**MATHEMATICS MAJOR**

**ADMISSION TO THE MAJOR**

Every student is welcome to major in mathematics. Students are advised to finish calculus up to MATH222 and linear algebra (either MATH221 or MATH223) before making the decision.

**MAJOR REQUIREMENTS**

- A year of differential and integral calculus (typically MATH121 and MATH122)
- MATH221 or MATH223
- MATH222
- An elementary knowledge of algorithms and computer programming. (Successful completion of either COMP112 or COMP211 satisfies this requirement.)
- MATH261 and MATH225
- A coherent selection of four additional electives, chosen in consultation with an advisor from the department. Any MATH course at the 200+ level can be used as an elective for the major.

**Notes:**

- Students who have completed a year of calculus in high school may place out of one or both of MATH121 and MATH122.
- An AP score of 4 or 5 on the AB calculus exam indicates the student should begin in MATH122.
- An AP score of 4 or 5 on the BC calculus exam indicates the student should consider beginning in any of MATH221, MATH222, or MATH223.
- Students may not earn credit for both MATH221 and MATH223.
- Students must complete either MATH228 or MATH261 by the end of their junior year.
- With advance approval from the departmental advisory committee, mild adjustments are allowed. For example, a Wesleyan course with substantial mathematical content but that is not listed in MATH may be used toward the four-electives requirement. Please note, however, that both MATH225 and MATH261 must be taken at Wesleyan to complete the major, and substitutions for these courses will not be approved.

**STUDENT LEARNING GOALS**

The department has the following learning goals for mathematics majors:

- Develop a basic understanding of, and computational facility with, major objects of mathematical and applied interest, such as functions, vector spaces, and groups.
- Understand abstract mathematical reasoning, e.g., understand an abstract system of rules, find examples of objects that satisfy those rules, conjecture theorems from those examples, and prove those theorems.
- Understand some mathematical applications and ways to use mathematics in practice, and be able to make connections to topics outside of the strict course content.

- Students should be able to write about and speak about mathematics, clearly and elegantly.

**LANGUAGE REQUIREMENT**

Undergraduate majors in mathematics are encouraged to study languages while at Wesleyan; majors who are considering graduate study in mathematics should note that graduate programs often require a reading knowledge of French, German, and/or Russian.

**BA/MA PROGRAM**

This program provides an attractive option for mathematics majors to enrich their course and research background. Students are advised to begin research by their junior year if they intend to pursue the BA/MA. Admission is competitive and based on GPA, faculty recommendations, and research experience. For more information, visit wesleyan.edu/grad/degree-programs/bama.html (http://www.wesleyan.edu/grad/degree-programs/bama.html). Advanced undergraduates may enroll in graduate (500-level) courses.

**ADDITIONAL INFORMATION**

**COLLOQUIA, SEMINARS, AND MATH CLUB**

Lectures. The departmental colloquium series presents lectures on recent research by invited speakers from other institutions. Advanced undergraduates are welcome and encouraged to attend these colloquia and to participate in graduate seminars. All students interested in mathematics are invited to attend the annual Coven-Wood Lecture Series in Mathematics. The first talk in the series is accessible to students at all levels. The undergraduate Math Club hosts informal talks in mathematics and other mathematical activities.

**HONORS**

An undergraduate may achieve the BA with honors in mathematics via one of several routes:

- The honors thesis, written under the supervision of a faculty member under conditions monitored by the University Committee on Honors.
- A strong performance in a suitable sequence of courses, normally including some graduate courses, selected in consultation with a member of the department’s advisory committee. The candidate also is expected to prepare a public lecture on a topic chosen together with a faculty advisor.
- The comprehensive examination, offered by the department and/or by visiting consultants to select students nominated by the faculty.