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. Applications are available in 310A Malott Hall.

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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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<th>Course</th>
<th>Initials</th>
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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–. Two-credit courses count as half courses. No course may be used to satisfy more than one requirement for the major. MATH courses numbered between 5000 and 5999 do not count toward the major.

_____ 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 3220 Introduction to Number Theory
   ____ MATH 3360 Applicable Algebra
   ____ MATH 4310 Linear Algebra / _____ 4330 Honors Linear Algebra
   ____ MATH 4320 Introduction to Algebra / _____ 4340 Honors Introduction to Algebra
   ____ MATH 4370 Computational Algebra
   ____ MATH 4500 Matrix Groups

2. **Two Courses in Analysis.**
   
   _____ transfer credit applied (see reverse)

   ____ MATH 3110* Introduction to Analysis
   ____ MATH 3210 Manifolds and Differential Forms
   ____ MATH 3230* Introduction to Differential Equations
   ____ MATH 4130* Honors Introduction to Analysis I
   ____ MATH 4140 Honors Introduction to 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 4240 Wavelets and Fourier Series
   ____ MATH 4250 Numerical Analysis and Differential Equations [also CS 4210]
   ____ MATH 4260 Numerical Analysis: Linear and Nonlinear Problems [also CS 4220; co-meets w/CS 5223]
   ____ MATH 4280* Introduction to Partial Differential Equations

*Overlapping content: Students will receive credit for only one course in each group: (1) MATH 3110, 4130; (2) MATH 3230, 4280; (3) MATH 4180, 4220; (4) MATH 4310, 4330; (5) MATH 4320, 4340; (6) MATH 4710, ECON 3130 (formerly 3190), BTRY/ILRST/STSCI 3080; (7) MATH 4720, ECON 3130 (formerly 3190), BTRY 4090; (8) MATH 4810, 4860.
3. Concentration in Economics.

Students will receive credit for only one course in each group: (1) MATH 3110, 4130; (2) MATH 3230, 4280; (3) MATH 4180, 4220; (4) MATH 4310, 4330; (5) MATH 4320, 4340; (6) MATH 4710, ECON 3130 (formerly 3190), BTRY/ILRST/STSCI 3080; (7) MATH 4720, ECON 3130 (formerly 3190), BTRY 4090; (8) MATH 4810, 4860.

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.

If SP13 or earlier:

ECON 3130* Statistics and Probability or ECON 6190 Econometrics I
ECON 3140 Econometrics or ECON 6200 Econometrics II
ECON 3810 Decision Theory I [co-meets with ECON 6760, CS 5846]
ECON 3825 Networks II [also CS 4852, INFO 4220; co-meets with INFO 6220]
ECON 4020 Game Theory
ECON 4050 Intertemporal Economics
ECON 4070 Equilibrium and Welfare Economics
ECON 4110 Cross Section and Panel Econometrics
ECON 4020 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 4712 Regression (half course)
ORIE 4710 Applied Linear Statistical Models (half course)
ORIE 4710 Applied Linear Statistical Models
ORIE 4700 Statistical Data Mining I
ORIE 4610 Financial Engineering with Stochastic Calculus I
ORIE 4600 Financial Engineering with Stochastic Calculus II

(approved by faculty advisor)

Transfer Credit / Study Abroad Courses Applied to the Major

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<tr>
<th>Course Number &amp; Title</th>
<th>Institution</th>
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