Artificial Intelligence

Classroom: Monday: 15A-04; Friday: 15A-01
Sessions Schedule: Monday and Friday from 11:30 to 13:30
Schedule for Exam: Thursday: 08h00 to 10h00

#	Date		Activity Scheduled	Homework
1	October	10	Fundamentals of Artificial Intelligence: Learning Community, Syllabus, Schedule. Introduction to AI	
2	October	14	No class	
3	October	17	Fundamentals of Artificial Intelligence & Techniques for solving AI problems: Definitions and History	
4	October	21	Techniques for solving AI problems and phases of development: Goal and Data Driven Search. Generate and Test	
5	October	24	Techniques for solving AI problems and phases of development: Blind, Exhaustive Search: Breadth First, Depth First, Hill Climbing, Simulated Annealing	
6	October	28	Techniques for solving AI problems and phases of development: Heuristic Search: Best First.	#1
7	October	31	Techniques for solving AI problems and phases of development: Algorithms A and A*. Admissibility Theorem. Backtrack Algorithm.	
8	November	7	Knowledge Representation: Knowledge Representations Schemas. Logic, Semantic Nets, Frames, Rules. Logic and Propositional Calculus. Predicates	
9	November	11	Knowledge Representation: First Order Calculus. Semantics in Predicate Calculus.	
10	November	14	Knowledge Representation: First Order Calculus. Semantics in Predicate Calculus. Unification, Inference rules: Modus Ponens, Tolens, EA, IA, UI, EI	
11	November	18	The artificial Inference Process: Resolution Theorem, Applications and Exercises.	
12	November	21	The artificial Inference Process: Resolution Theorem, Applications and Exercises.	#2
13	November	25	Class activity to evaluate the a ability to analyze a problem, and identify and define the computing requirements appropriate to its solution (RA-B).	
14	November	28	Knowledge Based Systems: Intelligent System Development Cycle.	
15	December	2	Knowledge Based Systems: Intelligent System Development Cycle.	
16	December	8	First Examination	
17	December	12	Production Systems: Rule representation, Rule Based Systems, Advantages and Disadvantages	
18	December	16	Knowledge Based Systems: Introduction to Expert Systems, definition, Characterization and Structure	
19	December	19	The artificial Inference Process: Management of Uncertainty: Certainty Theory. Confidence Factors. Classic Probabilistic Methods and Bayes	
20	January	2	The artificial Inference Process: Management of Uncertainty: Certainty Theory. Confidence Factors. Classic Probabilistic Methods and Bayes	
21	January	6	The artificial Inference Process: Management of Uncertainty: Fuzzy Logic: Introduction and Definitions. Fuzzy Sets, Variables and Linguistic Modifiers	#3
22	January	9	The artificial Inference Process: Management of Uncertainty: Fuzzy Logic: Introduction and Definitions. Fuzzy Sets, Variables and Linguistic Modifiers	
23	January	13	The artificial Inference Process: Management of Uncertainty: Fuzzy applications. Cognitive Maps. Applications	
24	January	16	The artificial Inference Process: Management of Uncertainty: Fuzzy applications. Cognitive Maps. Applications	
25	January	20	Machine Learning: Introduction, Biological Neural Nets, Artificial Neural Nets, the Perceptron, Supervized and Unsupervized Learning	
26	January	23	Machine Learning: Neural Nets, Biological, Artificial, the Perceptron, Transfer Functions	#4
27	January	27	Machine Learning: Neural Nets Topologies, Learning and Use of Neural Nets, Applications	
28	January	30	Genetic Algorithms: History, Evolutionary Process, What are they?, Algorithm Structure, Representation Methods.	
29	February	3	No class	
30	February	6	No class - Final Project due	Final Project
31	February	10	No class	
32	February	16	Final Project Oral presentations	Project Presentations
33	February	20	Second Examination	
34	March	2	Third Examination	