Program Overview: Bachelor of Science, Mathematics

COLORADO MESA UNIVERSITY

About This Major . . .

With a baccalaureate major in Mathematics, students develop powerful problem-solving, logical, and critical thinking skills. By completing the required coursework, students gain an understanding of the nature of proof, a broad general understanding of Mathematics, and a deep understanding of at least one area of Mathematics.

Mathematics majors are employed in a wide variety of areas. Our graduates have worked for local businesses, have run their own businesses and have worked for scientific companies. Other graduates have continued their educations by attending graduate school (in Mathematics, Computer Science and Engineering), law school, medical school, and veterinary school.

All CMU baccalaureate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning.

After completing a BS in Mathematics, you will be able to:
1. construct multi-step problem-solving strategies and communicate solutions effectively in written form.

2. use mathematical software (including calculators) to aid in problem-solving and investigation, and understand its limitations.

3. apply appropriate statistical procedures and justify chosen assumptions.

4. draw statistical conclusions and evaluate the validity of others' conclusions.

5. communicate technical analyses to non-specialists.

Program Highlights:

Clubs
The Math Club hosts regular meetings, speakers, social events, and the Math Extravaganza (an exciting program for local high school students).

Current Mathematics Majors
Current majors are in high demand as tutors in the TLC, as student aids in Special College Algebra sessions, and to help lead study groups for Calculus.

Recent Graduates
Recent graduates are employed by Rocky Mountain Health Plans, as engineers, in finance, in the oil and gas industry, and in education.

Graduate School
Recent graduates are studying for MS and PhD degrees in Mathematics and related fields at other institutions of higher learning, including the University of Colorado.

A student must follow CMU graduation requirements by completing 120 semester credit hours, including 40 credits of coursework at the 300+ level. See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information. Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration. In general, CMU's programs of study are based on two curriculum groups:

1. Essential Learning

CMU's Essential Learning program provides the foundation of skills and information that cuts across all fields of study and the support for advanced concepts that students will later encounter in their majors. Before moving into work at the 300+ level, students complete the Maverick Milestone and its co-requirement, Essential Speech. This pair of courses is a capstone experience where students integrate what they have learned from their foundation courses by making connections among diverse areas of knowledge. The capstone is also an opportunity for students to work with disparate ideas, a critical skill expected of all CMU graduates that will aid them in solving the complex and unscripted problems they will encounter in their personal, professional, and civic lives.

2. What You Will Study in This Major. . .

Foundational Courses
The following courses provide basic knowledge necessary for the successful study of Mathematics.
- Calculus I
- Calculus II
- Probability & Statistics

Core Courses
These courses are the main coursework on which all recognized Mathematics programs are based.
- CS1: Foundations of Computer Science
- Intro to Advanced Mathematics
- Calculus III
- Linear Algebra
- Intro to Real Analysis I
- Abstract Algebra I
- Intro to Real Analysis II or Abstract Algebra II
- Senior Seminar I & II

Four courses from the following – students choose four courses from the following list, according to their own interests and research/career goals.

- Differential Equations
- Differential Equations and Linear Algebra
- Number Theory
- Methods of Applied Mathematics
- Fourier Analysis
- Mathematical Modeling
- Discrete Structures I
- Discrete Structures II
- Geometries
- Introduction to Topology
- Mathematical Logic
- Complex Variables
- Linear Algebra II
- Statistical Methods
- Numerical Analysis

For more information about this major, go to: http://coloradomesa.edu/mathstat/MathematicsProgram.html or contact the Academic Department Head for Computer Science, Mathematics, and Statistics, 134K Wubben Hall, 970.248.1906.