MATHEMATICS: FOUNDATIONS FOR RESEARCH, M.A.

This is a named option within the Mathematics M.A. (http://guide.wisc.edu/graduate/mathematics/mathematics-ma/), which is offered for work leading to the Ph.D.

Information about the requirements and policies for this program can be found in this Guide.

ADMISSIONS

The M.A. (no named option) is offered for work leading to the Ph.D. Students may not apply directly for the master’s, and should instead see the admissions information for the Ph.D (http://guide.wisc.edu/graduate/mathematics/mathematics-phd/).

Students may also apply to the M.A. Named Option in Foundations of Advanced Studies (http://guide.wisc.edu/graduate/mathematics/mathematics-ma/mathematics-foundations-advanced-studies-ma/).

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding/) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

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

NAMED OPTION REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Mode of Instruction</th>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions

Accelerated: 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.

Evening/Weekend: 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.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: 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.

CURRICULAR REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Credit Requirement</td>
<td>30 credits</td>
</tr>
<tr>
<td>Minimum Residence Credit Requirement</td>
<td>16 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
<td>The coursework must consist of graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (<a href="https://registrar.wisc.edu/course-guide/">https://registrar.wisc.edu/course-guide/</a>).</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>3.00 GPA required.</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
<td>At least 12 credits from a specified list of 700 courses are required to be passed with grade B or higher.</td>
</tr>
<tr>
<td>Assessments and Examinations</td>
<td>None.</td>
</tr>
<tr>
<td>Language Requirements</td>
<td>No language requirements.</td>
</tr>
</tbody>
</table>

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Core Courses:</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Select four of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 703</td>
<td>Methods of Applied Mathematics I</td>
<td></td>
</tr>
<tr>
<td>MATH 704</td>
<td>Methods of Applied Mathematics-2</td>
<td></td>
</tr>
<tr>
<td>MATH/COMP SCI 714</td>
<td>Mathematics I</td>
<td></td>
</tr>
<tr>
<td>MATH/COMP SCI 715</td>
<td>Mathematics II</td>
<td></td>
</tr>
<tr>
<td>MATH 721</td>
<td>A First Course in Real Analysis</td>
<td></td>
</tr>
<tr>
<td>MATH 722</td>
<td>Complex Analysis</td>
<td></td>
</tr>
<tr>
<td>MATH 725</td>
<td>A Second Course in Real Analysis</td>
<td></td>
</tr>
<tr>
<td>MATH/STAT 733</td>
<td>Theory of Probability I</td>
<td></td>
</tr>
<tr>
<td>MATH/STAT 734</td>
<td>Theory of Probability II</td>
<td></td>
</tr>
<tr>
<td>MATH 741</td>
<td>Abstract Algebra</td>
<td></td>
</tr>
<tr>
<td>MATH 742</td>
<td>Abstract Algebra</td>
<td></td>
</tr>
<tr>
<td>MATH 751</td>
<td>Introductory Topology I</td>
<td></td>
</tr>
<tr>
<td>MATH 752</td>
<td>Introductory Topology II</td>
<td></td>
</tr>
</tbody>
</table>
Mathematics: Foundations for Research, M.A.

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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

(ii) Four Mathematics courses numbered 600 or above passed with a grade of B or higher 1,2

(iii) Electives (numbered 500 or above) 6

(iv) Advanced Computer Science Course:
Students must complete an advanced computer science course which involves substantial programming. Other courses require prior approval of the director of graduate studies. This requirement is waived for Math Ph.D. students, provided two qualifying exams have been passed.

COMP SCI 400 Programming III
COMP SCI 536 Introduction to Programming Languages and Compilers
COMP SCI 537 Introduction to Operating Systems
COMP SCI 564 Database Management Systems: Design and Implementation
COMP SCI 704 Principles of Programming Languages
COMP SCI/MATH 714 Methods of Computational Mathematics I
COMP SCI/MATH 715 Methods of Computational Mathematics II
COMP SCI/I SY E 719 Stochastic Programming
COMP SCI/I SY E/MATH 730 Nonlinear Optimization II

Total Credits 30

1 Students must pass with a grade of B or higher.

2 The graduate advisor may also approve to have courses numbered 500–599 count for this requirement (but typically no introductory courses such as MATH 521 Analysis I, MATH 541 Modern Algebra or MATH 551 Elementary Topology).

