

MINOR IN STATISTICS AND DATA SCIENCE

Statistics, the science of making inferences and decisions under uncertainty, is becoming increasingly relevant in the modern world due to the widespread availability of and access to unprecedented amounts of data and computational resources. Unlike classical statistics, the need to process and manage massive amounts of data has become a key feature of modern statistics. This aspect of managing and processing data is popularly referred to as “data science.”

Through seven required subjects, the Minor in Statistics and Data Science provides students with a working knowledge base in statistics, probability, and computation, along with an ability to perform data analysis.

Foundation 1

6.100A & 6.100B	Introduction to Computer Science Programming in Python and Introduction to Computational Thinking and Data Science	12
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Foundation 2

<i>Select one of the following:</i>		12
2.087	Engineering Mathematics: Linear Algebra and ODEs	
18.03	Differential Equations	
18.06	Linear Algebra	

Statistics 1

<i>Select one of the following:</i> ¹		12
1.010	Probability and Causal Inference	
6.3700	Introduction to Probability	
9.07	Statistics for Brain and Cognitive Science	
14.30	Introduction to Statistical Methods in Economics	
15.069	Applied Probability and Statistics	
16.09	Statistics and Probability	
18.600	Probability and Random Variables	

Statistics 2

<i>Select one of the following:</i>		12
14.32	Econometric Data Science	
15.075[J]	Statistical Thinking and Data Analysis	
18.650[J]	Fundamentals of Statistics	

Computation & Data Analysis

<i>Select two of the following:</i>		24
1.00	Engineering Computation and Data Science	
2.086	Numerical Computation for Mechanical Engineers	

6.3800	Introduction to Inference	
6.3900	Introduction to Machine Learning	
6.8301	Advances in Computer Vision	
6.8711[J]	Computational Systems Biology: Deep Learning in the Life Sciences	
14.36	Advanced Econometrics	
15.053	Optimization Methods in Business Analytics	
16.90	Computational Modeling and Data Analysis in Aerospace Engineering ²	
18.065	Matrix Methods in Data Analysis, Signal Processing, and Machine Learning	
18.642	Topics in Mathematics with Applications in Finance ²	

Capstone Subject

IDS.012[J]	Statistics, Computation and Applications	12
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Total Units **84**

¹ Consult minor advisor about potential substitutions.

² Subject has prerequisites that are outside of the program.

A minimum of four subjects taken for the Statistics and Data Science Minor cannot also count toward a major or another minor.

See the Statistics and Data Science Minor webpage (<https://stat.mit.edu/academics/minor-in-statistics>) for additional information. Inquiries about the undergraduate program may be directed to the IDSS Academic Office (idss_academic_office@mit.edu).