

IM423 Operation Research

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.	
	Year	Semester	Lecture	Tutorial	Laboratory		
90 Credit Hours	-	4	7	2	2	0	3

COURSE AIM

Provide students with a knowledge that can make them appreciate the use of various research operations tools in decision making in organizations

COURSE WEEKLY CONTENTS

- 1 Introduction and overview.
- 2 Linear Programming.
- 3 Graphical Method.
- 4 Linear Programming Applications.
- 5 The Simplex Method.
- 6 Transportations Method – Formulation and Initial Solution.
- 7 - **Midterm Exam**
- 8 Transportations Method – Finding the Optimal Solution.
- 9 Assignment Method.
- 10 Critical Path Method.
- 11 Probabilistic Approach, Project Evaluation and Review Technique (PERT).
- 12 12th Assessment
- 13 Project Crashing.
- 14 Resource levelling
- 15 Network Analysis – Shortest Route and Minimal Spanning Tree.

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	
To be freely distributed among possible assessments							
8 to 12	←		20	MARKS		→	
13 to 15	←		10	MARKS		→	
16 or 17	40 Final						
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

Textbook F. Hillier and J. Lieberman, "Introduction to Operations Research", 9th Edition, McGraw Hill,

Other

Hamdy Taha, "Operations Research", Prentice Hall, latest edition