

**STAT 404 – DESIGN AND ANALYSIS OF EXPERIMENTS  
2011/2012**

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**Description:**

Theory and application of analysis of variance for standard experimental designs, including blocked, nested, factorial and split plot designs. Fixed and random effects, multiple comparisons, analysis of covariance.

**Prerequisite:** Statistics 305.

**Co-requisite:** Statistics 306.

**Textbook:** Wu and Hamada,

Experiments: Planning, Analysis and Parameter Designs optimization.

**References:** Box, Hunter & Hunter. Statistics for Experimenters. Wiley

Montgomery. Design and Analysis of Experiments. Wiley.

Scheffe. The Analysis of Variance. Wiley

**Topics:**

Introduction to DOE and Basic Regression Analysis.

Experiments with a Single Factor: One Way ANOVA

Experiments with More Than One Factor

Full Factorial Experiments at Two Levels

Fractional Factorial Experiments at Two Levels

Fractional Factorial Experiments at Three Levels

Orthogonal Arrays and Response Surface Methodology

Robust Parametric Design (Time permits)

**Course work:** Five assignments; one midterm (Oct 26) and a regular final exam.

**Final mark:** 20% assign + 30% Midterm + 50 % final.

One must attain 50% in the final exam to pass the course.

es/BC

Date of last

revision: 2011