

AM REQUIREMENTS, 2009-10

The Terminal AM Program in Statistics Requires

- The satisfactory completion of **8** half-courses approved by the department, ordinarily including at least **6** letter-graded half-courses at the level of Statistics 110 and above taken within the Department of Statistics. The actual courses will vary according to the student's interest and preparation and will be determined in consultation with the student's advisor.
- Statistics 110 or 210 and Statistics 111 or 211 or equivalent.
- The 6 Statistics courses must also include 2 courses at the interface of theory and applications, such as Stat. 139/239, 140, 149/249, 160/260, 220, and Economics 1127..
- In 2009-10 Economics 1127 Statistical Methods for Evaluating Causal Effects can be counted as one of the 6 Statistics Department courses.
- AM students must earn a B average in Statistics courses and no more than one C.
- Terminal AM students can take at most one 300-level course, which ordinarily cannot be used to meet the minimum requirement for letter-graded statistics courses (i.e., must be a related course).
- The remaining half-courses may include courses in related areas (such as economics, psychology, and biostatistics) that develop statistical methodology and are judged to be at an equivalent level to Statistics 110 or above. They may also include upper-level mathematics courses, computer science courses, or, in some cases, other courses that broaden the student's ability to apply statistical methods. The Department maintains a list of tentatively approved related courses (below) with final approval given in the context of the 8-course program.

Approved Related Courses for 2009-10. [] indicates not offered in 2009-10

Any course offered by the **MATHEMATICS DEPARTMENT** numbered 100 or higher

Any course offered by **APPLIED MATHEMATICS** numbered 105 or higher

Any course offered by **BIOSTATISTICS** (all courses are numbered 200 or higher)

ASTRONOMY

[192 Tools and Techniques of Astronomical Measurements (spring term)]

193 Noise and Data Analysis in Astrophysics

BIOPHYSICS

170 Quantitative Genomics (fall)

205 Computational and Functional Genomics (spring)

CHEMISTRY

161 Statistical Thermodynamics (spring term)

240 Statistical Mechanics (fall term)

COMPUTER SCIENCE

50 Introduction to Computer Science I (fall term) **OR**

51 Introduction to Computer Science II (spring term)

[181 Intelligent Machines: Perception, Learning, and Uncertainty (spring term)]

[223 Probabilistic Analysis and Algorithms (fall)]

282 Probabilistic Reasoning (fall)

EARTH & PLANETARY SCIENCES

236 Environmental Modeling and Analysis (spring)

ECONOMICS

1026 The Economics of Climate Change (spring)

1030 Psychology and Economics (spring term)

1051 Game Theory in Economics (spring term) **OR**

1052 Advanced Game Theory (spring term)

1059 Theories of Decision-Making in Economics (fall)

2030 Psychology and Economics (fall term)

2040 Experimental Economics

2052 Game Theory I: Equilibrium Theory (spring term)

ECONOMICS

- [2053 Game Theory II: Topics in Game Theory (fall term)]
- [2059 Decision Theory]
- 1123 Introduction to Econometrics (fall and spring terms)
- 1126 Quantitative Methods in Economics (spring term)
- 1127 Statistical Methods for Evaluating Causal Effects
- 2110 Introductory Probability and Statistics for Economists (fall term)
- 2120 Introduction to Applied Econometrics (fall)
- [2130 Applied Econometrics (spring term)]
- 2140 Econometric Methods (fall term)
- 2142 Time Series Analysis (fall term)
- 2144 Advanced Applied Econometrics (spring term)
- 1723 Capital Markets (fall term)
- 2723 Asset Pricing I (fall term)
- 2724 Finance Theory in Continuous Time (spring term)
- 2728 Behavioral Finance

ENGINEERING SCIENCES

- 150 Probability with Applications in Electrical Engineering (spring term)
- [201 Decision Theory (spring term)]
- 202 Estimation and Control of Dynamic Systems (fall term)
- [203 Stochastic Control (fall)]
- 250 Information Theory (fall term)
- [251r Advanced Topics in Inference, Information, and Statistical Signal Processing (spring)]
- 255 Detection and Estimation Theory and Applications (fall)

GOVERNMENT

- 1002 Advanced Quantitative Political Methodology (spring term)
- 2000 Introduction to Quantitative Methods I (fall term)
- 2001 Advanced Quantitative Research Methodology (spring term)
- 2002 Topics in Quantitative Methods (fall term)
- [2003 Hierarchical Bayesian Modeling (spring term)]
- 3009 Research Workshop in Applied Statistics (All year, indivisible) (3009 requires full year for one term's credit, and a presentation is required for related course credit.)

MOLECULAR & CELLULAR BIOLOGY

- 111 Mathematics in Biology (spring term)
- 195 Foundations of Systems Biology and Biological Engineering (spring term)
- 199 Statistical Thermodynamics and Quantitative Biology (spring term)

ORGANISMIC & EVOLUTIONARY BIOLOGY

- 152 Population Genetics (spring)

PHYSICS

- 181 Statistical Mechanics and Thermodynamics (spring term)
- 262 Statistical Physics (fall)
- [269r Topics in Statistical Physics and Quantitative Biology (spring term)]

PSYCHOLOGY

- 1950 Intermediate Statistical Analysis in Psychology (fall term)
- 1952 Multivariate Analysis in Psychology (spring term)

SOCIOLOGY

- 203a Advanced Quantitative Research Methods (fall term)
- [203b Analysis of Longitudinal Data]

SYSTEMS BIOLOGY

- 200 A Systems Approach to Biology (fall term)