MATHEMATICS, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN MATHEMATICAL SCIENCE

Program Learning Outcomes

- Students graduating with a degree in Mathematics will:
  - Use mathematics knowledge to solve theoretical and applied problems. (UGO 2,3,4,6)
  - Apply rigorous deductive reasoning to prove mathematics results. (UGO 2,3)
  - Use technology to perform and interpret mathematics analyses. (UGO 3,4,10)
  - Communicate mathematics knowledge to both expert and non-technical audiences. (UGO 1,4,5)
  - Demonstrate professional integrity and accountability in the use and communication of mathematics. (UGO 7,8,9,10)

Related Links

Mathematics, Concentration in Mathematical Science, BS Program Page (https://www.sru.edu/academics/majors-and-minors/mathematics-mathematical-sciences/)

Mathematics and Statistics Department Page (https://www.sru.edu/academics/colleges-and-departments/ches/departments/mathematics-and-statistics/)

Professional Licensure/Certification Page (https://www.sru.edu/students/student-consumer-information/professional-licensures/)

Curriculum Guide

GPA Requirement

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

Summary*

Code	Title	Hours
Rock Studies 2 Requirements		44
Basic Math Requirement		0-3
Computer Competency		0-3
Major Requirements		48
Natural Science & Math College-Wide Requirements not included in Rock Studies 2		4
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
STAT 152	Elementary Statistics I	3
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
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 & CHEM 111	General Chemistry I and General Chemistry I Lab	4
Physical Sciences Inquiry		
PHYS 216	University Physics 1 with Lab	4
Subtotal		17
Thematic Thread		
Select 12 Credits (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/) [2]		12
Total Hours		**44**

[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 Requirements

- 24 major credits must be taken at SRU or PASSHE
- 24 major credits must be taken at the 300 level or above
- 12 math/statistics credits must be taken at the 300-400 level at SRU

Code	Title	Hours
Mathematics Core Courses		
MATH 131	Discrete Mathematics [1,2]	3
MATH 230	Calculus II [1,2]	4
MATH 231	Calculus III [1]	4
MATH 232	Linear Algebra [1]	3
MATH 235	Foundations of Mathematical Proof [1,2]	3
MATH 313	Introductory Analysis I [1]	3
STAT 352	Mathematical Statistics I [1]	3
Subtotal		23
Required Mathematical Science Concentration Courses		
MATH 301	Differential Equations I [1]	3
MATH 325	Abstract Algebra I [1]	3
MATH 314	Introductory Analysis II [1]	3
or MATH 326	Abstract Algebra II	
MATH 491	Mathematics Seminar [1]	1
Subtotal		10
Required Upper-Level MATH/STAT Electives		
Choose 15 additional credits of MATH or STAT courses 200-level or above (at least 12 credits 300-level or above), excluding MATH 210, MATH 225, MATH 310 and STAT 350. [1]		15
Subtotal		15
Total Hours		**48**

[1] Course counts for 50% of Major requirements and Major GPA
[2] Minimum grade of C required to register for 300-400 level math
* Some courses may require pre-requisites. Please see course descriptions to determine if there are any pre-requisites for that specific course.

Natural Science and Math College-Wide Requirements

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

Computer Programming Language

Code	Title	Hours
Competency in an approved Computer Programming Language is Required - See Advisor Approval		
CPSC		

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

MATHEMATICS BS/MATHEMATICL SCI (6152/MASC)
This program is effective as of Summer 2023
Revised 05.24.2023
UCC 02.14.2023

RECOMMENDED FOUR-YEAR PLAN

Course	Title	Hours
First Year		
Fall		
MATH 225	Calculus I	4
STAT 152	Elementary Statistics I	3
ENGL 102	Critical Writing	3
ESAP 101	FYRST Seminar	1
SUBJ 139	Foundations of Academic Discovery	3
Creative & Aesthetic Inquiry (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
	Hours	**17**
Spring		
MATH 131	Discrete Mathematics	3
MATH 230	Calculus II	4
CPSC 146	Programming Principles	3
ENGL 102	Critical Writing	3
Humanities Inquiry (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
	Hours	**16**
Second Year		
Fall		
MATH 231	Calculus III	4
MATH 235	Foundations of Mathematical Proof	3
Select one of the following:		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	

Social Science Inquiry (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Elective with DEI attribute		3
Declare a Thematic Thread		
	Hours	**16**
Spring		
MATH 232	Linear Algebra	3
MATH 301	Differential Equations I	3
PHYS 216	University Physics 1 with Lab	4
Thematic Thread Requirement (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
	Hours	**13**
Third Year		
Fall		
MATH/STAT 300+	MATH/STAT Elective	3
MATH 313	Introductory Analysis I	3
STAT 352	Mathematical Statistics I	3
CHEM 107 & CHEM 111	General Chemistry I and General Chemistry I Lab	4
Thematic Thread Requirement (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
	Hours	**16**
Spring		
Select one of the following:		3
MATH 314	Introductory Analysis II	
MATH/STAT	MATH/STAT Elective	
MATH 325	Abstract Algebra I	3
Thematic Thread Requirement (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Thematic Thread Requirement (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Elective		3
	Hours	**15**
Fourth Year		
Fall		
MATH/STAT 300+	MATH/STAT Elective	3
Select one of the following:		3
MATH 326	Abstract Algebra II	
MATH/STAT 300+	MATH/STAT Elective	
Elective		3
Elective		3
Elective		3
	Hours	**15**
Spring		
MATH/STAT 300+	MATH/STAT Elective	3
MATH/STAT 300+	MATH/STAT Elective	3
MATH 491	Mathematics Seminar	1
Elective		3
Elective		3
	Hours	**13**
	Total Hours**	**121**

*** This document is meant to serve as a guide. Some planners may show more than 120 credits because faculty have created flexibility in choosing courses. However, only 120 credits are required to obtain a degree. Please consult with your academic adviser and refer to your curriculum guide prior to registering for courses. This plan should be reviewed, and verified, by you and your academic adviser at least once each academic year.*

Mathematics BS/Mathematical Science (6152/MASC)
Revised date: 09.08.2023