



Course Weekly Outline

Course Lecturer	Associate professor Hayder Naser Kh.			
e-mail	hayderkhraibet@sa-uc.edu.iq			
Title				
Course Coordinator				
Course Objective	The aim of this course is to develop applications that use historical and real-time data from user interactions and other sources to make predictions and suggestions, delivering personalized and adaptive user experiences.			
Course Description				
Textbook	1-Applications in Artificial Intelligence. 2-Introduction to Genetic Algorithms. 3-Ant Colony Optimization. 4-Introduction to Data Mining.			
References	1- https://www.tutorialspoint.com/matlab/matlab_overview.htm			
Course Assessment	Term Exam	Labs	Quizzes	Final Exam
	30	10	10	50
General Notes				



Week	Date	Topics Covered	Lab	Number of Hours	Notes
1	3/10/2022	Introduction to Applications in Artificial Intelligence	MATLAB - Overview		
2	10/10/2022	Blocks World Problem-1	MATLAB - Environment Setup		
3	17/10/2022	Blocks World Problem-2	MATLAB - Syntax		
4	24/10/2022	Example about blocks world	MATLAB - Variables		
5	31/10/2022	Introduction to genetic algorithm	MATLAB - Commands		
6	07/11/2022	Genetic algorithm life cycle	MATLAB - M-Files		
7	14/11/2022	Genetic algorithm crossover and mutation	MATLAB - Data Types		
8	21/11/2022	Genetic algorithm example by using mathematical function (Example 1)	MATLAB - Operators		
9	28/11/2022	Genetic algorithm example by using mathematical function (Example 2)	MATLAB - Decisions		
10	05/12/2022	Genetic algorithm example by using travelling salesman problem (Example 1)	MATLAB - Loops		
11	12/12/2022	Genetic algorithm example by using travelling salesman problem (Example 2)	MATLAB - Vectors		
12	19/12/2022	Introduction to Ant colony optimization algorithm	MATLAB - Matrix		
13	26/12/2022	Ant colony optimization algorithm life cycle	MATLAB - Arrays		
14	2/01/2023	Ant colony optimization rule construction and pheromone update	MATLAB - Colon Notation		
15	09/01/2023	Ant colony optimization	MATLAB - Numbers,		

		example by using travelling salesman problem (Example 1)	and Strings		
16	16/01/2023	Lab exam	Lab exam		
17	23/02/2023	First term exam	First term exam		
18	20/02/2023	Ant colony optimization example by using travelling salesman problem (Example 3)	MATLAB - Data Import, and output		
19	27/02/2023	Introduction to Artificial neural networks	Genetic algorithm Using MATLAB		
20	06/03/2023	Artificial Neural Networks Architecture	Population Initialization using MATLAB		
21	13/03/2023	The types of activation function	Fitness function calculation using MATLAB		
22	20/03/2023	Application of Artificial Neural Networks-1	Crossover using MATLAB		
23	27/03/2023	Application of Artificial Neural Networks-2	Mutation using MATLAB		
24	03/04/2023	Expert systems	Survivor Selection using MATLAB		
25	10/4/2023	Rules based expert system architecture	Examples of using GA in MATLAB-1		
26	17/4/2023	Expert systems applications-1	Examples of using GA in MATLAB-2		
27	24/4/2023	Expert systems applications-2	Examples of using GA in MATLAB-3		
28	01/05/2023	Lab exam	Lab exam		
29	08/05/2023	Second term exam	Second term exam		
30	15/05/2023	Second term exam	Second term exam		

Lecturer signature

Head of Department Signature