

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 6.1200[[]] and 18.06 in the Departmental Program]	2
Laboratory Requirement (12 units) [can be satisfied by 14.32 in the Departmental Program]	1
Total GIR Subjects Required for SB Degree	17

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
Mathematics	
18.06 Linear Algebra	12
Computation/Algorithms	
6.100A Introduction to Computer Science Programming in Python	6
6.1010 Fundamentals of Programming or 6.100B Introduction to Computational Thinking and Data Science	12
6.1200[[]] Mathematics for Computer Science	12
6.1210 Introduction to Algorithms	12

6.1220[[]] Design and Analysis of Algorithms 12

Economics

14.01 Principles of Microeconomics ² 12

14.32 Econometric Data Science 12

Introductory Probability and Statistics

Select one of the following: 12

14.30 Introduction to Statistical Methods in Economics

18.600 Probability and Random Variables

6.3700 Introduction to Probability

Data Science

6.3900 Introduction to Machine Learning 12

Project-based

Select one of the following: 9-12

6.UAR Seminar in Undergraduate Advanced Research (12 units, CI-M)

6.UAT Oral Communication (CI-M)

15.276 Communicating with Data (CI-M)

Select one of the following: 12

14.05 Intermediate Macroeconomics (CI-M) ²

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

6.3260[[]] Networks

6.7201 Optimization Methods

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 48-63

Units in Major 177-186

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

Total Units Beyond the GIRs Required for SB Degree 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.

¹ Subject has prerequisites that are outside of the program.

² 14.03 Microeconomic Theory and Public Policy is also an acceptable option.

Economics Electives

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

Data Science	
14.20	Industrial Organization: Competitive Strategy and Public Policy
14.27	Economics and E-Commerce
14.36	Advanced Econometrics
14.38	Inference on Causal and Structural Parameters Using ML and AI
14.41	Public Finance and Public Policy
14.42	Environmental Policy and Economics
14.43[J]	Economics of Energy, Innovation, and Sustainability
14.44[J]	Energy Economics and Policy
14.64	Labor Economics and Public Policy
14.75	Political Economy and Economic Development
14.76	Firms, Markets, Trade and Growth
15.780	Analytics of Operations Management
Theory	
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[J]	Organizational Economics
14.54	International Trade ¹

¹ Subject has prerequisites that are outside of the program.