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 (http://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

<table>
<thead>
<tr>
<th>Required Subjects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6.THM Master of Engineering Program Thesis</td>
<td>24</td>
</tr>
<tr>
<td>6.9830 Professional Perspective Internship</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Restricted Electives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Four graduate subjects totaling at least 42 units, which include two subjects from the EECS advanced subjects and two from the economics advanced subjects</td>
<td>42</td>
</tr>
<tr>
<td>Two subjects from the list of mathematics restricted electives</td>
<td>24</td>
</tr>
</tbody>
</table>

**Total Units** | 91 |

### Economics Advanced Subjects

14.121 Microeconomic Theory I 12  
& 14.122 and Microeconomic Theory II  
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 Statistical Method in Economics and Estimation and Inference for Linear Causal and Structural Models 12  
& 14.381 Applied Econometrics 6

14.388 Inference on Causal and Structural Parameters Using ML and AI 12  
14.420 Environmental Policy and Economics 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  
6.4132[J] Principles of Autonomy and Decision Making 12  
6.5080 Multicore Programming 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  
6.5620[J] Cryptography and Cryptanalysis 12  
6.6630[J] Control of Manufacturing Processes 12  
6.7200[J] Optimization Methods 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  
6.7450[J] Data-Communication Networks 12  
6.7470 Information Theory 12  
6.7710 Discrete Stochastic Processes 12  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.7800</td>
<td>Inference and Information</td>
<td>12</td>
</tr>
<tr>
<td>6.7810</td>
<td>Algorithms for Inference</td>
<td>12</td>
</tr>
<tr>
<td>6.7900</td>
<td>Machine Learning</td>
<td>12</td>
</tr>
<tr>
<td>6.7940</td>
<td>Dynamic Programming and Reinforcement Learning</td>
<td>12</td>
</tr>
<tr>
<td>6.8300</td>
<td>Advances in Computer Vision</td>
<td>12</td>
</tr>
<tr>
<td>6.8610</td>
<td>Quantitative Methods for Natural Language Processing</td>
<td>12</td>
</tr>
</tbody>
</table>

**Mathematics Restricted Electives**

- **Probability and Statistics (maximum of 1)**
  - 6.3800 Introduction to Inference 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