Course Description

Course Name
Operations Research
Course Code
WBA-32-04
Semester / Academic Year
Second semester / 2023-2024
Date of Description Preparation
1/10/2024
Available Attendance Form
In-person in classrooms
Total Study Hours / Total Units
30 total study hours / 3 units
Course Coordinator Name(s)
Asst. Prof. Mouad Kadhim Al-Asadi **Email**: alasadimoued79@gmail.com

Course Objectives	
Course Objectives	The course aims to help management make decisions related to complex and difficult administrative problems and to analyze, follow up, and ensure the success of projects. It also helps solve commercial problems by assisting in the movement of goods and supplies from their sources to their places of use, providing alternatives. The course addresses the problem of resource allocation and examines competitive issues to find solutions for the optimal decision using quantitative scientific analysis methods and techniques.

Teaching and Learning Strategies	
Strategies	The course involves a theoretical explanation of the curriculum topics, such as transportation and assignment models, business network analysis, and game theory. The theoretical explanations are linked to the practical application of administrative problems related to transportation, allocation, and project evaluation. The goal is to use optimal strategies to solve problems so that students can understand them.

	🕐 Student participation is encouraged during lectures and scientific questions are posed. 🕐 Student participation is considered a grading activity to evaluate the student's level and comprehension of the scientific material. 🕐 Students are required to attend lectures, and attendance grades are calculated as a certain percentage of the student's evaluation. 🕐 Students are assigned homework to assess their academic level related to the course material, which counts as an activity during the evaluation process

Course Structure

Week	Hours	Unit Name or Topic	Learning Outcomes	Learning Method	Assessment Method
1.	3	Chapter One: Transportation and Assignment Models	Develop theoretical skills	In-person lecture	Participation, discussion, exam
2.	3	Defining the transportation problem and building the model	Develop theoretical skills	In-person lecture	Participation, discussion, exam
3.	3	Methods for finding an acceptable solution	Develop theoretical skills	In-person lecture	Participation, discussion, exam
4.	3	Methods for finding an acceptable solution	Develop theoretical skills	In-person lecture	Participation, discussion, exam
5.	3	Methods for testing the optimality of the acceptable solution	Develop theoretical skills	In-person lecture	Participation, discussion, exam
6.	3	Defining the assignment model and methods for solving it	Develop theoretical skills	In-person lecture	Participation, discussion, exam
7.	3	Applications in the field of administrative, industrial, and economic sciences	Develop theoretical skills	In-person lecture	Participation, discussion, exam
8.	3	Chapter Two: Business Network Analysis	Develop theoretical skills	In-person lecture	Participation, discussion, exam
9.	3	Identifying business networks and how to draw	Develop theoretical skills	In-person lecture	Participation, discussion, exam

		networks for projects n			
10.	3	Methods for evaluating projects and calculating the total time for their implementatio	Develop theoretical skills	In-person lecture	Participation, discussion, exam
11.	3	Applications in the field of residential, service, and productive projects	Develop theoretical skills	In-person lecture	Participation, discussion, exam
12.	3	Chapter Three: Game Theory	Develop theoretical skills	In-person lecture	Participation, discussion, exam
13.	3	Defining game theory and how to build a game matrix	Develop theoretical skills	In-person lecture	Participation, discussion, exam
14.	3	Method for finding optimal strategies for game matrices	Develop theoretical skills	In-person lecture	Participation, discussion, exam
15.	3	Applications in the field of competition between telecommunicatio n and production companies	Develop theoretical skills	In-person lecture	Participation, discussion, exam

Course Evaluation

The grade distribution is out of 100, based on tasks assigned to the student such as daily preparation, daily and oral exams, monthly and written exams, and reports.

- Final written exam:
  60 points
- Student's course effort:
  40 points
  - Monthly exam:
    30 points
  - Daily oral participation during lectures:
    5 points
  - Lecture attendance:
    5 points

Learning and Teaching Resources

Required textbooks:	Operations Research 1, University of Baghdad / Department of Statistics (2018)
Main references (sources):	Not specified
Supporting books and references:	Not specified
Electronic references, websites:	Websites related to studies on operations

	research