

STATISTICS M.S.

Admissions Requirements

The minimum admission requirements for students applying to the M.S. in Statistics program are:

- A bachelor's degree (not necessarily in mathematics or statistics) from an accredited college or university.
- A grade point average (GPA) of 3.0 or above during their bachelor's degree.
- Students must have taken three semesters of calculus (through multivariate calculus), linear algebra, and a calculus-based statistics course that covers basic probability and statistical distributions.
- Completion of the Graduate Record Examination (GRE) with results submitted to the university.

Admitted students are generally expected to have completed several additional upper-division mathematics courses on top of the minimum requirements, though students from non-mathematics backgrounds who meet the minimum requirements and have exceptional track records will be considered on a case-by-case basis. Subject to approval by the Director of the Program in Statistics and the Graduate Committee, students with prerequisite deficiencies may be admitted with the understanding that those deficiencies must be removed after admission. In such cases, credits earned for deficiency coursework cannot be applied to a graduate degree.

Program Requirements

Students must present 30 hours of course work (which are broken into 4 components as detailed below) and maintain a 3.0 GPA or above for the M.S. degree. At least 24 of these hours must consist of graduate level (numbered 5000 or higher) courses with the MATH prefix. The remaining 6 hours must be either MATH courses numbered 5000 or above or approved courses outside the department numbered 4000 or above.

Up to 9 semester hours of prior course work may be transferred in (subject to approval); these must be at the 5000 level or above with a *B-* or better grade. Courses already applied toward another degree (graduate or undergraduate) cannot be used toward the M.S. degree in Statistics. Additionally, the following MATH courses will NOT count toward a graduate degree: MATH 5010, 5012-5015, 5017, 5198, and 5830.

Following completion of course work, all students must complete a written project and pass a final oral exam. The project is developed as a student-centered independent research component within MATH 5960 unless the student has chosen the thesis option. For students choosing the thesis option, 4 to 6 hours (of the 30 required hours) may be devoted to the writing of a thesis through MATH 5950. By graduate school rules, Master's students, whether enrolled full-time or part-time, must complete all degree requirements within 7 years of matriculation.

Course Requirements for the M.S. Degree in Statistics

The M.S. degree in Statistics consists of 4 components: 1) core courses, 2) statistics electives, 3) other electives, and 4) MATH5960 (Master's project) or MATH5950 (Master's thesis).

Core Courses: The core courses include:

- Math 5310 – Probability
- Math 5320 – Introduction to Mathematical Statistics
- Math 5387 – Applied Regression Analysis
- Math 6330 – Workshop in Statistical Consulting

Statistics Electives: Nine hours of statistics electives are required. A running list is given below. Additional courses can be substituted given prior approval by the student's advisor and the Director of the Program in Statistics.

- MATH 5394 - Experimental Designs
- MATH 6376 - Statistical Computing
- MATH 6380 - Stochastic Processes
- MATH 6384 - Spatial and Functional Data Analysis
- MATH 6388 - Advanced Statistical Methods for Research
- MATH 6393 - Introduction to Bayesian Statistics
- MATH 7384 - Mathematical Probability
- MATH 7826 - Topics in Probability and Statistics
- Additional courses given prior approval by the student's advisor and the Director of the Program in Statistics

Other Electives: Six hours of other electives are required. Any MATH prefix course that can be used for an M.S. or Ph.D. degree in Applied Mathematics can be used as an Other Elective. While these courses could be additional statistics-focused courses, the added flexibility allows students to direct their coursework into other areas of mathematics and/or science. The following courses will not count toward the M.S. in Statistics: MATH 5010, MATH 5012-5015, MATH 5017, MATH 5198, and MATH 5830.

For more information: contact Dr. Stephanie A. Santorico at Stephanie.Santorico@ucdenver.edu.