

## MATHEMATICAL SCIENCES AMP

All students must meet the Requirements for the Accelerated Master's Degree Programs (<http://catalogue.uvm.edu/graduate/degree/requirements/requirementsforacceleratedmastersdegreeprograms/>)

### OVERVIEW

A master's degree in mathematical sciences, statistics or biostatistics can be earned in a shortened time by careful planning during the junior and senior years at UVM. For example, the M.S. could be earned in just one additional year, because 6 credits of undergraduate courses can also be counted concurrently toward the M.S. degree requirements. Another 3 graduate credits can be counted towards the M.S. degree while an undergraduate but cannot count towards the B.S. degree.

### SPECIFIC REQUIREMENTS

#### Requirements for Admission to Graduate Studies for the Degree of Master of Science for Accelerated Students

Students must declare their wish to enter the Accelerated Master's Entry Program in writing to the Department Chair, and apply to and be accepted by the Graduate College before taking a course that they wish to count towards the M.S. degree requirements. Following acceptance by the Graduate College, they can receive concurrent undergraduate and graduate credit for up to 6 credits of 200-level courses approved for graduate credit. Another 3 graduate credits can be counted towards the M.S. degree while an undergraduate but cannot count towards the B.S. degree.

Students should discuss the possibility of an Accelerated Master's Program in mathematical sciences, statistics or biostatistics with the respective program director as soon as they think they may be interested in this program. Additional information is available in the Handbook for Graduate Studies in Mathematics, found on the Mathematics and Statistics Department website.

#### Minimum Degree Requirements for the Degree of Master of Science

Each student must complete one of the following options:

OPTION A (THESIS)	
24 semester hours of acceptable graduate credits in advanced mathematics courses, and 6 semester hours of thesis research (MATH 391) culminating in a master's thesis.	30
OPTION B (NON-THESIS)	
30 semester hours of acceptable graduate credits in advanced mathematics courses. No thesis is required.	
BOTH OPTIONS	

Under either option, students must take, or acquire the knowledge of the content in, the courses MATH 331 and MATH 333, and must satisfactorily complete at least 4 300-level mathematics courses.	
In both 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 300-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. The written exams are offered each August and January. Ph.D. students in the program take these exams as well, but with a more demanding criteria for passing. For example, M.S. students need to demonstrate proficiency in the concepts of MATH 241 (<http://catalogue.uvm.edu/search/?P=MATH%20241>) & MATH 242 (<http://catalogue.uvm.edu/search/?P=MATH%20242>), but not necessarily in material covered by MATH 331 (<http://catalogue.uvm.edu/search/?P=MATH%20331>) & MATH 333 (<http://catalogue.uvm.edu/search/?P=MATH%20333>) (which Ph.D. students must do).

Students in the AMP program in Mathematical Sciences must complete MATH 241 (<http://catalogue.uvm.edu/search/?P=MATH%20241>) and MATH 242 (<http://catalogue.uvm.edu/search/?P=MATH%20242>) with a grade of B+ or better in their undergraduate years. They may then opt to take the analysis exam in August at the beginning of their year as a Masters student, or earlier. Their final opportunity to take this exam is in January before their final semester.

All M.S. students in Mathematical Sciences must take the written exam in analysis. For students who are not writing a thesis, the second exam is chosen from the areas of algebra, numerical analysis, differential equations, or combinatorics. For students who are writing a thesis, a successful M.S. thesis defense takes the place of the second exam.

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

Students who have been admitted to the Accelerated Master's Program in mathematics normally advance to candidacy in this program at the end of their senior year. The criteria for advancement to candidacy are:

1. Completion of a bachelor's program in mathematics at UVM, or completion of a bachelor's program in science or engineering at UVM with a minor in mathematics;

2. Completion of at least 2 additional mathematics or statistics courses at the 200-level approved for graduate credit with grades of B or better in each (these are in addition to MATH 241 (<http://catalogue.uvm.edu/search/?P=MATH%20241>) MATH 242 (<http://catalogue.uvm.edu/search/?P=MATH%20242>) and the two 200-level courses required for admission to the program). Of the 200-level courses in mathematics, two must have been completed at the graduate level with a grade of B+ or better.

3. Completion of a 300-level course in Mathematics with a grade of B or better. This course will count towards the master's degree but may not be counted towards the student's undergraduate degree or GPA, and so must be taken as an overload.

Students who have been admitted to the AMP on the completion of their junior year but who fail to meet the requirements for advancement to candidacy for the M.S. degree will only be permitted to continue towards their M.S. degree after review by the Mathematics Graduate Committee and with the written approval of the Director of the Graduate Program in Mathematics.