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.

Student's Name **Net ID** **Faculty Advisor**

_____ _____ _____

Courses needed to complete the major

_____ initials _____

_____ date _____

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 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

_____ _____ (approved by faculty advisor)

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Transfer Credit / Study Abroad Courses Applied to the Major

Course Number &Title	Institution	Requirement

***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.