

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/>)

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
	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		
<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 & CHEM 111	General Chemistry I and General Chemistry I Lab	4
<i>Physical Sciences Inquiry</i>		
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

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/MATHEMATICAL 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	FIRST 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