Master of Sciences (MSc) with Mathematics Emphasis

The Program
The Master of Sciences (MSc) with Mathematics Emphasis Program is a cross-disciplinary program leading to the Master of Sciences degree. It provides an opportunity for present and prospective science and mathematics professionals and others to extend and/or broaden their training in the natural and physical sciences and mathematics at advanced undergraduate and graduate levels. All courses credited toward the degree after admission must be taken at the University of Colorado, on the Colorado Springs, Denver, Health Sciences or Boulder campuses, over a maximum of five years or six successive summers.

Requirements for Admission
- Bachelor's degree from an accredited university
- At least 40 semester hours in the natural sciences and mathematics, including one year of calculus. Students may be admitted to the program with a deficiency in mathematics but must remedy the deficiency within one year after admission with a grade of B or better
- GPA of 3.00 or higher on a 4.00 scale. A student with an undergraduate grade point average below 3.00 may be considered for admission, subject to approval by the Graduate Committee.

Requirements for Master of Sciences Degree
General regulations of the Graduate School governing the award of the Master's degree apply except as modified below:

- **30-36 semester hours** of science and/or mathematics courses are required.
  - All courses must be taken from approved Graduate School faculty members.
  - 24 or more hours in science/math must be from courses numbered 5000 or above. Courses may be selected from the following departments: Biology, Chemistry, Education, Health Sciences, Geography, Mathematics, and Physics. Courses from other departments must be approved by the Chair of the Graduate Committee.
  - Because not all courses will be appropriate for all programs, students should first consult with their advisor before enrolling. An academic plan should be completed during the student's first semester.
  - Minimum grade point average: Courses at the 3000 and 4000 levels will be accepted toward the degree only with grades of A or B; 5000 and 6000 level courses will be accepted toward the degree with grades of A, B, or C. Students must have a B average in all courses taken subsequent to admission to the program, including courses not actually required for the degree.
• Select Thesis or Non-Thesis option:

• **Thesis Option**: 30 semester hours, including a minimum of 6 hours of thesis credit. At least 15 semester hours must be at the graduate level in their primary department. **A minimum of three credit hours must be taken from a secondary department.** Student must write a thesis on their research, give a presentation, and defend their thesis before a thesis defense committee. Please consult with the Graduate Committee Chair and the Graduate School for the Thesis and Dissertation Guidelines and Manual.

• **Non-Thesis Option**: 30 semester hours; at least 15 semester hours must be at the graduate level in their primary department. **A minimum of three credit hours must be taken from a secondary department.** Student must complete a paper describing a project on a mathematical topic approved by the Graduate Committee. The final paper must be approved by the Graduate Committee.

**Mathematics Program Requirements**

1. Students must complete a minimum of 24 semester hours of 5000 level (or above) courses, 15 of which must be courses offered by the Mathematics Department.

2. Students must complete (with a grade of B or better) the following courses:
   - Algebra. **MATH 4140** - Introduction to Modern Algebra (or its equivalent)
   - Analysis. **MATH 4310** - Introduction to Modern Analysis (or its equivalent)

   * Requirement 2. does not apply to students who have already taken Math 4140 and Math 4310 (or their equivalent) for their undergraduate degree, and have passed with a grade of B or above. Those students must take two other mathematics courses at 4000 level or above, which have not been previously applied toward another degree. The minimum GPA requirements for MSc degree will apply to these courses.*

3. Students must complete a minimum of 3 credit hours at 3000-level (or above) from a secondary department.

4. Students must arrange for faculty advisor during the first or second semester after admission. The student, together with the advisor, will decide on the details for the paper or thesis. For the thesis option, the student should form a thesis committee that should be approved by the Graduate Committee. For the non-thesis option, the faculty advisor will oversee the student's progress on the paper and approve the final version, which will have to be approved by the Graduate Committee. To formally arrange for the
advisor, the student should contact the Chair of the Graduate Committee of the Mathematics Department.

**Deadlines:** The paper should be submitted to the Graduate Committee for final approval by

(i) the week before Thanksgiving break during Fall semesters, or
(ii) the week before Spring break during Spring semesters