INTERDISCIPLINARY DOCTORAL PROGRAM IN STATISTICS

Common Core
All students in the Interdisciplinary Doctoral Program in Statistics are required to complete the common core for a total of 27 units.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>or 18.675</td>
<td>Theory of Probability</td>
<td></td>
</tr>
<tr>
<td>IDS.190</td>
<td>Doctoral Seminar in Statistics and Data Science</td>
<td>3</td>
</tr>
<tr>
<td>18.655</td>
<td>Mathematical Statistics</td>
<td>12</td>
</tr>
<tr>
<td>or 18.6501</td>
<td>Fundamentals of Statistics</td>
<td></td>
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</tbody>
</table>

Total Units: 27

Program-specific Requirements
Each student must complete the requirements specified by their home department in the lists below by taking one subject from the Computation and Statistics category and one subject from the Data Analysis category.

Aeronautics and Astronautics

Computation and Statistics

Select one of the following: 12

- 6.438 Algorithms for Inference
- 6.867 Machine Learning
- 9.520[J] Statistical Learning Theory and Applications
- 16.391[J] Statistics for Engineers and Scientists
- 16.940 Numerical Methods for Stochastic Modeling and Inference

Data Analysis

Select one of the following: 12

- 16.393 Statistical Communication and Localization Theory
- 16.470 Statistical Methods in Experimental Design
- IDS.131[J] Statistics, Computation and Applications

Total Units: 24

Brain and Cognitive Sciences

Computation and Statistics

Select one of the following: 12

- 6.555[J] Biomedical Signal and Image Processing
- 6.867 Machine Learning
- 9.190 Computational Psycholinguistics
- 9.520[J] Statistical Learning Theory and Applications
- 9.660 Computational Cognitive Science

Data Analysis

Select one of the following: 12-15

- 7.57 Quantitative Biology for Graduate Students
- 9.583[J] Functional Magnetic Resonance Imaging: Data Acquisition and Analysis

Total Units: 24-27

Economics

Computation and Statistics

Select one of the following: 12

- 9.520[J] Statistical Learning Theory and Applications
- 6.867 Machine Learning

Data Analysis

Select one of the following: 12

- 14.192 Advanced Research and Communication
- 14.386 New Econometric Methods
- or 14.387 Applied Econometrics

Total Units: 36

Mathematics

Computation and Statistics

Select one of the following: 12

- 6.252[J] Nonlinear Optimization
- 6.256[J] Algebraic Techniques and Semidefinite Optimization
- 6.438 Algorithms for Inference
- 6.867 Machine Learning
- 9.520[J] Statistical Learning Theory and Applications
- 18.337[J] Numerical Computing and Interactive Software
- 18.338 Eigenvalues of Random Matrices

2 Mathematics students must enroll in 18.655.

1 Students may substitute a more advanced subject with permission of the program director.
18.416[J] Randomized Algorithms
18.657 Topics in Statistics

Data Analysis
Select one of the following: 12
6.555[J] Biomedical Signal and Image Processing
6.869 Advances in Computer Vision
9.272[J] Topics in Neural Signal Processing
18.367 Waves and Imaging
IDS.131[J] Statistics, Computation and Applications

Total Units 24

Political Science
Computation and Statistics
Select one of the following: 12
6.867 Machine Learning
9.520[J] Statistical Learning Theory and Applications
14.381 Applied Econometrics

Data Analysis
Select one of the following: 12
17.802 Quantitative Research Methods II: Causal Inference
17.804 Quantitative Research Methods III: Generalized Linear Models and Extensions
17.806 Quantitative Research Methods IV: Advanced Topics

Total Units 24

Social and Engineering Systems
Computation and Statistics
Select one of the following: 12
6.434[J] Statistics for Engineers and Scientists
6.438 Algorithms for Inference
6.867 Machine Learning
9.520[J] Statistical Learning Theory and Applications
14.381 Applied Econometrics
14.382 Econometrics
15.077[J] Statistical Learning and Data Mining
17.802 Quantitative Research Methods II: Causal Inference

Total Units 24-27