Faculty of Commerce & Business Administration

Operations Research in Accounting

Information :

Course Code :	ACC 430	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Accounting

Instructor Information :

Title	Name	Office hours
Associate Professor	Mahmoud Mostafa Rashwan Abd Elnaser	13

Area Of Study :

Is an interdisciplinary branch applied mathematics and formal science that uses advanced analytical methods such as mathematical modeling, statistical analysis, mathematical optimization to arrive at optimal or near-optimal solutions to complex decision making problem. It's often concerned with determining the maximum of (profit, performance or yield) or minimum of (loss, risk or cost) of some real world objective.

Description :

The following are covered with applications to accounting: Mathematical Programming; Linear Programming: Basic Concepts; Linear Programming: The Simplex and the Dual Simplex Methods; Linear Programming: Duality and Sensitivity Analysis; Linear Programming; Integer Programming.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Become familiar with the most common models used in operations research, as well as the underlying assumptions and most common applications of these models.
2 -	Obtain an understanding of the role of sensitivity analysis in operations research.
3 -	Demonstrate the ability to identify the decision variables, parameters, constraints, and objective functions associated with a problem.
4 -	Gain an understanding of the importance of precise problem definition
5 -	Students will increase their scientific decision-making effectiveness through utilization of operations research methods.
c.Professional and Practical Skills: :	
1 -	Defined conclusion using operational and economic arguments with proper rigor.
2 -	Establish and supply appropriate techniques to solve problems.
3 -	Decide on appropriate operational models to analyze problems.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Project management	3	3	0
Decision analysis	3	3	0

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Topic	No. of hours	Lecture	Tutorial / Practical
Transportation	3	3	0
Decision analysis under risk	3	3	0
1st Midterm	3	3	0
Expected value of perfect information	3	3	0
Assignment Method	3	3	0
Markov analysis	3	3	0
Matrix multiplication	3	3	0
2nd Midterm	3	3	0
Absorbing system	3	3	0
Non-linear modeling: calculus based optimization	3	3	0
Models with one decision variable and unconstrained	3	3	0
Models with two decision variable and unconstrained	3	3	0
Revision	3	3	0

Teaching And Learning Methodologies :

- Text book
- Related published works
- Examples and case studies
- Individual and group assignment

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
1st Mid-Exam	20.00	6	
2nd Mid-Exam	20.00	11	
Attendance & Participation	20.00	13	
Final Exam	40.00	16	

Course Notes :

Brief Lecture Notes
PowerPoint Slides