

CIVIL 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 |
| | 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 | | |
| <i>Creative and Aesthetic Inquiry</i> | | |
| Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) | | 3 |
| <i>Humanities Inquiry</i> | | |
| Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) | | 3 |
| <i>Social Science Inquiry</i> | | |
| Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) | | 3 |
| <i>Natural Sciences Inquiry</i> | | |
| CHEM 107 | General Chemistry I | 3 |
| CHEM 111 | General Chemistry I Lab | 1 |
| <i>Physical Sciences Inquiry</i> | | |
| PHYS 216 | University Physics 1 with Lab | 4 |
| Subtotal | | 17 |
| Additional Rock Studies 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 |

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 | 3 |
| ENGR 231 | Mechanics of Materials Lab | 1 |
| ENGR 301 | Fluid Mechanics ¹ | 3 |
| ENGR 340 | Engineering Economics ¹ | 3 |
| CIVL 210 | Elementary Survey ¹ | 3 |
| CIVL 310 | Structural Engineering ¹ | 4 |
| CIVL 320 | Transportation Engineering ¹ | 3 |
| CIVL 330 | Environmental Engineering ¹ | 4 |
| CIVL 340 | Geotechnical Engineering ¹ | 3 |
| CIVL 350 | Water Resources Engineering ¹ | 3 |
| CIVL 410 | Structural Steel Design ¹ | 3 |
| CIVL 411 | Reinforced Concrete Design | 3 |
| CIVL 420 | Traffic Engineering ¹ | 3 |
| CIVL 430 | Storm Water Management ¹ | 3 |
| CIVL 440 | Construction Management | 3 |
| CIVL 460 | Capstone Design I ¹ | 3 |
| CIVL 461 | Capstone Design II | 3 |
| Subtotal | | 63 |
| Engineering Elective | | |
| Select one of the following: | | 3 |
| ENGR 240 | Dynamics | |

| | | |
|--|--|----------------|
| ENGR 310 | Introduction to Electrical Engineering | UCC 10.26.2021 |
| ENGR 320 | Thermodynamics | |
| Civil Engineering Electives - 400 Level | | |
| Select two of the following: | | 6 |
| CIVL 412 | Finite Element Analysis | |
| CIVL 421 | Highway Engineering | |
| CIVL 422 | Transportation Terminal Design | |
| CIVL 431 | Environmental Engineering Design | |
| CIVL 432 | Groundwater Hydrology | |
| CIVL 441 | Sustainable Development | |
| Required Math and Science Courses | | |
| BIOL 105 | Environmental Biology | 3 |
| MATH 232 | Linear Algebra | 3 |
| MATH 301 | Differential Equations I | 3 |
| STAT 350 | Applied Statistics | 3 |
| Subtotal | | 21 |
| 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

CIVIL ENGINEERING - BS (6183)

This program is effective as of Fall 2021

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