ARTIFICIAL INTELLIGENCE AND DECISION MAKING (COURSE 6-4)

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

Bachelor of Science in Artificial Intelligence and Decision Making

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; 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 [satisfied by 6.1200[J] and 18.C06[J] in the Departmental Program]	2
Laboratory Requirement (12 units) [satisfied by 6.1010 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.

Fundamentals		Units
6.100A	Introduction to Computer Science Programming in Python	6
6.1210	Introduction to Algorithms	12
6.1010	Fundamentals of Programming	12
6.1200[J]	Mathematics for Computer Science	12
18.C06[J]	Linear Algebra and Optimization [1]	12
Select one of the following:		12
6.3700	Introduction to Probability	
6.3800	Introduction to Inference	
18.05	Introduction to Probability and Statistics	
Centers		
Select five subjects, including one from each area:		60
Data-centric		
6.3720	Introduction to Statistical Data Analysis	
6.3900	Introduction to Machine Learning	
Model-centric		
6.3000	Signal Processing	
6.4110	Representation, Inference, and Reasoning in AI [2]	
6.4400	Computer Graphics [3]	
Decision-centric		
6.3100	Dynamical System Modeling and Control Design	
6.4110	Representation, Inference, and Reasoning in AI [2]	
6.7201	Optimization Methods [4]	
Computation-centric		
6.1220[J]	Design and Analysis of Algorithms	
6.4400	Computer Graphics [3]	
6.7201	Optimization Methods [4]	
Human-centric		
6.3260[J]	Networks	
6.3950	AI, Decision Making, and Society	
6.4120[J]	Computational Cognitive Science	
6.4590[J]	Foundations of Information Policy	
Communication-intensive in the Major		
Select one of the following:		9-12
6.UAT	Oral Communication (CI-M)	
6.UAR	Seminar in Undergraduate Advanced Research (12 units, CI-M)	
Application CI-M		
Select one of the following:		12-15
6.4200[J]	Robotics: Science and Systems (CI-M)	
6.4210	Robotic Manipulation (CI-M)	
6.8301	Advances in Computer Vision (CI-M)	
6.8611	Quantitative Methods for Natural Language Processing (CI-M)	
Social and Ethical Responsibilities of Computing (SERC)		
Students must satisfy at least one program requirement or elective with a subject from the list of SERC-qualified subjects		
Electives		
One subject that satisfies a degree requirement in Course 6 or Course 18		12
Select one of the following:		12-15

One subject from the list of AI+D Advanced Undergraduate Subjects	
One additional Application CI-M subject	
Units in Major	**171-180**
Unrestricted Electives	**48**
Units in Major That Also Satisfy the GIRs	(36)
Total Units Beyond the GIRs Required for SB Degree	**183-192**

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] *18.06 Linear Algebra is also an acceptable option.*

[2] *6.4110 Representation, Inference, and Reasoning in AI may count toward models or decision-making, but not both.*

[3] *6.4400 Computer Graphics may count toward models or computation, but not both.*

[4] *6.7201 Optimization Methods may count toward decision-making or computation, but not both.*

SERC-qualified Subjects

6.3900	Introduction to Machine Learning	12
6.3950	AI, Decision Making, and Society	12
6.4590[J]	Foundations of Information Policy	12
6.8301	Advances in Computer Vision (CI-M)	15
6.8611	Quantitative Methods for Natural Language Processing (CI-M)	15

AI+D Advanced Undergraduate Subjects

6.3730[J]	Statistics, Computation and Applications	12
6.5151	Large-scale Symbolic Systems [1]	12
6.5831	Database Systems [1]	12
6.8371	Digital and Computational Photography	12
6.8701	Computational Biology: Genomes, Networks, Evolution	12
6.8711[J]	Computational Systems Biology: Deep Learning in the Life Sciences [1]	12
18.404	Theory of Computation [1]	12

[1] *Subject has prerequisites that are outside the program.*