Statistics and Machine Learning (BS)

Major Academic Advisor: Samantha Nielsen (BH 132A); Faculty Advisors: Ryan Tibshirani (on leave for F17) and Ann Lee

This joint major develops the critical ideas and skills underlying statistical machine learning - the creation and study of algorithms that enable systems to automatically learn and improve with experience. It is ideal for students interested in statistical computation, data science, or “Big Data” problems, including those planning to pursue a related Ph.D. or a job in the tech industry.

This is a suggested schedule for the first 2 years for a Primary Major. The remainder of the Major and GenEd can be completed in the junior and senior year.

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<th>1st semester</th>
<th>2nd semester</th>
<th>3rd semester</th>
<th>4th semester</th>
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| • 36-200 or 36-201: Statistics*  
• Complete 1:  
76-101, Interpretation & Argument  
79-104, Global Histories  
Freshman Seminar  
99-101, C@CM  
21-120, Diff. & Integral Calculus***  
15-110, Interm./Adv. Programming  
xx-xxx, Elective** | • Complete 2:  
76-101, Interpretation & Argument  
79-104, Global Histories  
Freshman Seminar  
21-256, Multivariate Analysis***  
36-202, Statistical Methods****  
• 21-122, Integ. & Approximation  
• 21-127, Concepts of Mathematics  
xx-xxx, Elective**  
• 21-240 or 21-241, Matrix Algebra  
• 15-122, Princ. Imperative Comp.  
xx-xxx, Elective**  
xx-xxx, Elective** |

*Acceptable equivalents for 36-200 or 201 are: 36-207, 36-247 or 36-220  
**Elective: This space can be used for a pre-requisite course, another GenEd course, major course, or for a course you are interested in.  
***If required to start with 21-111, complete 21-112, then 21-256 (or 21-259). Note: 21-256 (or 21-259) should be taken before 36-225 which is offered in the fall semesters.  
****Other Intermediate Data Analysis courses are: 36-208 or 36-309 (fall)