MATHEMATICS - MASTER OF ARTS (MA)

MA/MS Program

Students may obtain an MA/MS degree as either an undergraduate student through the Bachelor's–Accelerated Master's (BAM) degree program or as a graduate student.

As a rule, graduate students are admitted to the PhD program in Mathematics and earn an MA or MS when they complete their PhD comprehensive exam. Students may choose to leave the program with MA/MS degree. Under certain circumstances, students can be admitted to the graduate program for a terminal MA/MS degree, in which case the prerequisites are the same as for the doctoral program.

Bachelor's–Accelerated Master's Degree Program

Students may earn this degree as part of the bachelor's–accelerated master's (BAM) degree program, which allows currently enrolled CU Boulder undergraduate students the opportunity to earn a bachelor's and master's degree in a shorter period of time.

For more information, see the Accelerated Master's tab for the associated bachelor's degree(s): Mathematics - Bachelor of Arts (BA) (https://catalog.colorado.edu/undergraduate/colleges-schools/arts-sciences/programs-study/mathematics/mathematics-bachelor-arts-ba/#acceleratedmasterstext).

Requirements

Admission Requirements

Applicants must have demonstrated mathematical maturity and accomplishment roughly at the level of a successful mathematics major at CU Boulder. Applicants must also demonstrate mathematical potential: success in courses in advanced calculus and abstract algebra help demonstrate this potential. General and mathematics GRE subject scores are required for PhD students.

Degree Requirements

Students must complete 30 hours of approved credit. At least 24 credit hours must be completed at the 5000 level or above. A maximum of six credit hours may be completed at the 3000 or 4000 level if approved by the department. Students must take two 2-semester sequences. For fulfillment of all course requirements, mathematics courses must be numbered 5000 or higher excluding MATH 5820.

For the MS degree in applied mathematics, 6–12 credit hours must be in an approved minor program outside the mathematics department, and at least 18 credit hours must be approved inside the mathematics department.

Students should read carefully the materials describing the university requirements in the Graduate School section. The student is responsible for satisfying these requirements at the proper time.

Examinations

To earn an MA degree, a student must pass a master's examination based on the particular program of the student.

Thesis

For the MA degree in mathematics, students can pursue a thesis option, which requires 4–6 credit hours of thesis work, and a thesis defense.

Plan of Study

Thirty hours of approved graduate credit are required, and two courses that are two-semester sequences in mathematics should be included in these 30 hours. Students develop their plan of study with their faculty advisor. This is an example plan for students interested in studying algebra.

Year One		Credit Hours
MATH 5440	Mathematics of Coding and Cryptography	3
MATH 6130	Algebra 1	3
MATH 6140	Algebra 2	3
MATH 6000	Model Theory	3
MATH 6020	Category Theory	3
	Credit Hours	15
	Total Credit Hours	15

Year Two		Credit Hours
MATH 6150	Commutative Algebra	3
MATH 6170	Algebraic Geometry	3
MATH 6180	Algebraic Number Theory	3
MATH 6210	Introduction to Topology 1	3
MATH 6250	Theory of Rings	3
	Credit Hours	15
	Total Credit Hours	15

Learning Outcomes

By the completion of the program, students will be able to:

- Demonstrate ability to explain mathematical concepts effectively.
- Engage in an independent mathematical project.
- Solve problems and communicate solutions in rigorous mathematical language.