MATHEMATICS, BACHELOR OF SCIENCE - MATH

Major Requirements (60 Hours)

Code	Title	Credits
Required		
MATH 131 & MATH 132	Calculus I and Calculus II for STEM majors	4-8
or MATH 133	Theory and Application of Calculus	
MATH 225	Foundations of Higher Mathematics	3
MATH 231	Calculus III	4
MATH 326	Linear Algebra and Differential Equations	4
MATH 496	Pro-Seminar	2
CPSC 207 & 207L	Computer Programming and Computer Programming Laboratory	3
Sequences		
Select two of the following full-year sequences (one of which must be either Analysis or Algebra):		12
MATH 335 & MATH 336	Differential Equations II and Numerical Analysis	
MATH 341 & MATH 342	Analysis I and Analysis II	
MATH 345 & MATH 346	Probability and Statistics	
MATH 353 & MATH 354	Abstract Algebra I and Abstract Algebra II	
Electives		
Select six additional hours at the 300-400 level (above 302):		6
CPSC 315	Simulation: Theory and Application	
or CPSC 328	Data Structures	
MATH 335	Differential Equations II	
MATH 336	Numerical Analysis	
MATH 339	Discrete Mathematics	
MATH 341	Analysis I	
MATH 342	Analysis II	
MATH 345	Probability	
MATH 346	Statistics	
MATH 353	Abstract Algebra I	
MATH 354	Abstract Algebra II	
MATH 361	Geometry	
MATH 372	Stochastic Models	
MATH 381	Mathematical Modeling	
MATH 388	BIG (Business, Industry, Government) Problems in Mathematics	
MATH 438	Mathematical Programming	
MATH 490	Special Topics	
MATH 497	Independent Study	
Required Supporting Courses		
Select at least 15 hours of science other than mathematics or computer science including one of the following full-year sequences:		15
BIO 155 & BIO 156 & BIO 157 & BIO 158	Foundations of Molecular Biology and Foundations of Ecology and Evolution and Foundations of Cellular Biology and Foundations of Form and Function	
CHEM 121 & CHEM 122	Principles of Chemistry I and Principles of Chemistry II	
PHYS 121 & PHYS 122	General Physics I: Mechanics and Waves and General Physics II: Temperature, Electricity, and Light	
Additional mathematics, computer science, or science electives to bring the total to 60 hours if needed		3-7
Total Credits		**56-64**

Advanced Writing Proficiency

The purpose of this requirement is to nurture the development of mathematical writing in order to deepen the student's understanding of mathematics and to enable the student to communicate technical ideas to a range of audiences. Sophomores are expected to demonstrate proficiency in expository mathematics by the submission of an acceptable portfolio. Juniors are expected to demonstrate proficiency in technical or analytical mathematical writing by the submission of an acceptable portfolio. Seniors demonstrate their ability by completing a senior comprehensive paper, which is evaluated by a committee of three faculty.

Senior Comprehensive

All mathematics majors, in Pro-Seminar (MATH 496 Pro-Seminar), independently study a mathematical topic of their choice and work with a faculty advisor. They present their work in a series of talks in the seminar. The project culminates in a paper and a formal presentation. This final presentation, followed by questioning by a faculty committee, constitutes the Senior Comprehensive in mathematics.

Faculty

S. Cox, C. Dwyer, C. Hoover, K. Kuter, E. Misiolek, P. Paranamana, C. Periton, M. Porter, R. Rohatgi, B. Vajiac, C. Wedrychowicz