MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirements#text), in addition to the program requirements listed below.

NAMED OPTION REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Mode of Instruction Definitions</th>
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<tr>
<td><strong>Accelerated:</strong> Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.</td>
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<tr>
<td><strong>Evening/Weekend:</strong> Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.</td>
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<td><strong>Face-to-Face:</strong> Courses typically meet during weekdays on the UW-Madison Campus.</td>
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<td><strong>Hybrid:</strong> These programs combine face-to-face and online learning formats. Contact the program for more specific information.</td>
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<tr>
<td><strong>Online:</strong> These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.</td>
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CURRICULAR REQUIREMENTS

**Required Courses:**

These courses must be taken by all students, except when it is determined by the director of graduate studies that equivalent courses were taken prior to entering the program.

- **MATH 522** Analysis II 3
- **MATH 542** Modern Algebra 3

**Basic Electives:**

- All other courses numbered 500–599 and 600–699 in Mathematics may be taken as elective courses. Currently the following courses are available. Select four of the following:
  - **MATH/COMP SCI 513** Numerical Linear Algebra
  - **MATH/COMP SCI 514** Numerical Analysis
  - **MATH 519** Ordinary Differential Equations
  - **MATH/COMP SCI/I SY E/STAT 525** Linear Optimization
  - **MATH 531** Probability Theory
  - **MATH 552** Elementary Geometric and Algebraic Topology
  - **MATH 561** Differential Geometry
  - **MATH 567** Modern Number Theory
  - **MATH/PHILOS 571** Mathematical Logic
  - **MATH 605** Stochastic Methods for Biology
  - **MATH/B M I/ BIOCHEM/BMOLCHEM 609** Mathematical Methods for Systems Biology
  - **MATH 619** Analysis of Partial Differential Equations
  - **MATH 621** Introduction to Manifolds
  - **MATH 623** Complex Analysis
  - **MATH 627** Introduction to Fourier Analysis
  - **MATH 629** Introduction to Measure and Integration
  - **MATH/I SY E/OTM/STAT 632** Introduction to Stochastic Processes
Mathematics: Foundations of Advanced Studies, M.A.

MATH 635  An Introduction to Brownian Motion and Stochastic Calculus
MATH/E C E 641 Introduction to Error-Correcting Codes

**Advanced Electives:**

All courses numbered 700-799 in Mathematics may be taken as elective courses. Students must pass at least four of the following core graduate courses with a Grade of B or higher. Select four of the following:

- MATH 703  Methods of Applied Mathematics 1
- MATH 704  Methods of Applied Mathematics-2
- MATH/COMP SCI 714 Methods of Computational Mathematics I
- MATH/COMP SCI 715 Methods of Computational Mathematics II
- MATH 721  A First Course in Real Analysis
- MATH 722  Complex Analysis
- MATH 725  A Second Course in Real Analysis
- MATH/STAT 733 Theory of Probability I
- MATH/STAT 734 Theory of Probability II
- MATH 741  Abstract Algebra
- MATH 742  Abstract Algebra
- MATH 751  Introductory Topology I
- MATH 752  Introductory Topology II
- MATH 758  Introduction to Ergodic Theory and Dynamics
- MATH 761  Differentiable Manifolds
- MATH 770  Foundations of Mathematics
- MATH 771  Set Theory
- MATH 773  Computability Theory
- MATH 776  Model Theory

**Total Credits:** 30

Students in this program may not take courses outside the prescribed curriculum without faculty advisor and program director approval. Students in this program cannot enroll concurrently in other undergraduate or graduate degree programs.