

## Artificial Intelligence

Classroom: Tuesday: COM4; Friday: 15A-01  
 Sessions Schedule: Tuesday and Friday from 12:00 to 13:30  
 Schedule for Exam: Thursdays: 08h00 to 10h00

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