



Course Weekly Outline

Course Instructor	Isra'a Abdul-Ameer Abdul-Jabbar				
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Title	Principles of Artificial Intelligence				
Course Coordinator					
Course Objective	Learning the deal with the compound objects, files and databases in prolog language, also exhibit the studying of problem state space search and selecting the appropriate algorithms to solve it by containing a detail study of A.I strategies like blind search and heuristic search strategies and applying them with games.				
Course Description	Database in prolog Language, Compound Objects, File processing in prolog Language, A.I. Goals (Problem Reduction and Guarantee of Solutions), More complex Search Space (More Problems Solving Approach Used), Intelligent Search Strategies (Problem state space and search space ,Problem Solving), Blind Search (Depth First Search, Breadth First Search), Heuristic Search (Heuristic Functions , Hill Climbing , Best-First – Search , A – Algorithm , A* - Algorithm), Search Space Problems, Heuristic Search Examples , 8-puzzle Problem, Salesman Problem, Tic-Tac- Toe Problem, Using Heuristics in Games, Minimax Algorithm, Alpha – Beta Algorithm, The and \ or Graph, Theorem Proving Using Resolution Technique (Predicate Logic , Clause Form), Production System, Control Strategies and Matching, Forward Chaining, Backward Chaining, Rule Cycle, (Production Rule Example Reasoning, Matching and Response).				
Textbook	1. Elin Rich, “Artificial Intelligence”, 1991.				
References	<ol style="list-style-type: none"> 1. Luger E.George, ”Artificial Intelligence Structures and Strategies ”, 2005. 2. Stuart Russel and Peter Norvig , "Artificial Intelligent ,a Modern Approach" ,2003. 3. Amit Konar, " Artificial Intelligence and Soft Computing , Behavior and Cognitive Modeling of the Human Brain ", CRC press ,1991. 4. Dimitris Varkas and Ioannis Pl. Vlashavos, " Artificial Intelligence for Advanced Problem Solving Technique", published in the USA by Information science reference (an imprint of "IGI" Global),2008. 				
Course Assessment	Term Tests	Laboratory	Quizzes	Project	Final Exam
	(25%)	(20%)	(5%)	----	(50%)
General Notes					



Course weekly Outline

week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	21/10/2014	Prolog list preview	List examples	
2	28/10/2014	String preview	String examples	
3	4/11/2014	Compound objects in prolog	compound object examples	
4	11/11/2014	Database in prolog	database examples	
5	18/11/2014	Files in prolog	Files examples	
6	25/11/2014	Introduction to A.I search	More prolog programs	
7	2/12/2014	Blind search(depth & breadth) Heuristic search (best & hill climbing)	-	
8	9/12/2014	-	-	
9	16/12/2014	Heuristic search (A & A* Algorithms)	Depth –algorithm	
10	23/12/2014	Complex Search Space and problem solving Approach	Breadth algorithm	
11	30/12/2014	Adversarial Search in Game playing	exam	
12	6/1/2015	holiday	holiday	
13				
14				
15				
16				
Half-year Break				
17	2/2015	Minimax and alpha beta search	Best algorithm	
18	2/2015	Problem Reduction Using AND/OR Graphs	Hill climbing algorithm	
19	3/2015	Constraint Satisfaction problem	A- Algorithm	
20	3/2015	Knowledge Representation	A*- Algorithm	
21	3/2015	The Prepositional Calculus	Game playing (8-puzzle)	
22	3/2015	Predicates calculus	Game playing (8-puzzle)	
23	4/2015	Resolution	Game playing (tic-tac-toe)	
24	4/2015	Resolution by refutation	More complex search	
25	4/2014	Production system	More complex search	
26	4/2014	Backward & forward chaining	exam	
27	5/2015	Term exam		

Instructor Signature: dr. Isra'a Abdul-Ameer

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