MECHANICAL ENGINEERING, BACHELOR OF SCIENCE (BS)

Curriculum Guide

GPA Requirement

Major GPA: 2.00 or higher
Overall GPA: 2.00 or higher

Summary*

Code	Title	Hours
Rock Studies 2 Requirements		41
Other Basic Requirements		0-3
Computer Competency		0-3
Major/Concentration Requirements		84
Natural Science and Math College-Wide Requirements		12
Elective		3

* 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 225	Calculus I	4
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 Sciences Inquiry		
CHEM 107	General Chemistry I	3
CHEM 111	General Chemistry I Lab	1
Physical Sciences Inquiry		
PHYS 216	University Physics 1 with Lab	4
Subtotal		17
Additional Rock Studies 2 Requirements		
Required Thematic Thread Coursework:		
MATH 230	Calculus II	4
PHYS 217	University Physics 2 with Lab	4
Subtotal		8
Total Hours		**41**

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

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**

Computer Competency

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

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/Concentration Requirements

- 42 major credits must be taken at SRU or PASSHE
- 42 major credits must be taken at the 300 level or above

Code	Title	Hours
Required Engineering Courses		
ENGR 110	Introduction to Engineering [1]	2
ENGR 120	Engineering Design Tools [1]	2
ENGR 130	Engineering Computing Tools [1]	2
ENGR 210	Statics [1]	3
ENGR 220	Engineering Materials [1]	3
ENGR 230	Mechanics of Materials [1]	3
ENGR 231	Mechanics of Materials Lab [1]	1
ENGR 240	Dynamics [1]	3
ENGR 301	Fluid Mechanics [1]	3
ENGR 310	Introduction to Electrical Engineering [1]	3
ENGR 320	Thermodynamics [1]	3
ENGR 340	Engineering Economics [1]	3

MECH 310	Machines and Mechanisms [1]	4
MECH 320	Manufacturing Processes [1]	3
MECH 330	Introduction to Mechatronics [1]	4
MECH 340	Heat Transfer [1]	4
MECH 410	Machine Design [1]	4
MECH 420	Design and Manufacturing [1]	3
MECH 430	Mechatronics [1]	3
MECH 460	Capstone Design I [1]	3
MECH 461	Capstone Design II [1]	3
Subtotal		62
Mechanical Engineering Electives		
Select three of the following:		*9*
MECH 411	Mechanical Control Systems	
MECH 412	Finite Element Analysis	
MECH 421	Mechanical Vibrations	
MECH 422	Thermal System Design	
MECH 423	Additive Manufacturing	
MECH 431	Introduction to Robotics	
MECH 440	HVAC Systems	
MECH 441	Sustainable Energy	
Required Math and Science Courses		
MATH 231	Calculus III [1]	4
MATH 232	Linear Algebra [1]	3
MATH 301	Differential Equations I [1]	3
STAT 350	Applied Statistics [1]	3
Subtotal		22
Total Hours		**84**

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

* Some courses may require pre-requisites. Please see course descriptions to determine if there are any pre-requisites for that specific course.

FREE ELECTIVE

Code	Title	Hours
Select three credits		3
Total Hours		**3**

Natural Science and Math College-Wide Requirements

Code	Title	Hours
CHEM 107	General Chemistry I [1]	3
CHEM 111	General Chemistry I Lab [1]	1
MATH 225	Calculus I [1]	4
PHYS 216	University Physics 1 with Lab	4
Total Hours		**12**

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

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

MECHANICAL ENGINEERING - BS (6184)
This program is effective as of Fall 2019.
Revised 03.31.2022
UCC 10.26.2021