

STA 6208 - Basic Design & Analysis of Experiments
Spring 2016
IVIWF 2 @ Griffin/Floyd 230

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Textbook Information:

Title: A FIRST COURSE IN DESIGN & ANALYSIS OF EXPERIMENTS
Author: OEHLERT
Edition: 1ST

<http://users.stat.umn.edu/~gary/Book.html>

Tentative Exam Dates/Times & Homework:

- Exam 1 - February 5, 7:30-9:20AM (25%)
- Exam 2 - March 14, 7:30-9:20AM (25%)
- Final Exam - April 18, 7:30-9:20AM (30%)
- Homework Projects-Approximately 8 (20%)

Course Policies:

- Prerequisite: STA 6207.
- Turn off cell-phones and all electronic devices (except calculators) during class and exams.
- Exams are closed-book/notes. Any relevant tables will be supplied.
- E-mail is a terribly inefficient way to teach statistics. If you'd like to see a particular problem worked out in class, send a request in advance. Do not expect a typed detailed response. E-mail is not a substitute for attending instructor and TA office hours.
- Note: Some course topics listed below were covered in STA 6207 and will be assumed without full "treatment".
- Most Computing will be done using SAS or R. When feasible, many examples will be done in spreadsheet format for illustration of principles.

Tentative Course Topics:

Note: Matrix approach and Mixed Model Analyses will be used in some different forms than text covers.

- Introduction to Experimental Design (Chapter 1)
- Randomization and Design (Chapter 2)
- Completely Randomized Design (Chapter 3)
- Treatment Contrasts (Chapter 4)
- Multiple Comparison Techniques (Chapter 5)
- Checking Model Assumptions* (Chapter 6)
- Power and Choice of Sample Size (Chapter 7)
- Factorial Designs (Chapters 8 & 9)
- Random Effects Designs (Chapter 11)
- Nested and Mixed Effects Designs (Chapter 12)
- Complete Blocks and Latin Squares (Sections 13.1-13.3.5)
- Balanced Incomplete Block Designs (Section 14.1)
- Full and Fractional Two-Level factorials (Sections 10.4,15.1,18.1-18.2)
- Analysis of Covariance (Sections 17.1-17.2)
- Split-Plot Designs (Sections 16.1-16.3)
- Repeated Measures Designs (Section 16.6)