



**Department of - *Accounting***

**College of - *Administration and Financial Sciences***

**University of Cihan- Sulaimaniya**

**Subject: *Quantitative Methods***

**Course Book – Year -*2023/2024***

**Lecturer's name *Prof.Dr.Obaid Mahmmood Mohsin***

**Academic Year: *2023/2024***

# Course Book

<b>1. Course name</b>	<b>Quantitative Methods</b>
<b>2. Lecturer in charge</b>	<b>Prof.Dr.Obaid Mahmood Mohsin</b>
<b>3. Department/ College</b>	<b>Accounting- <i>Administration and Financial Sciences College</i></b>
<b>4. Time (in hours) per week</b>	<b>3 hours per week</b>
<b>5. Office hours</b>	<b>4 hours morning</b>
<b>6. Course code</b>	ACC32116
<b>7. Teacher's academic profile</b>	
<b>8. Keywords</b>	
<p><b>9. Course overview:</b>            Concepts covered in this course include Linear Programming, Artificial Variable Technique, Graphical method , Simplex Method, Transportation Problems, Assignment problem</p> <p>At the end of this course the student will:-</p> <ol style="list-style-type: none"> <li>1. understand what is meant of problem solving and decision making and quantitative methods.</li> <li>2. understand what is meant by operations research and how to formulate the linear programming problems.</li> <li>3. learn how to constructing a model to represent the systems.</li> <li>4 . learn how to deriving a solution from the model and put the solution to work.</li> <li>5. learn how use a graphical method to solve two-variable L.P. Problems.</li> <li>6. learn how use a simplex method to solve two-variable L.P. Problems and more than two-variable problems.</li> <li>7. understand the artificial variable technique, Big-M, and setting up the dual problems.</li> <li>8. understand the problem solution of transportation some product and how to deals with transporting some product, tangible or intangible, from a supply point to demand point learn how much of each product should go to each demand point from each supply point and finding the best way to move products, where the objective is to minimize the cost of distributing a product from a number of sources to a number of destinations.</li> </ol>	
<p><b>10. Course objective:</b>            The main objective of this course is to give student a good theoretical and practical knowledge of operations methods. The student will take courses from a variety of technique that focus extensively on statistical methodology, mathematical modeling, and computer implementation issues.            The student will be able to solve and interpret correctly the solutions of a problems and recognize the situations where QM techniques can be used as decision making tools and to interpret correctly the conclusions which can be derived using these techniques.</p>	
<p><b>11. Student's obligation</b>            Mid examination 30% +10% for homework –final examination 60%</p>	

**12. Forms of teaching**

**Teaching and Learning Strategy** Contact hours: 3 theoretical weekly hours with discussions +Assignments

**13. Assessment scheme**

<b>Midterm Examination</b>	<b>30 %</b>	<b>Paper, Quiz, Project</b>	<b>10%</b>
<b>Lab exam</b>	<b>**%</b>	<b>Final Practical Examination</b>	<b>**%</b>
<b>Final theory exam</b>	<b>60%</b>		

**14. Student learning outcome:**

The main objective of this course is to give student a good theoretical and practical knowledge of operations methods. The student will take courses from a variety of technique that focus extensively on statistical methodology, mathematical modeling, and computer implementation issues. The student will be able to solve and interpret correctly the solutions of a problems and recognize the situations where QM techniques can be used as decision making tools and to interpret correctly the conclusions which can be derived using these techniques.

**15. Course Reading List and References:****Text Books and References—**

**-Text books:** Hamdy, A.Taha; Operations Research an Introduction, 8<sup>th</sup> Edition, Pearson Education Inc., 2007.

**Reference books:** Gupta, P. K. & D. S. Hira; Operations Research, 2<sup>nd</sup> Edition, S. Chand & Company (Pvt) Ltd, Ram Nagar, New Delhi, 1987.

**16. The Topics:**

<b>Lecture No</b>	<b>Topic</b>
Week/1+2+3	<b>Chapter 1:</b> Basics of Quantitative Methods
Week/4+_5 +6 +7	<b>Chapter 2:</b> Linear Programming:
Week/8+11	<b>Chapter 3 :</b> Graphical Solution of Two-Variable L.P. Problems
Week/12 +13 +14	<b>Chapter 4:</b> Simplex Method:
Week/9+10	Mid Examination
Week- 15+16	Final Examination

**17. Peer review**

**Main Lecturer incharged**

**Head of The Department**