Republic of Iraq
The Ministry of Higher Education and
Scintific Resrearch
Supervision and Scientific Evaluation Body

College : Shatt Al Arab
University College
Department : Computer
Science
Stage: Fourth
Lecturrer Name: Ammar
Abdulhadi Abdullah
Academic Status: Assistant
Teacher
Qualification: MSc in
Computer Science

Course Weekly Outline

Course Lecturer	Ammar abdulhadi Abdullah
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Title	Computer Simulation
Course Coordinator	
Course Objective	Definition of basic concepts in simulation and systems modeling Comparison between the types of simulation models, their methods, and their use Remember the steps and stages of building models and simulations Expanding the student's awareness in this field to motivate him to build simulation systems in various areas that society needs Familiarity with the programming language Python & Matlab for use in other fields after graduation
Course Description	Many systems that we encounter in operation research applications are too complicated for an exact mathematical analysis. In those situations we can decide to make some simplifications of the system leading to a problem which is mathematically tractable. However, alternatively we can decide to do a simulation study of the original, complicated system. This course is devoted to this latter approach. Several issues that arise during a simulation study will be discussed.
Textbook	Simulation: Principles and Methods By Wayne.J. Graybeal & Udo W. Pooch
References	Processes by Peter Probability, Statistics, and Stochastic) Olofsson & Mikael Andersson,2011

Course Assessment	Term Exam	Project	Quizzes and Attendance	Final Exam

	30	10	60
General Notes			

Week	Date	Topics Covered	Number of Hours	Notes
1	2/10/2022	An Introduction to Simulation - Part One	**2**	
2	8/10/2022	An Introduction to Simulation - Part One	**2**	
3	14/10/2022	An Introduction to Simulation - Part Two	**2**	
4	21/10/2022	**Basic Concepts and Definitions**	**2**	
5	28/10/2022	The Concepts of System and Model in Simulation Study -Part One	**2**	
6	4/11/2022	The Concepts of System and Model in Simulation Study -Part Two	**2**	
7	11/11/2022	Classification of System and Model - part one	**2**	
8	18/11/2022	Classification of System and Model - part Two	**2**	
9	25/11/2022	Classification of System and Model - part Three	**2**	
10	2/12/2022	An Introduction to Develop a Simulation model - Simulator	**2**	
11	9/12/2022	Basic Advantages and Disadvantages and Application Area of Simulation	**2**	
12	16/12/2022	Basic Steps to Develop a Simulation Study	**2**	
13	23/12/2022	Application and Problems - part one	**2**	
14	30/12/2022	Application and Problems - part Two	**2**	
15	6/1/2023	Application and Problems - part Three	**2**	
16	13/1/2023	مراجعة	**2**	
17	20/1/2023	Application and problems - part Four	**2**	
18	27/1/2023	Application and problems - part Five	**2**	

19	2/3/2023	An Introduction to application of Statistics in Simulation Study	**2**	
20	9/3/2023	Statistical Distribution - Part One	**2**	
21	16/3/2023	Statistical Distribution - Part Two	**2**	
22	23/3/2023	Application on Statistical Distribution	**2**	
23	30/3/2023	An Introduction to Random Systems	**2**	
24	6/4/2023	Methods to Generate Random Variables - Part - One	**2**	
25	13/4/2023	Methods to Generate Random Variables - Part - Two	**2**	
26	20/4/2023	Application on Random Variables in Simulation Study - Part One	**2**	
27	27/4/2023	Application on Random Variables in Simulation Study - Part two	**2**	
28	4/5/2023	An Introduction to Queuing Theory	**2**	
29	11/5/2023	Classification of Queuing System and Representation	**2**	
30	18/5/2023	Application on Queuing System Analysis - Part One	**2**	
31	25/5/2023	Application on Queuing System Analysis - Part Two	**2**	
32	1/6/2023	مراجعة	**2**	

Lecturer signature   **Head of Department Signature**