

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

MATH 560: APPLIED REGRESSION AND EXPERIMENTAL DESIGN

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

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**Office Hours:** UTR. 12:15 pm – 1:30 pm, or by appointment

**Text:** Montgomery, D.C. (2012). Design and Analysis of Experiments. 8<sup>th</sup> 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 (8<sup>th</sup> Week)</i>	30%
<i>Project</i>	15%
<i>Final Exam (Comprehensive)</i>	40%

**Syllabus:**

Week	Chapter	Topic
1	1 2	Designs of Experiments + Basic Statistical Methods
2	1&2	Designs of Experiments + Basic Statistical Methods
3	3	Analysis of Variance
4-5	4	Experiments with blocking Factors
6	5	Factorial Experiments
7-8	6	Two Level Factorial Designs
9	7	Blocking and Confounding for Two Level Factorial Designs
10	8	Two level Fractional Factorial Designs
11-12	9	Other Topics on Experimental Designs
13-14	10	Regression Modeling
15	10	Random Effects Model
16		Projects Discussions