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

Department of Electrical Engineering and Computer Science (*https://catalog.mit.edu/schools/engineering/electrical-engineering-computer-science*)

Department of Economics (*https://catalog.mit.edu/schools/humanities-arts-social-sciences/economics*)

Master of Engineering in Computer Science, Economics, and Data Science

This Master of Engineering degree is awarded only to students who have already received, or who will simultaneously receive, the Bachelor of Science in Computer Science, Economics, and Data Science (Course 6-14). Refer to the undergraduate degree chart (*https://catalog.mit.edu/degree-charts/computer-science-economics-data-science-course-6-14*) for requirements.

The graduate component of the MEng program is described below.

Course 6-14P Graduate Requirements

Required Subjects

6.THM	Master of Engineering Program Thesis	24
6.9830	Professional Perspective Internship	1

Restricted Electives

Four graduate subjects totaling at least 42 units, which include two subjects from the EECS advanced subjects and two from the economics advanced subjects		42
Two subjects from the list of mathematics restricted electives		24
Total Units		**91**

Economics Advanced Subjects

14.121 & 14.122	Microeconomic Theory I and Microeconomic Theory II	12
14.131	Psychology and Economics	12
14.137[J]	Psychology and Economics	12
14.150	Networks	12
14.161	Strategy and Information	12
14.200	Industrial Organization: Competitive Strategy and Public Policy	12
14.260	Organizational Economics	12
14.270	Economics and E-Commerce	12
14.380 & 14.381	Statistical Method in Economics and Estimation and Inference for Linear Causal and Structural Models	12
14.387	Applied Econometrics	6
14.388	Inference on Causal and Structural Parameters Using ML and AI	12
14.420	Environmental Policy and Economics	12
14.444[J]	Energy Economics and Policy	12
14.540	International Trade	12
14.640	Labor Economics and Public Policy	12
14.750	Political Economy and Economic Development	12
14.760	Firms, Markets, Trade and Growth	12

EECS Advanced Subjects

6.3702	Introduction to Probability	12
6.3722	Introduction to Statistical Data Analysis	12
6.3732[J]	Statistics, Computation and Applications	12
6.4132[J]	Principles of Autonomy and Decision Making	12
6.5080	Multicore Programming	12
6.5210[J]	Advanced Algorithms	12
6.5220[J]	Randomized Algorithms	12
6.5230	Advanced Data Structures	12
6.5250[J]	Distributed Algorithms	12
6.5310	Geometric Folding Algorithms: Linkages, Origami, Polyhedra	12
6.5340	Topics in Algorithmic Game Theory	12
6.5400[J]	Theory of Computation	12
6.5620[J]	Foundations of Cryptography	12
6.6630[J]	Control of Manufacturing Processes	12
6.7210[J]	Introduction to Mathematical Programming	12
6.7240	Game Theory with Engineering Applications	12
6.7260	Network Science and Models	12
6.7300[J]	Introduction to Modeling and Simulation	12
6.7310[J]	Introduction to Numerical Methods	12
6.7320[J]	Parallel Computing and Scientific Machine Learning	12
6.7330[J]	Numerical Methods for Partial Differential Equations	12
6.7450[J]	Data-Communication Networks	12
6.7470	Information Theory	12
6.7700[J]	Fundamentals of Probability	12
6.7710	Discrete Stochastic Processes	12
6.7720[J]	Discrete Probability and Stochastic Processes	12
6.7800	Inference and Information	12

6.7810	Algorithms for Inference	12
6.7900	Machine Learning	12
6.7910[J]	Statistical Learning Theory and Applications	12
6.7930[J]	Machine Learning for Healthcare	12
6.7940	Dynamic Programming and Reinforcement Learning	12
6.8300	Advances in Computer Vision	12
6.8610	Quantitative Methods for Natural Language Processing	12
15.C57[J]	Optimization Methods	12

Mathematics Restricted Electives

Probability and Statistics (maximum of 1)		
6.3800	Introduction to Inference	12
18.650[J]	Fundamentals of Statistics	12
Discrete Mathematics		
18.200A	Principles of Discrete Applied Mathematics	12
Linear Algebra		
18.700	Linear Algebra	12
Complex Variables (maximum of 1)		
18.04	Complex Variables with Applications	12
18.0751	Methods for Scientists and Engineers	12
Real Analysis (maximum of 1)		
18.1001	Real Analysis	12
18.1002	Real Analysis	12
Other Subjects		
18.0851	Computational Science and Engineering I	12
18.0861	Computational Science and Engineering II	12
18.330	Introduction to Numerical Analysis	12
18.781	Theory of Numbers	12