

KING FAHD UNIVERSITY FOR PETROLEUM & MINERALS
COLLEGE OF COMPUTER SCIENCE & ENGINEERING
DEPARTMENT OF SYSTEMS ENGINEERING
(152)

Course : ISE 303 Operations Research I
Instructor : Prof. Muhammad Al-Haboubi
Textbook : operations Research-An Introduction ,2011,
By Hamdy Taha

Course Contents:

S u b j e c t	Chapter
Introduction to OR	1
Modeling LP (Formulation) and Graphical Solution	2
The Simplex Method	3
Duality, Sensitivity, and Postoptimal Analysis	4
Transportation Models	5
Network Models and Project Scheduling	6
Goal Programming	8

Learning Outcomes :

1. Formulate LP problems. (e)
2. Describe the logic underlining steps in the Simplex method. (a)
3. Solve LP problems by Simplex method. (a, k)
4. Formulate the dual problem and describe its economic interpretation and interpret the LP solution. (a)
5. Use Dual Simplex method to find the optimal solution of LP. (a)
6. Conduct sensitivity analysis. (a)
7. Formulate and solve the transportation and assignment problems. (a, k)
8. Describe and solve the minimal spanning tree, the shortest route problem and the maximal flow problems. (a)
9. Use CPM and PERT to find the critical path and time schedule of a project. (e)
10. Formulate and solve goal programming problems. (e)

Grade Policy:

Test I (for Ch 1 & 2)	15%
Test II (For Ch 3)	15%
Test III (for Ch. 4)	15%
Test IV (for Ch. 5)	15%
Final Exam	35%
Instructor	5%
HW	0%
TOTAL	100%

NOTES

1. You have to come to class on time.
2. You should shut-off your mobile phone or make it at the silent mode in class, tests, and final exam
3. You should put your stuff (notes, book, bag, mobile phone, etc.) under the seat during tests, and final exam. Failure to do so may be considered cheating.
4. Medical excuses **may be** accepted (not guaranteed) for being absent in lectures and tests. The instructor may call the physician to verify the case.
5. Personal excuses **may be** accepted (not guaranteed) for being absent in lectures and tests. The instructor may require submitting documents to verify the case.
6. There will be a test, in class, after one week of finishing a chapters (Ch.1 to 5)