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. Visit math.cornell.edu/major for more information.

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–**. MATH courses numbered 5000–5999 do not count. No course may be used to satisfy more than one requirement.

_____ 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; co-meets w/CS 5223]
_____ 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:

_____ _____

_____ _____

(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; co-meets with INFO 6220]
_____ ECON 4020 Game Theory
_____ 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 4600 Introduction to Financial Engineering
_____ ORIE 4740 Statistical Data Mining I
_____ 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.