COMPUTING, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN COMPUTING ANALYTICS

Curriculum Guide

GPA Requirement

Major GPA: 2.0 or higher
Overall GPA: 2.0 or higher

Summary*

Code	Title	Hours
Rock Studies 2 Requirements		42-43
Other Basic Requirements		0-3
Computer Competency		0-3
Major/Concentration Requirements		54
Electives		24

* 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
Select one of the following:		3-4
MATH 125	Precalculus	
MATH 225	Calculus I	
MATH 230	Calculus II	
MATH 231	Calculus III	
STAT 152	Elementary Statistics I	
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		15-16
Integrated Inquiry		
Creative and Aesthetic Inquiry		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/)		3
Humanities Inquiry		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/)		3
Social Science Inquiry		
Select 3 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/)		3
Natural Sciences Inquiry		
SCI 101	Science of Life	3
Physical Science Inquiry		
SCI 102	Understanding the Physical World	3
Subtotal		15
Thematic Thread		
Select 12 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/) [2]		12
Total Hours		**42-43**

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

2 One course from each category; six credits must be 300-level or above; no more than 4 credits from one subject area; specific courses required in first major, regardless of prefix of course, cannot be used to satisfy thread requirements; any course with same prefix as first major cannot be used to satisfy thread requirements, even if it is not a course in the first major.

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

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

Code	Title	Hours
Required Core Courses		
CPSC 130	Introduction to Computing and Programming [1]	3
CPSC 146	Programming Principles [1]	3

CPSC 207	Shell Commands and Scripting [1]	3
CPSC 300	Challenges of Computer Technology [1]	3
CPSC 311	Discrete Computational Structures [1]	3
CPSC 323	Fundamentals of Database Systems [1]	3
CPSC 327	Administration and Security [1]	3
CPSC 423	Computer Networks [1]	3
STAT 152	Elementary Statistics I [1]	3
Subtotal		27
Computing Analytics Core Courses		
CPSC 246	Advanced Programming Principles [1]	3
CPSC 370	Computer Organization and Architecture	3
CPSC 374	Algorithms and Data Structures [1]	3
CPSC 405	Data Mining and Data Analysis [1]	3
CPSC 474	Advanced Architecture & Parallel Computing	3
CPSC 480	Topics in Computer Science: Machine Learning [1]	3
CPSC 485	Big Data Analytics [1]	3
Subtotal		21
Computer Science Electives		
Choose two from the following:		6
MATH 225	Calculus I	
CPSC 406	Data Visualization [1]	
CPSC 450	Internship [1]	
CPSC 456	Introduction to Computer Graphics [1]	
CPSC 476	Artificial Intelligence [1]	
CPSC 478	Analysis of Algorithms [1]	
Subtotal		6
Total Hours		**54**

[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.

Co-curricular and Experiential Learning

Students are encouraged to explore additional curricular and co-curricular opportunities. There is a strong correlation between long-term student success and participation in the following types of programs and activities:

1. High-Impact Practice (HIP) designated classes (Learning Community, Cap-Stone Course, Semester Projects)
2. Student-faculty research
3. Service Learning Courses
4. Internships
5. Volunteering (Summer Day Camps, Semester Workshops for K-12 students, Robot demos for visitors/local school districts)
6. Industry Awareness Night

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

COMPUTING - BS (6420)
Concentration in Computing Analytics (COAN)
This program is effective as of Summer 2022
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