

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.	
11	November	18	Artificial reasoning and inference: Unification, Inference rules: Modus Ponens, Tolens, EA, IA, UI, EI	
12	November	21	Artificial reasoning and inference: Unification, Inference rules: Modus Ponens, Tolens, EA, IA, UI, EI	#2
13	November	25	The artificial Inference Process: Resolution Theorem, Applications and Exercises.	
14	November	28	The artificial Inference Process: Management of Uncertainty: Certainty Theory. Confidence Factors. Classic Probabilistic Methods and Bayes	
15	December	2	The artificial Inference Process: Management of Uncertainty: Certainty Theory. Confidence Factors. Classic Probabilistic Methods and Bayes	
16	December	8	First Examination	
17	December	12	The artificial Inference Process: Management of Uncertainty: Fuzzy Logic: Introduction and Definitions. Fuzzy Sets, Variables and Linguistic Modifiers	
18	December	16	The artificial Inference Process: Management of Uncertainty: Fuzzy Logic: Introduction and Definitions. Fuzzy Sets, Variables and Linguistic Modifiers	
19	December	19	The artificial Inference Process: Management of Uncertainty: Fuzzy applications. Cognitive Maps. Applications	
20	January	2	The artificial Inference Process: Management of Uncertainty: Fuzzy applications. Cognitive Maps. Applications	#3
21	January	6	Knowledge Based Systems: Intelligent System Development Cycle.	
22	January	9	Knowledge Based Systems: Intelligent System Development Cycle.	
23	January	13	Production Systems: Rule representation, Rule Based Systems, Advantages and Disadvantages	
24	January	16	Knowledge Based Systems: Introduction to Expert Systems, definition, Characterization and Structure	
25	January	20	Machine Learning: Introduction, Neural Nets, Biological, Artificial, the Perceptron, Transfer Functions	#4
26	January	23	Machine Learning: Neural Nets, Biological, Artificial, the Perceptron, Transfer Functions	
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	Genetic Algorithms: Methods for selecting the individuals and exchange, Advantages and Limitations, Applications.	
30	February	6	Final Project due and oral presentations	
31	February	10	Final Project oral presentations	
32	February	16	Second Examination	
33	March	2	Third Examination	