NAMED OPTION-SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Work from Other Institutions
Students in the M.A. program are allowed to count no more than 14 credits of graduate coursework from other institutions. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

UW–Madison Undergraduate
This program follows the Graduate School’s policy for Satisfying Requirements with Coursework from Undergraduate Career at UW–Madison. (https://policy.wisc.edu/library/UW-1216/)

UW–Madison University Special
This program follows the Graduate School’s policy for Transfer from UW–Madison University Special Student Career at UW–Madison. (https://policy.wisc.edu/library/UW-1216/)

PROBATION

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

1. Good standing (progressing according to standards; any funding guarantee remains in place).
2. Probation (not progressing according to standards but permitted to enroll; loss of funding guarantee; specific plan with dates and deadlines in place in regard to removal of probationary status).
3. Unsatisfactory progress (not progressing according to standards; not permitted to enroll, dismissal, leave of absence or change of advisor or program).

ADVISOR / COMMITTEE

Students are recommended to meet with an advisor.

CREDITS PER TERM ALLOWED

15 credits

TIME LIMITS

Two years. Extensions have to be approved by the program.

Master’s degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

• Bias or Hate Reporting (https://doso.students.wisc.edu/bias-or-hate-reporting/)
• Graduate Assistantship Policies and Procedures (https://hr.wisc.edu/policies/gapp/#grievance-procedure)
• Hostile and Intimidating Behavior Policies and Procedures (https://hr.wisc.edu/hib/)

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School’s Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy/) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

Policies


- Office of the Provost for Faculty and Staff Affairs (https://facstaff.provost.wisc.edu/)
- Dean of Students Office (https://doso.students.wisc.edu/) (for all students to seek grievance assistance and support)
- Employee Assistance (http://www.eao.wisc.edu/) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (https://employeedisabilities.wisc.edu/) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (https://grad.wisc.edu/) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (https://compliance.wisc.edu/) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (http://www.ombuds.wisc.edu/) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (https://compliance.wisc.edu/titleix/) (for concerns about discrimination)

Students should contact the department chair or program director with questions about grievances. They may also contact the L&S Academic Divisional Associate Deans, the L&S Associate Dean for Teaching and Learning Administration, or the L&S Director of Human Resources.

OTHER
n/a

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School’s professional development resources (https://grad.wisc.edu/pd/) to build skills, thrive academically, and launch your career.

PEOPLE

PROFESSORS:

Anderson, David F
Andrews, Uri
Arinkin, Dima
Caldararu, Andrei
Craciun, Gheorghe
Denisov, Sergey
Ellenberg, Jordan
Ermak, Daniel M
Feldman, Mikhail
Gong, Xianghong
Gurevich, Shamgar
Kent, Autumn Exum (Graduate Director)
Lempp, Steffen
Mari-Beffa, Gloria
Maxim, Laurentiu
Miller, Joseph S
Paul, Sean T
Piltoratski, Alexei
Roch, Sebastian
Rycroft, Christopher
Seeger, Andreas
Seppalainen, Timo
Smith, Leslie M.
Soskova, Mariya
Spagnolie, Saverio
Stechmann, Sam
Stovall, Betsy
Street, Brian Thomas (Associate Chair)
Terwilliger, Paul M.
Thiffeault, Jean-Luc (Chair)
Tran, Hung Vinh
Valko, Benedek (Undergraduate Director)
Waleffe, Fabian
Yang, Tonghai

ASSOCIATE PROFESSORS

Dymarz, Tullia Maria
Guo, Shaoming
Ifrim, Mihaela
Kim, Chanwoo
Li, Qin
Marshall, Simon Lindsay
Shen, Hao
Shcherbyna, Tetyana
Wang, Botong
Zimmer, Andrew

ASSISTANT PROFESSORS

Albritton, Dallas
Apisa, Paul
Chen, Nan
Cochran, Amy
Fabien, Maurice
Kemeny, Michael L J
Lawrence, Brian
Loving, Marissa
Lyu, Hanbaek
Ohm, Laurel
Rodriguez, Jose Israel
Uyanik, Caglar
Waldron, Alex
Wu, Chenxi
Zepeda-Nunez, Leonardo

ACADEMIC STAFF

Benguria Andrews, Soledad (Calculus Coordinator)
Friedman, Tracii (Math Learning Center Director)
Grizzard, Robert (Associate Director for Instructional Programs)
Ivanov, Mikhail (Math Learning Center Instructor)
Jackson, Billy (Director of the Precalculus Program)
Keller, Mitch (Associate Director of Undergraduate Programs)
Kwon, Oh Hoon (Associate Director of the Precalculus Program)
Lindsey, Melissa (Director of Instructional Support)
Phillipson, Kaitlyn (Undergraduate Course Coordinator)
Williams, Cassie (Associate Director of Instructional and Professional Development)
Work, Grace (Associate Director of Undergraduate Research)

ENROLLMENT COORDINATOR
Kyle Martinez