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

Computer Science, Economics and Data Science (*https://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[J] 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		
Select 12-18 units of the following:		12-18
6.1000	Introduction to Programming and Computer Science	
6.100A & 6.100B	Introduction to Computer Science Programming in Python and Introduction to Computational Thinking and Data Science	
6.100A & 6.1010	Introduction to Computer Science Programming in Python and Fundamentals of Programming	
6.1200[J]	Mathematics for Computer Science	12
6.1210	Introduction to Algorithms	12
6.1220[J]	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[J]	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)	
14.35	Why Markets Fail (CI-M)	
Elective Subjects		
Select one of the following computer science electives:		12
6.3260[J]	Networks	
6.C571[J]	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
Units in Major		**177-186**
Unrestricted Electives		**48-63**
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.

[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 of Digitization	
14.36	Advanced Econometrics	
14.38	Inference on Causal and Structural Parameters Using ML and AI	
14.39	Large-Scale Decision-Making and Inference	
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	
14.45[J]	Climate and Energy in the Global Economy	
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.*