ECONOMICS AND MATHEMATICS

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The Economics and Mathematics major is intended for students with a strong interest
in both mathematics and economics and for students who may pursue a graduate
degree in economics.

PREREQUISITES

The major has prerequisites in both mathematics and economics: MATH 120;
ECON 110 or 115; and ECON 111 or 116. Upper level economics courses may be
substituted for prerequisite economics courses. With Math DUS permission, students
familiar with multivariable calculus may substitute an upper level mathematics course
in the same area for MATH 120. Upper-level courses substituted for prerequisites do
not count toward the total of twelve term courses (beyond the introductory level in
economics and mathematics) required for the major.

REQUIREMENTS OF THE MAJOR

A total of twelve term courses is required beyond the introductory level in economics
and in mathematics: seven term courses in economics and five term courses in
mathematics numbered above 200 (except MATH 470). These courses must include:

1. One intermediate microeconomics course (ECON 125 is preferred, but ECON 121 is
   also acceptable) and one intermediate macroeconomics course (ECON 126 is
   preferred, but ECON 122 is also acceptable).
2. Two mathematical economics courses, ECON 351 and one of ECON 350, 417, or 433.
3. Two courses in econometrics, ECON 135 (or equivalent) and 136. ECON 135 can be
   replaced by S&DS 241 and S&DS 242, in which case they count as one economics
   course and not as mathematics courses. Neither S&DS 241 nor S&DS 242 can be
   counted toward the major in parallel to ECON 135.
4. **Students in the Class of 2025 and beyond** must complete linear algebra (MATH 225
   or 226) and real analysis (MATH 255 or 256). MATH 222 is not recommended as
   a substitute for MATH 225 or 226, as it does not provide an introduction to proof
   writing, which is an essential skill for MATH 255 and 256. **Students in the Class
   of 2024** may use MATH 300, 301, or 305 to fulfill the real analysis requirement (in
   place of MATH 255 or MATH 256). They may also use MATH 231 to fulfill the
   linear algebra requirement (in place of MATH 225 or 226).

A course must be listed with a MATH number to count toward the mathematics
requirements—substitutions from other departments are not permitted.

Distinction in the Major To be considered for Distinction in the Major, students must
meet minimum grade standards, as specified under "Honors" in The Undergraduate
Curriculum, and submit a senior essay in Economics that earns a grade of A or
A–. One-term essays may be written in either an Economics department senior seminar
or in ECON 491. Two-term senior essays may be written in either an Economics senior

seminar and ECON 492 or in ECON 491 and 492. (The paper must be written in a course or courses taken in the senior year.) For details see Economics. All courses beyond the introductory level in Mathematics and Economics are counted in the computation of grades for Distinction.

Credit/D/Fail Courses taken Credit/D/Fail may not be counted toward the requirements of the major.

SENIOR REQUIREMENT

Students must take the senior seminar in mathematics, MATH 480 or 481. A senior essay in Economics is optional.

ADVISING

Students interested in the major should consult both DUSes, and verify with each that their proposed program meets the relevant guidelines.

SUMMARY OF MAJOR REQUIREMENTS

Prerequisites MATH 120; ECON 110 or 115; ECON 111 or 116

Number of courses 12 term courses beyond prerequisites (incl senior req)

Distribution of courses 7 courses in econ and 5 in math

Specific courses required ECON 121 or 125; ECON 122 or 126; ECON 135; ECON 136; ECON 350, 417, or 433; ECON 351; MATH 225 or MATH 226; MATH 255 or MATH 256, as specified

Substitution permitted S&DS 241 and S&DS 242 for ECON 135, with permission of Economics DUS; substitutions for some Math courses for the Class of 2024 as described

Senior requirement Senior sem in math (MATH 480 or MATH 481); optional senior essay in economics