

# MATHEMATICS, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN SECONDARY EDUCATION

## 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 Secondary Education, BS Program Page (<https://www.sru.edu/academics/majors-and-minors/mathematics-secondary-education/>)

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	60
	Natural Science & Math College-Wide Requirements not included in Rock Studies 2	4
	Electives	12

\* 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
	<b>The Rock</b>	
SUBJ 139	Foundations of Academic Discovery <sup>1</sup>	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
<b>Integrated Inquiry</b>		
<i>Creative and Aesthetic Inquiry</i>		
Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<i>Humanities Inquiry</i>		
Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<i>Social Science Inquiry</i>		
Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<i>Natural Sciences Inquiry</i>		
CHEM 107	General Chemistry I	4
& CHEM 111	and General Chemistry I Lab	
<i>Physical Sciences Inquiry</i>		
PHYS 216	University Physics 1 with Lab	4
Subtotal		17
<b>Thematic Thread</b>		
Select 12 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) <sup>2</sup>		12
<b>Total Hours</b>		<b>44</b>

<sup>1</sup> Course offered in multiple subjects; cannot take course in first major subject.

<sup>2</sup> 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	
<b>Total Hours</b>		<b>0-3</b>

### 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
<b>Total Hours</b>	<b>0-3</b>

## 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

- 30 major credits must be taken at SRU or PASSHE
- 30 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
<b>Mathematics Core Courses</b>		
MATH 131	Discrete Mathematics <sup>1,2</sup>	3
MATH 230	Calculus II <sup>1,2</sup>	4
MATH 231	Calculus III <sup>1</sup>	4
MATH 232	Linear Algebra <sup>1</sup>	3
MATH 235	Foundations of Mathematical Proof <sup>1,2</sup>	3
MATH 313	Introductory Analysis I <sup>1</sup>	3
STAT 352	Mathematical Statistics I <sup>1</sup>	3
Subtotal		23
<b>Secondary Education Required Courses</b>		
MATH 301	Differential Equations I <sup>1</sup>	3
MATH 304	Geometric Structures <sup>1</sup>	3
MATH 320	Theory of Numbers <sup>1</sup>	3
MATH 325	Abstract Algebra I <sup>1</sup>	3
MATH 314	Introductory Analysis II <sup>1</sup>	3
or MATH 326	Abstract Algebra II	
MATH 491	Mathematics Seminar <sup>1</sup>	1
SPED 121	Overview of Special Education	3
SEFE 338	Standards-Based Instruction & Assessment in the Inclusionary Classroom	3
Subtotal		22

### Required Upper-Level MATH/STAT Courses

Choose 6 additional MATH or STAT credits (at least 3 credits at the 300-level or above), excluding MATH 210, MATH 225, MATH 310 and STAT 350. <sup>1</sup>

### Required Concentration Courses

Choose 9 additional credits (at least 3 credits at the 300-400 level) from:

STAT 124	Introduction to Survey Methods
SEFE 200	Introduction to Education, Teaching Methods and Field
SEFE 230	Production and Utilization of Instructional Technology
SEFE 245	Middle Level Learning Theory
SEFE 250	Pre, Early, & Adolescent Development
SEFE 300	Middle Level Cognitive Development

SEFE 311	Teaching of Mathematics in the Middle School
SEFE 326	ELL Strategies and Practice
SEFE 342	Educational Psychology for Diverse Learners
SEFE 370	Educational Measurements, Assessment and Evaluation
SEFE 380	History and Philosophy of Education
PHIL 313	Symbolic Logic
PHIL 351	Philosophy of Natural Science
Subtotal	15
<b>Total Hours</b>	<b>60</b>

<sup>1</sup> Course counts for 50% of Major requirements and Major GPA

<sup>2</sup> 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
<b>Total Hours</b>		<b>12</b>

## 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/SECONDARY EDUC (6152/SEED)

This program is effective as of Summer 2023

Revised 05.24.2023

UCC 02.14.2023