

# MATHEMATICS, BS

## ADVISING AND CAREERS

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#### ADVISING

Students who are interested in the Mathematics major should visit a faculty advisor. Information about current advisor availability is on the Math advising page (<https://www.math.wisc.edu/undergraduate/advising/>).

For advice on college algebra, pre-calculus, and calculus, see the placement advising pages (<https://www.math.wisc.edu/undergraduate/placement/>) of the department.

#### Transition Courses

All majors are required to complete at least one of the following as the prerequisite for one or more proof-based 500-level courses required in the major. It is suggested that Mathematics-declared students (and those interested in the major) complete such a course as soon in their academic career as possible.

| Code                    | Title   | Credits |
|-------------------------|---|---------|
| MATH 341<br>or MATH 375 | Linear Algebra<br>Topics in Multi-Variable Calculus and Linear Algebra  |         |
| MATH 321<br>& MATH 322  | Applied Mathematical Analysis 1:<br>Vector and Complex Calculus<br>and Applied Mathematical Analysis<br>2: Partial Differential Equations |         |
| MATH 421                | The Theory of Single Variable<br>Calculus   |         |
| MATH 467                | Introduction to Number Theory   |         |

#### Graduate Study

Students preparing for graduate work in mathematics should take the following courses:

| Code                    | Title  | Credits |
|-------------------------|--|---------|
| MATH 341<br>or MATH 375 | Linear Algebra<br>Topics in Multi-Variable Calculus and Linear Algebra | 3       |
| MATH 521                | Analysis I   | 3       |
| MATH 522                | Analysis II  | 3       |
| MATH 541                | Modern Algebra   | 3       |
| MATH 542                | Modern Algebra   | 3       |
| MATH 551<br>or MATH 561 | Elementary Topology<br>Differential Geometry                           | 3       |

Select at least two other courses at the 500 level or higher

Students who plan to enter a mathematics PhD program should acquire a reading knowledge of at least one language other than English as early as possible; the most useful languages are French (<https://guide.wisc.edu/courses/french/>), German (<https://guide.wisc.edu/courses/german/>), and Russian (<https://guide.wisc.edu/courses/slavic/>).

### CAREERS

In recent years, students graduating with the Mathematics major have obtained employment in a variety of jobs in business, industry, and governmental agencies and also have obtained teaching positions at the secondary school level (such teaching positions normally require teaching certification). Others have continued their education at the graduate level in mathematics and other fields. Departments in a variety of fields that use mathematics, including the social and biological sciences as well as in engineering and the physical sciences, are interested in attracting Mathematics students into their graduate programs. Students with a mathematics PhD obtain academic positions at the college and university level and nonacademic positions entailing consulting and research. The Mathematics major requirements are flexible enough to allow preparation for various goals.

For information about opportunities related to possible careers with a Mathematics major, refer to our [Advising \(https://math.wisc.edu/undergraduate/advising/\)](https://math.wisc.edu/undergraduate/advising/) page under "Career Advising."

### SUCCESSWORKS

SuccessWorks (<https://successworks.wisc.edu/>) at the College of Letters & Science helps you turn the academic skills learned in your classes into a fulfilling life, guiding you every step of the way to securing jobs, internships, or admission to graduate school.

Through one-on-one career advising, events, and resources, you can explore career options, build valuable internship and research experience, and connect with supportive alumni and employers who open doors of opportunity.

- What you can do with your major (<https://successworks.wisc.edu/what-you-can-do-with-your-major/>) (Major Skills & Outcomes Sheets)
- Make a career advising appointment (<https://successworks.wisc.edu/make-an-appointment/>)
- Learn about internships and internship funding (<https://successworks.wisc.edu/finding-a-job-or-internship/>)
- Try "Jobs, Internships, & How to Get Them," (<https://successworks.wisc.edu/canvas/>) an interactive guide in Canvas for enrolled UW-Madison students