

MATHEMATICS, MA

The Master of Arts degree in Mathematics covers the basic graduate curriculum in Mathematics, and also allows students to undertake some more specialized training in an area of interest. A typical program of study will include fundamental courses in real analysis and linear algebra, followed by more advanced graduate courses in pure and applied mathematics. With a good educational background, it takes approximately two years to complete the requirements for a Master's degree.

Admissions

In addition to the minimum Graduate School admission requirements, to be considered for regular admission an application must include:

A resume/CV

3 letters of recommendation.

Scores on the general test of the GRE are optional. We encourage applicants to submit GRE scores if they think doing so will boost their chance of getting admitted. However, applications with and without GRE scores will both get full consideration.

See the Admission Criteria section of this catalog for more information.

Curricular Requirements

All students are required to take four master's core courses and one PhD year-long core sequence. In addition, there is a breadth requirement under which students need to take at least one more graduate level course in mathematics at the 500-level or 600-level, with the exception of courses beginning with 50 and MATH 551 and MATH 552. Students may fulfill the remaining credits by taking other Mathematics courses. With the approval of the Graduate Program Director, students may take courses in related areas such as Computer Science, Education, Finance, or Physics. Students should consult the Director of Graduate Programs if they wish to place out of any of the above requirements. The list of requirements is given below.

Course Requirements	Hours
Master's Core Courses	12
MATH 572 Linear Algebra	
MATH 586 Intro Real Analysis I	
MATH 537 Data Science and Programming or MATH 57Prin Modern Algebra I	
MATH 587 Intro Real Analysis II	
Select one of the following PhD core sequences	6
Algebra	
MATH 571 Prin Modern Algebra II & MATH 57:and Abstract Algebra I	
Real Analysis	
MATH 580 Real Analysis I & MATH 68:and Real Analysis II	
Topology	
MATH 565 Intro General Topology & MATH 56:and Intro Algebraic Topology	
Numerical Analysis	
MATH 511 Numerical Analysis I & MATH 51:and Numerical Analysis II	

Optimization

MATH 520 Linear Optimization Theory
& MATH 52:and Non-Linear Optimization Theory

Mathematical Statistics

MATH 554 Advanced Math Statistics I
& MATH 55:and Advanced Math Statistics II

Partial Differential Equations

MATH 541 Boundary Value Problems
& MATH 64:and Partial Differential Equations

Breadth Requirement 3

One additional 3 hour course in mathematics at the 500-level or 600-level with the exception of courses beginning with 50 and MATH 551 and MATH 552.

Research Requirements 6

Under Plan I, students will take 6 hours of MATH 599. Under Plan II, students will take one more elective course and 3 hours of MATH 598

Elective Courses 3

Elective courses of approved graduate level coursework. This include all math courses at the 500-level and 600-level with the exception of courses beginning with 50 and MATH 551 and MATH 552. Non-Math courses include but not limited to AEM 520, BER 642, BER 646, EC 570, EC 660, FI 519, ST 531, ST 552, or ST 561.

Credit Hours Subtotal: 30

Master's en route to PhD

Students pursuing a PhD degree in Mathematics may be awarded a Master's degree after passing the PhD Qualifying Exams or Comprehensive Exam, completing 30 hours in graduate coursework and fulfilling the core course requirements. See the Graduate School policy on Master's En Route for more information.

Transfer Credit

See the Graduate School policy.

Accelerated Master's Program

See the Accelerated Master's Program.

Plan I Requirements

Plan I requires successful completion of 24 semester hours of course work, and a thesis (6 hours of MATH 599) supervised by a graduate faculty member in Mathematics. A student planning to graduate in the Spring semester ought to start thinking about the thesis topic as early as possible, and no later than in early Fall of the preceding year. The thesis must be defended in front of a committee, and then submitted electronically on line through ProQuest once it has been approved by the committee. See the student guide on preparing electronic theses. Please note that a copy of the thesis or project must be available to each committee member at least two weeks prior to the presentation.

Plan II Requirements

Plan II requires 27 semester hours of courses and 3 hours of work (MATH 598) devoted to a project supervised by a member of the graduate faculty in Mathematics. The project does not have to be based on original

work, and can be an extensive literature review of a particular field of Mathematics. The project can be started in the semester that a student plans to graduate. A copy of the project approved by a faculty member must be provided to the main office. the student should also provide a pdf file. The project should be in 12pt font and single-spaced. Students are required to write their theses in LaTeX, which they should have used in many of their courses. A workshop on how to use LaTeX and its derivatives is offered (by the University Library specifically for graduate students in mathematics) at the beginning of each academic year. A skeleton template LaTeX file can be obtained from the UA Box to help students get started.

Comprehensive Exam

See plan II requirements for information on the comprehensive examination.

Time Limits for Degree Completion Requirements

See the Graduate School policy.

Student Progress Requirements

Ideally a student successfully complete the core courses in Year 1, and all other requirements in Year 2.

Academic Misconduct Information

See the Graduate School Policy.

Withdrawals and Leave of Absence Information

See the Graduate School Policy.

Academic Grievances Information

See the Graduate School Policy.

Grades and Academic Standing

See the Graduate School Policy.

Graduate School Deadlines Information

See the Graduate School Deadlines.

Application for Graduation Information

See the Graduate School Policy on application for graduation.