Progress Toward Completion of the Mathematics Major

Statistics 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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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 3320 Introduction to Number Theory
____ MATH 3360 Applicable Algebra
____ MATH 4310* Introduction to Differential Equations / _____ 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]
____ 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 Statistics.  

Five additional courses from (xvi), (xvii) and (xviii) below.

(xvi) Both:  _____ MATH 4710* Basic Probability  _____ MATH 4720* Statistics

(xvii) One additional MATH course numbered 3000 or above:

(xviii) Two courses in other departments with significant content in statistics, complementing (xv):

_____ BTRY 3020 Biological Statistics II [also NTRES 4130, STSCI 3200] if taken spring 2013 or earlier
_____ BTRY 4820 Statistical Genomics: Coalescent Theory and Human Population Genomics [co-meets with BTRY 6820]
_____ BTRY 6790 Probabilistic Graphical Models [also CS 6782]
_____ CS 4780 Machine Learning for Intelligent Systems [co-meets with CS 5780]
_____ ECON 3140 Econometrics (formerly ECON 3200)
_____ ORIE 3510 Introduction to Engineering Stochastic Processes I [also STSCI 3510]
_____ ORIE 4740 Statistical Data Mining I
_____ STSCI 3100 Statistical Sampling [also BTRY 3100, ILRST 3100]
_____ STSCI 3520 Statistical Computing [also BTRY 3520]
_____ STSCI 4030 Linear Models with Matrices [also BTRY 4030]
_____ STSCI 4100 Multivariate Analysis [also BTRY 4100, ILRST 4100]
_____ STSCI 4110 Categorical Data [also BTRY 4110, ILRST 4110]
_____ STSCI 4140 Applied Design [also BTRY 4140, ILRST 4140]
_____ STSCI 4550 Applied Time Series Analysis [also ILRST 4550, ORIE 5550]
_____ STSCI 4740 Data Mining and Machine Learning

_____  _________________________________________________________ (approved by faculty advisor)

Note: ORIE 3510 may not be counted toward (xviii) if MATH 4740 is used for (xvii). At most one regression course (ECON 3140 [formerly 3200] or STSCI 4030/BTRY4030) is allowed for (xviii). At most one of STSCI 4740, ORIE 4740, or CS 4780 may be used for (xviii).

Transfer Credit / Study Abroad Courses Applied to the Major

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<th>Course Number &amp;Title</th>
<th>Institution</th>
<th>Requirement</th>
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*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.