

COMPUTING, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN COMPUTING ANALYTICS/ADVANCED PILOTING (CCBC)

Curriculum Guide

GPA Requirement

Overall GPA: 2.0 or higher

Summary*

Code	Title	Hours
Rock Studies 2 Requirements (taken at CCBC)		29
Rock Studies 2 Requirements (taken at SRU)		16
Advanced Piloting Requirements (taken at CCBC)		33
Major/Concentration Requirements (taken at SRU)		51

* 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
WRIT 101	English Composition (taken at CCBC)	3
LITR 210	Concepts of Literature (taken at CCBC)	3
COMM 201	Public Speaking (taken at CCBC)	3
Select one of the following:		4
MATH 125	Precalculus	
MATH 225	Calculus I	
MATH 230	Calculus II	
MATH 231	Calculus III	
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 (taken at CCBC)</i>		
AVIP 260	Human Factors Theory (taken at CCBC)	3
<i>Natural Sciences Inquiry</i>		
SCI 101	Science of Life	3
<i>Physical Sciences Inquiry (taken at CCBC)</i>		
METR 140	Foundations in Meteorology (taken at CCBC)	4
Subtotal		16

Additional Rock Studies Requirements (taken at CCBC)

Select the following 13 Credits 13

AVIP 120	Foundations and Development of Aviation (taken at CCBC)
AVIP 180	Instrument Flight Theory (taken at CCBC)
AVIP 270	Aerodynamics of Flight (taken at CCBC)

Total Hours 45

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

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 Requirements/Concentration

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

Code	Title	Hours
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Required Major Coursework:

CPSC 130	Introduction to Computing and Programming ¹	3
CPSC 146	Programming Principles	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 423	Computer Networks ¹	3

Computing Analytics Core Courses Completed at SRU:

CPSC 236	Selected Computer Languages ¹	3
CPSC 246	Object-Oriented Programming ¹	3
CPSC 370	Computer Organization and Architecture ¹	3
CPSC 374	Algorithms and Data Structures ¹	3
CPSC 405	Data Mining and Data Analysis ¹	3
CPSC 474	Advanced Architecture & Parallel Computing ¹	3

CPSC 480	Topics in Computer Science: Machine Learning ¹	3
CPSC 485	Big Data Analytics ¹	3

Computer Science Electives Completed at SRU:

Choose two of the following for 6 credits: 6		
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	
MATH 225	Calculus I	

Subtotal 51

Total Hours 51

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.

Code	Title	Hours
Advanced Piloting Required Coursework Completed at CCBC:		
AVIP 190	Instrument Flight Rating	2
AVIP 202	Aircraft Engines Theory	3
AVIP 204	Aircraft Systems Theory	3
AVIP 215	Commercial Flight Theory	5
AVIP 220	Commercial Flight Certification I	3
AVIP 225	Commercial Flight Certification II	3
AVIP 250	Multi-Engine Flight Rating	1
AVIP 275	Certified Flight Instructor Theory	2
CIST 100	Introduction to Information Technology	3
MATH 126	Statistics	4
Select two of the following:		4
AVIP 280	Certified Flight Instructor - Airplane	
AVIP 285	Certified Flight Instructor - Instruments	
AVIP 288	Certified Flight Instructor - Multi-Engine	
Total Hours		33

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 - COMPUTER ANALYTICS CONCENTRATION - BS (6420/COAN)

ADVANCED PILOTING WITH CCBC (ADVP) /CIM 579

This program is effective as of Spring 2026

Revised 01.05.2026

MOU date: 09.18.2025