

MATHEMATICAL SCIENCES M.S.

All students must meet the Requirements for the Master's Degree

OVERVIEW

The Department of Mathematics and Statistics offers programs towards the Master of Science (M.S.) in Mathematical Sciences. Each student declares a concentration in either Pure Mathematics or Applied Mathematics. Within this major, the student may pursue either course work or a thesis; the last of the two options requires the student to find an advisor within the department faculty.

Opportunities for research arise from the research interests of the department faculty. See the Department of Mathematics and Statistics website for further details. The department also offers the Ph.D. and an Accelerated Master's Program in Mathematical Sciences, as well as M.S. degrees in Statistics and Biostatistics. Faculty in the department frequently advise M.S. and Ph.D. students in Complex Systems & Data Science.

SPECIFIC REQUIREMENTS

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Applicants should have demonstrated strength in either pure or applied mathematics, a bachelor's degree with a major in mathematics or a closely related discipline, and satisfactory recommendations. See the departmental website for further details.

Minimum Degree Requirements for the Degree of Master of Science

Each student must complete one of the following options:

Requirement Description	Credits
OPTION A (THESIS)	
24 semester hours of acceptable graduate credits in advanced mathematics courses, and 6 semester hours of thesis research (MATH 6391) culminating in a master's thesis.	
OPTION B (PROJECT)	
24 semester hours of acceptable graduate credits in advanced mathematics courses, and 6 semester hours of MATH 6993.	
OPTION C (COURSE)	
30 semester hours of acceptable graduate credits in advanced mathematics courses. No thesis is required.	
ALL OPTIONS	
Under all options, students must take, or acquire the knowledge of the content in, both MATH 6441 and MATH 6444 or, alternatively, 2 of MATH 5230, MATH 6230 and MATH 6737. Students must also satisfactorily complete at least 4 6000-level mathematics courses.	

In all options students must select a major concentration from among the following areas: Analysis, Algebra, Applied Mathematics, or Discrete Mathematics. The concentration shall consist of at least 9 approved credits in advanced mathematics courses in the respective area, 3 of which must be at the 6000-level; students writing a thesis may count the 6 hours of thesis credit toward these 9 hours.	
With approval of the student's advisor up to 6 credits of courses outside mathematics may be used to fulfill the major, minor, or degree requirements.	

Comprehensive Examination

M.S. students must pass a comprehensive exam consisting of two parts: a written exam and either a second written exam or a thesis. All students need to take the analysis exam, which are offered each August and January. For non-thesis students, the second exam may be in any of the following areas: algebra, numerical analysis, differential equations, or combinatorics. For thesis students, a successful M.S. thesis defense satisfies the requirement of the second exam.

Requirements for Advancement to Candidacy for the Degree of Master of Science

The requirements for advancement to candidacy are the completion of any prerequisites noted when the student was admitted.