Progress Toward Completion of the Mathematics Major

Economics Concentration

Arts and Sciences students may be admitted to the math major after successfully completing a semester of multivariable calculus, a semester of linear algebra, and a 3- or 4-credit computer programming course. To apply, visit math.cornell.edu/major.

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<tr>
<th>Student's Name</th>
<th>Net ID</th>
<th>Faculty Advisor</th>
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Courses needed to complete the major

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Math majors must complete 9 courses for the major, as described in items 1–3 below, with a minimum grade of C–. No course may be used to satisfy more than one requirement. MATH courses numbered between 4980 and 5999 do not count.

At least two of the MATH courses taken must be at the 4000 level (or above).

1. Two Courses in Algebra. (___ transfer credit applied, see reverse)
   - MATH 3320 - Introduction to Number Theory
   - MATH 3340 - Abstract Algebra*
   - MATH 3360 - Applicable Algebra*
   - MATH 4310 - Linear Algebra*
   - MATH 4315 - Linear Algebra with Supplements*
   - MATH 4330 - Honors Linear Algebra*
   - MATH 4340 - Honors Introduction to Algebra*
   - MATH 4370 - Computational Algebra
   - MATH 4500 - Matrix Groups
   - MATH 4560 - Geometry of Discrete Groups

2. Two Courses in Analysis. (___ transfer credit applied, see reverse)
   - MATH 3110 - Introduction to Analysis*
   - MATH 3210 - Manifolds & Differential Forms
   - MATH 3230 - Introduction to Differential Equations*
   - MATH 4130 - Honors Intro Analysis I*
   - MATH 4140 - Honors Intro Analysis II
   - MATH 4180 - Complex Analysis*
   - MATH 4200 - Differential Equations and Dynamical Systems*
   - MATH 4210 - Nonlinear Dynamics and Chaos* [also MAE 5790]
   - MATH 4220 - Applied Complex Analysis*
   - MATH 4250 - Numerical Analysis and Differential Equations [also CS 4210]
   - MATH 4260 - Numerical Analysis: Linear & Nonlinear Equations [also CS 4220]
   - MATH 4280 - Introduction to Partial Differential Equations*

*Forbidden Overlaps: Due to an overlap in content, students will receive credit for only one course in each group:
(1) MATH 3110, 4130; (2) MATH 3230, 4280; (3) MATH 3340, 3360; (4) MATH 3340, 4340; (5) MATH 4180, 4220; (6) MATH 4200, 4210;
(7) MATH 4310, 4315, 4330; (8) MATH 4710, ECON 3130, BTRY 3080; (9) MATH 4720, ECON 3130, BTRY 4090; (10) MATH 4810, 4860.
3. **Concentration in Economics.** (___ transfer credit applied, see below)

Five additional courses from (vii), (viii) and (ix) below.

(vii) At least one MATH course numbered 3000 or above:

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(viii) At least three ECON courses with significant mathematical content.

- ECON 3130 - Statistics and Probability* or ECON 6190 - Econometrics I
- ECON 3140 - Econometrics or ECON 6200 - Econometrics II
- ECON 3810 - Decision Theory I
- ECON 3825 - Networks II: Market Design [also CS 4852, INFO 4220]
- ECON 4020 - Game Theory I
- ECON 4022 - Game Theory II
- ECON 4110 - Cross Section and Panel Econometrics
- ECON 4907 - The Economics of Asymmetric Information and Contracts
- ECON 6090 - Microeconomic Theory I
- ECON 6100 - Microeconomic Theory II
- ECON 6130 - Macroeconomics I
- ECON 6140 - Macroeconomics II

Note: Undergraduate enrollment in ECON graduate courses requires permission of instructor.

(ix) Courses in ORIE with significant mathematical content dealing with material of interest in economics.

- ORIE 3300 - Optimization I
- ORIE 3310 - Optimization II
- ORIE 4350 - Introduction to Game Theory
- ORIE 4580 - Simulation Modeling in Analysis
- ORIE 4600 - Introduction to Financial Engineering
- ORIE 4740 - Statistical Data Mining I
- ORIE 4741 - Learning with Big Messy Data
- ORIE 5600 - Financial Engineering with Stochastic Calculus I
- ORIE 5610 - Financial Engineering with Stochastic Calculus II

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(approved by faculty advisor)

**Transfer Credit / Study Abroad Courses Applied to the Major**

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<th>Course Number &amp;Title</th>
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<th>Requirement</th>
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*Forbidden Overlaps:* Due to an overlap in content, students will receive credit for only one course in each group:
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