

## Course Description Form

<b>1. Course Name:</b>	
Operation research	
<b>2. Course Code:</b>	
<b>3. Semester / Year:</b>	
first semester /2024-2025	
<b>4. Description Preparation Date:</b>	
1/10/2024	
<b>5. Available Attendance Forms:</b>	
Attendance	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
30 / 2	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: semaa hassan Email: Semaa.h.aziz@uotechnology.edu.iq	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<p>The optimization material uses the scientific method as a basis and method in research and study.</p> <ul style="list-style-type: none"><li>• The objective of studying optimization is to assist the administration in making decisions related to difficult and complex administrative problems.</li></ul>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	Introducing the student to the subject of operation research and importance in terms of searching for optimal solutions using linear and nonlinear programming techniques. Solve operation research problems using simulation. As well as its applications in all scientific and practical fields

## 10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic title	Teaching Method	Assessment Method
1	2	1, 5,6	<b>introduction to Operations research, Concept of linear programming</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
2	2	,2,5,6	<b>Linear programming formulation, &amp; Mathematical model</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
3	2	5,6	<b>Graphical Method</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
4	2	1,2,3, 5,6	<b>Simplex Method</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
5	2	4,5,6,7	<b>Example of linear programming</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
6	2	,2,3,4 ,5,6	<b>Big-M methods</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures

7		1,4,5 ,6,7	<b>Transportation models</b>		
8	2	5,6,7	<b>The least cost method</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
9	2	1,2,4 ,5,7	<b>The vogels method</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
10	2	1,2,3,7	<b>The north east corner method</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
11	2	1,2,3 ,4,7	<b>Mid test</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
12	2	1,2,3 4,7	<b>Game theory</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
13	2	1,4,5 ,6,7	<b>Examples of method Game theory</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
14	2	1,4,5 ,6,7	<b>Introduction of Queuing theory</b>	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures

15	2	1,4,5 ,6,7	Examples of Queuing theory	Giving video lectures to explain the course / pdf lectures	Giving video lectures to explain the course / pdf lectures
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Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

### 11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Taha, H., Operation Research, 2010
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	