Organization★	3	
	MATH 315	Numerical Mathematics ★	3	
	MATH 352	Mathematical Statistics I ★	3	
<b>Required Related Courses (30 credits)</b>				
	CHEM 107	General Chemistry I ★◇	3	
	CHEM 108	General Chemistry II ★◇	3	
	CHEM 111	General Chemistry I Lab ★◇	1	
	CHEM 112	General Chemistry II Lab ★◇	1	
	CPSC 140	Intro to Programming Principles ★◇	3	
	MATH 225	Calculus I ★	4	
	MATH 230	Calculus II ★	4	
	MATH 231	Calculus III ★	4	
	MATH 240	Linear Algebra and Differential Equations ★	3	
	MATH 301	Differential Equations I ★	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 125 or MATH 225	Pre Calculus ★◇ or Calculus I ★◇	4	
	PHYS 201 or PHYS 211	Elementary Physics w/Lab ◇ or General Physics I/Lab ★◇	4	

ELECTIVES (0-2 credits)				

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



**PHYSICS PRE ENGINEERING – BA**  
with Youngstown State University Track  
Effective Fall 2000 to present  
Enrollment Services  
Revised 9-2011