BOSTON UNIVERSITY
METROPOLITAN COLLEGE
COMPUTER SCIENCE DEPARTMENT

MET CS 664 ARTIFICIAL INTELLIGENCE

Course Overview

Artificial Intelligence provides the theoretical foundations of the exciting, rapidly expending area of computer science and is a must for the successful information technologist

Prerequisites

MET CS 248 Discrete Mathematics and MET CS 341 or MET CS 342 Data Structures or instructor's consent

Learning Objectives

By the end of this course the student will understand motivation, mechanism, and potential of Artificial Intelligence techniques, and will be ready to apply AI techniques to the practice.

Textbook Stuart Russell, Peter Norvig, "Artificial Intelligence: Modern Approach," 3rd Ed, Pearson, 2010, ISBN-13: 978-0-13-604259-4.

With some Problems from

Ben Coppin Artificial Intelligence Illuminated
1rd Ed., John & Bartlett Publishers, 2004, ISBN: 0-7637-3230-3

Evaluation and Grading

There will be two exams. If any grading criteria event will be missed it will be the responsibility of the student to arrange a mutually agreeable schedule for completion of work.

Grades will be based on:

Class participation	10%
Midterm Exam	50%
Final Exam	40%

Assignment

About six homework will be assigned. The number of assignments may change according to actual progress of the class.
Solutions will be discussed in class when graded papers are returned.

Academic Honesty

The course is governed by the Academic Conduct Committee policies regarding plagiarism (any attempt to represent the work of another person as one's own). This includes copying (even with modifications) of a program or segment of code. You can discuss general ideas with other people, but the work you submit must be your own. Collaboration is not permitted

Instructor Information

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Office Hours: Before each class meeting

Classes are scheduled at Room CAS

B06B

Schedule of Classes

9/7	Welcome, Administrative Issues, Introduction to Artificial Intelligence – Foundations, History, State of the Art	Chapter 1
9/14	Intelligent Agents, Solving problems by searching – Rationality, Search Agents, Heuristics	Chapter 2,3
9/21	More Searching, Adversarial search, Local Search, Unknown environment, Games, Stochastic Games	Chapter 4.5
9/28	Satisfying Constraints – Defining Constraint, Propagation, Backtracking, Local Search	Chapter 6
10/5	Logical Agents – Knowledge Based Agents, Propositional Logic	Chapter 7
10/12	First Order Logic – Representation, Syntax & Semantics, Usage	Chapter 8
10/19	Inference in First Order Logic – Propositional vs. FOL, Unification, Chaining, Resolution	Chapter 9
10/26	**Midterm Exam**	
11/2	Classical Planning – Definition, Algorithms, Graphs, Planning Analysis	Chapter 10
11/9	Quantify Uncertainty – Acting Under Uncertainty, Basic Probability, Inference, Bayes' Rule	Chapter 13
11/16	Learning from Example – Forms, Supervised, Decision Trees, Evaluating Hypotheses, Neural networks	Chapter 18
11/23	Thanksgiving Recess	Turkey
11/30	Learning Probabilistic Methods – Statistical Learning, Complete Data, Hidden Variables	Chapter 20

12/7 Review for Final Exam

12/21 Final Exam

NOTE: Syllabus is subject to change as we go…