

## COMPUTER SCIENCE, ECONOMICS, AND DATA SCIENCE (COURSE 6-14)

Computer Science, Economics, and Data Science (<http://catalog.mit.edu/interdisciplinary/undergraduate-programs/degrees/computer-science-economics-data-science>)

### Bachelor of Science in Computer Science, Economics, and Data Science

#### General Institute Requirements (GIRs)

The General Institute Requirements include a Communication Requirement that is integrated into both the HASS Requirement and the requirements of each major; see details below.

Summary of Subject Requirements	Subjects
Science Requirement	6
Humanities, Arts, and Social Sciences (HASS) Requirement [between one and three subjects can be from the Departmental Program]; at least two of these subjects must be designated as communication-intensive (CI-H) to fulfill the Communication Requirement.	8
Restricted Electives in Science and Technology (REST) Requirement [can be satisfied by 6.042[J] and 18.06 in the Departmental Program]	2
Laboratory Requirement (12 units) [can be satisfied by 14.32 in the Departmental Program]	1
<b>Total GIR Subjects Required for SB Degree</b>	<b>17</b>

#### Physical Education Requirement

Swimming requirement, plus four physical education courses for eight points.

#### Departmental Program

Choose at least two subjects in the major that are designated as communication-intensive (CI-M) to fulfill the Communication Requirement.

Required Subjects	Units
<b>Mathematics</b>	
18.06 Linear Algebra	12
<b>Computation/Algorithms</b>	
6.0001 Introduction to Computer Science Programming in Python	6
6.009 Fundamentals of Programming <sup>1</sup>	12
6.006 Introduction to Algorithms	12
6.042[J] Mathematics for Computer Science	12
6.046[J] Design and Analysis of Algorithms	12
<b>Economics</b>	

14.01	Principles of Microeconomics <sup>2</sup>	12
14.32	Econometric Data Science	12

#### Introductory Probability and Statistics

Select one of the following: 12

6.041A & 6.041B	Introduction to Probability I and Introduction to Probability II	
14.30	Introduction to Statistical Methods in Economics	
18.600	Probability and Random Variables	

#### Data Science

6.036	Introduction to Machine Learning	12
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#### Project-based

6.UAT or 15.276	Oral Communication (CI-M) <sup>3</sup> Communicating with Data	9-12
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Select one of the following: 12

14.05	Intermediate Macroeconomics (CI-M) <sup>4</sup>	
14.18	Mathematical Economic Modeling (CI-M)	
14.33	Research and Communication in Economics: Topics, Methods, and Implementation (CI-M)	

#### Elective Subjects

Select one of the following computer science electives: 12

6.207[J]	Networks	
15.053	Optimization Methods in Business Analytics	

Select three economics electives from the list below, including at least one subject from each group 36

**Unrestricted Electives** 48-57

**Units in Major** 183-186

Units in Major That Also Satisfy the GIRs (48-60)

Total Units Beyond the GIRs Required for SB Degree 180-186

The units for any subject that counts as one of the 17 GIR subjects cannot also be counted as units required beyond the GIRs.

<sup>1</sup> 6.0002 Introduction to Computational Thinking and Data Science is also an acceptable option.

<sup>2</sup> 14.03 Microeconomic Theory and Public Policy is also an acceptable option.

<sup>3</sup> 6.UAR Seminar in Undergraduate Advanced Research is also an acceptable option.

<sup>4</sup> Subject has prerequisites that are outside of the program.

#### Economics Electives

Select three of the following, including at least one subject from each group: 36

#### Data Science

14.20	Industrial Organization and Competitive Strategy
14.27	Economics and E-Commerce
14.36	Advanced Econometrics
14.41	Public Finance and Public Policy
14.64	Labor Economics and Public Policy
14.74	Foundations of Development Policy
14.75	Political Economy and Economic Development
15.780	Stochastic Models in Business Analytics
<b>Theory</b>	
14.04	Intermediate Microeconomic Theory
14.12	Economic Applications of Game Theory
14.13	Psychology and Economics
14.15[J]	Networks
14.16	Strategy and Information
14.19	Market Design
14.26	Economics of Incentives: Theory and Applications
14.54	International Trade