

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Dhahran, Saudi Arabia

STAT 530: DESIGN AND ANALYSIS OF EXPERIMENTS
TERM 141- SEP 2014 TO JAN 2015

Instructor: Muhammad Riaz, Room: 5-332, Phone: 860 7622,

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Consulting Hours: MW 0745-0845 or by appointment

Text: Montgomery, D.C. (2009). Design and Analysis of Experiments. 7th edition, Wiley, New York.

Aim: Preparing students to design experiments, and to use statistical techniques therein that help make objective decisions in the face of uncertainty.

Assessment:

Activity	Weight
<i>Class Work (including Attendance, Class Responses, Home works and Quizzes)</i>	15%
<i>Mid Term Exam (8th Week)</i>	30%
<i>Project</i>	20%
<i>Final Exam (Comprehensive)</i>	35%

Syllabus:

Week	Chapter	Topic
1	1&2	Introduction to Designs of Experiments and Basic Principles
2	3	Layouts of experimental Designs and Analysis of Variance Technique
3	4	Blocking and Experiments with blocking Factors
4	5	Factorial Experiments
5	6	Two and Three Level Factorial Designs
6-7	7	Blocking and Confounding for Two and three Level Factorial Designs
8-9	8	Two and three level Fractional Factorial Designs
10-11	11	Introduction to Response surface methodology
12-13	14	Split plot and strip plot designs
14-15	15	Analysis of Covariance
15	12	Robust Designs