

Advanced Placement and Credit

Supplemental to the college's general policies for advanced placement and credit (*See chapter 6*), the department of mathematics and computer science may grant additional advanced placement (*based on advising by faculty*).

A student who receives a 5 on the CEEB Advanced Placement Calculus BC exam may receive credit for both Mathematics 110 and 115, and placement into courses requiring those as prerequisites, if the student has studied the necessary additional topics not covered by the exam.

Mathematics Major

(12 $\frac{1}{4}$ units)

- 1) Nine and $\frac{1}{4}$ departmental units (at level 110 or higher) including:
 - a) Mathematics 215 and 240.
 - b) Two units of mathematics courses numbered between 300 and 380, inclusive.
 - c) Mathematics 384 ($\frac{1}{2}$) and 385 ($\frac{1}{4}$).
 - d) Four and $\frac{1}{2}$ additional units of mathematics electives at level 110 or higher.
- 2) Supporting courses (3 units):
 - a) One unit of computer science.
 - b) Two courses in physics, or 1 course in physics and 1 course emphasizing quantitative methods, chosen in consultation with the major advisor.
- 3) Mathematics majors are encouraged to do an internship or field experience involving the application of mathematics. Prospective graduate students are advised to take at least two terms of a modern foreign language, preferably French, German, Japanese, or Russian.

- 4) Writing/communication requirement:

Mathematics students should learn both how to write prose and how to write mathematics. Majors must take at least 5 courses designated by the college as W, at least 2 of which must be from inside the mathematics/computer science department and at least 2 of which must be from outside the department. (Transfer students reduce this by 1 course per year of advanced standing.) Departmental courses that qualify include 205, 215, 230, 240, 300, 310 and 384, and other courses as designated by the instructor.

 - a) Mathematicians need to know both how to write for other professionals in the field and how to report their work to others not necessarily trained in the discipline. Professional writing for mathematicians is usually proof-based. Many of the department's upper-level courses focus on such writing. Explaining our work to nonprofessionals often requires significantly different skills. While some departmental courses emphasize this type of writing, often the best training for this is writing courses in other disciplines. Consequently, mathematics majors are required to take writing courses both within and outside the department.
- 5) Mathematics majors are expected to attend Mathematics Colloquium regularly each semester in which they are in residence in their junior and senior years.

Mathematics Minor

(6 units)

- 1) Six departmental units:
 - a) Mathematics 110, 115, 175.
 - b) Three mathematics courses at level 190 or above. At least 1 of these units should be chosen from 215 or 240.
- 2) Mathematics minors are expected to enroll in Mathematics 383 for at least one semester.