MATHEMATICS B.S.MSC.

All students must meet the Degree and University Requirements.

All students must meet the Catamount Core Curriculum Requirements.

All students must meet the College Requirements.

MATHEMATICS MAJOR

Mathematics permeates every aspect of our daily lives. In support of this, the mathematics curriculum is designed to provide a strong foundation for anyone who is interested in developing their ability to navigate our increasingly quantitative society. All students are introduced to the power and breadth of mathematics and to core ideas and techniques in the discipline. Courses that emphasize written and oral communication of quantitative information increase the value to the student of this mathematical knowledge.

The flexible curriculum enables each student to focus on a particular area of interest. This flexibility is especially important given the widely varying interests and career goals of our students. Students planning on a career in a technical field may choose to focus on courses in applied mathematics. Those planning on graduate school in mathematics or in a closely related field will benefit from the more advanced elective courses needed for graduate-level studies. Those interested in law, business, teaching, or other pursuits have the opportunity to freely sample from all areas according to their interests.

A Bachelor of Arts with a major in mathematics is offered and supervised by the College of Arts and Sciences (CAS). Students opting for this degree require an advisor from the Department of Mathematics and Statistics. Refer to the CAS section of this catalogue for more information.

REGULATIONS

Students pursuing the Bachelor of Science in Mathematical Sciences (Majoring in Mathematics) or the Bachelor of Science degree with a major in Data Science are subject to the Academic Standards in CEMS outlined in this catalogue.

Additional Regulations

No more than three grades of D, D+, or D– in 3000-level (or higher) mathematics (MATH) courses may be used to satisfy "Major Courses" requirements.

REQUIREMENTS

A minimum of 120 credits is required. Students must satisfy all University requirements.

A. CORE CURRICULUM

Requirement Description		Credits
CEMS 1500	CEMS First Year Seminar [1]	1
CS 1210	Computer Programming I	3
MATH 1234	Calculus I [2]	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
STAT 1410	Basic Statistical Methods 1	3
or STAT 2430	Statistics for Engineering	

[1] The First Year Seminar CEMS 1500 is designed for all first-year students in the college. Students entering the college after their first semester should work with their academic advisor to identify an appropriate substitution as approved for their major. The course used to fulfill the CEMS 1500 requirement cannot be used to fulfill another requirement in the major.

[2] A student with a MATH 1234 waiver can use it to fulfill the requirement of MATH 1234 in the Core Curriculum. However, at least three extra credits of mathematics numbered above MATH 1242 must be added to the Major Courses requirement.

B. MAJOR COURSES

Requirement Description		Credits
MATH 2055	Fundamentals of Mathematics	3
MATH 3468	Anyl in Several Real Vars I	3
MATH 3551	Abstract Algebra I	3
MATH 4344	Topology [3]	3
or MATH 4788	Exploring Biomathematics	
or MATH 4996	Undergraduate Honors Thesis	
Plus 18 additional credits in MATH numbered 2000 or above, including 9 credits numbered 3000 or above, excluding MATH 2111, MATH 2180, and MATH 3201.		18

[3] Satisfies the CEMS Professional Development Requirement.

C. ANCILLARY COURSES

Requirement Description		Credits
Choose one two-semester sequence:		8
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	

CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	

D. MINOR

A student must complete a minor in a field other than Mathematics by satisfying the requirements specified by the Department or Program supervising the minor.

Completion of a second major or second degree in a field other than Mathematics will satisfy the minor requirement.