King Fahd University of Petroleum and Minerals

Department of Mathematics and Statistics

Course #: Stat 361 (3-0-3)

Syllabus (142) (Semester II, 2014-2015)

Dr. Slim Belhaiza

Course Title: Operations Research I

Prerequisite: Math 280, ICS 101 or ICS 102.

Textbook: To be announced.

Classes: UT 12:45 to 14:00, Building 4, Room 149.

Office Hours: UTR 12:10 to 12:40, Building 5, Room, 203-2.

Objectives

The course deals with the basic concepts in operations research. We shall see how simple mathematics lays a significant role in the solution of decision making problems.

Current Catalogue description

Problem solving and decision making. Linear Programming: Formulation, graphical method, simplex method, sensitivity analysis and duality. Transportation and assignment problem. Integer Programming. Project scheduling PERT/CPM.

Grading Policy: Major 1: 25%; **Major2:** 25%; **ClassWork:** 20% **Final:** 30%

Week	Sections	Chapters
1	2.1, 2.2	Chap2. Modeling with Linear Programming (LP)
2	2.4	Chap2. Modeling with Linear Programming (LP)
3	3.1, 3.3	Chap3. The Simplex Method and Sensitivity Analysis
4	3.4, 3.5	Chap3. The Simplex Method and Sensitivity Analysis
5	3.6	Chap3. The Simplex Method and Sensitivity Analysis
6	4.1, 4.2	Chap4. Duality and Post-Optimal Analysis
7	4.3, 4.4	Chap4. Duality and Post-Optimal Analysis
8	4.5, 7.2	Chap4. Duality and Post-Optimal Analysis & Chap7. Advanced Linear Programming
9	5.1, 5.2	Chap5. Transportation Model and Its variants
10	5.3, 5.4, 5.5	Chap5. Transportation Model and Its variants
11	6.1, 6.2, 6.3	Chap6. Network Models
12	6.4, 6.5	Chap6. Network Models
13	9.1, 9.2	Chap9. Integer Linear Programming
14	9.3	Chap9. Integer Linear Programming
15		Review