

Slippery Rock University of Pennsylvania – Curriculum Guide

Bachelor of Science in Industrial and Systems Engineering

ROCK STUDIES REQUIREMENTS (34-35 credits)		
Course	Title	Cr
THE ROCK (10 credits)		
EXEMPT	Foundations of Academic Discovery	0
✓ ENGL 102	Critical Writing ENGL102	3
EXEMPT	Critical Reading	0
✓ COMM 200	Civil Discourse COMM201	3
✓ MATH 225	Calculus I ★ MATH221	4
INTEGRATED INQUIRY (16-17 credits)		
Creative and Aesthetic Inquiry (3 credits)		
✓	Humanities Elective – SRU recommends Category I or II	3
Humanities Inquiry (3 credits)		
✓	ECON 101 or 102 - Principles of Economics	3
Social Science Inquiry (2-3 credits)		
✓	PHED 125 or HLTH 120	2-3
Natural Science Inquiry (4 credits)		
✓ CHEM 107/111	General Chemistry I / Lab ★ CHEM101	4
Physical Science Inquiry (4 credits)		
✓ PHYS 216	University Physics 1 / Lab ★ PHYS221	4
ADDITIONAL ROCK STUDIES REQUIREMENTS (8 credits)		
✓ MATH 230	Calculus II ★ MATH222	4
✓ PHYS 217	University Physics 2 / Lab ★ PHYS222	4

COMPUTER COMPETENCY		
Students must demonstrate “computer competency” by:		
EXEMPT	Complete one of the following courses: CPSC 100, 110, 130, or PE202 at SRU or another post-secondary institution	

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.		
EXEMPT	Beginning Algebra	

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.*

★	Course may have a prerequisite. See Undergraduate Online Catalog.
^	Course counts for 50% of Major requirements and Major GPA
PASSHE = Pennsylvania State System of Higher Education Institution	

MAJOR REQUIREMENTS (90 credits)		
• 44 major credits must be taken at SRU or PASSHE		
• 44 major credits must be taken at the 300 level or above		
Course	Title	Cr
Required Engineering Courses (72 credits)		
✓ ENGR 110	Introduction to Engineering^ DRFT115	3
ENGR 120	Engineering Design Tools ★^	2
✓ ENGR 130	Engineering Computing Tools ★^ COMP230	3
✓ ENGR 210	Statics ★^ PHYS241	3
ENGR 220^	Engineering Materials ★	3
✓ ENGR 310^	Intro. to Electrical Engineering★ Sci/Tech Elective: SRU recommends ELEC 110	7
ENGR 340^	Engineering Economics★	3
ISE 311^	Introduction to Operations Research ★	3
ISE 362^	Lean Systems★	3
ISE 370^	Design of Industrial Systems & Processes ★	3
ISE 372^	Manufacturing Systems Design & Analysis★	3
ISE 373^	Quality Engineering ★	3
ISE 402^	Work Design★	3
ISE 410^	Engineering Project Management ★	3
ISE 420^	Simulation of Industrial Systems★	4
ISE 421^	Supply Chain and Logistics Engineering ★	3
ISE 430^	Production Planning and Control★	3
ISE 440^	Health Care Systems Engineering★	3
ISE 442^	Human Factors Engineering★	3
ISE 460^	Engineering Risk Analysis★	3
ISE 487^	Senior Project I★	1
ISE 488^	Senior Project II★	3
MECH 330^	Introduction to Mechatronics ★	4
ISE Electives (minimum 8 credits) – Select three courses		
ISE 330	Six Sigma Methodology ★	3
ISE 382	Sustainable Processes★	3
ISE 432	Productivity Analysis★	3
ISE 480	Undergraduate Research★	1-3
MATH 316	Advanced Methods of Operations Research★	3
Required Math and Science Courses (10 credits)		
✓ MATH 231^	Calculus III ★ MATH223	4
✓ MATH 232	Linear Algebra Sci/Tech Elective – SRU recommends MATH 230	3
STAT 350^	Applied Statistics ★	3

FREE ELECTIVES (0 credits needed)		
✓	ENGL 101-College Writing	3
✓	CHEM 102-Chemistry II	4
✓	MATH 224-Differential Equations	3

BC3-SRU Engineering, A.S. to Industrial & Systems Engineering, B.S.			
Curriculum Category	Credits Completed	Credits Needed	
Rock Studies	34-35	0	
Computer Competency	EXEMPT	0	
Major Requirements	23	67	
Free Electives	10	0	
TOTAL CREDITS	67-68	67	

