STA 6207
Basic Design and Analysis of Experiments
Section 1791 (3 credit hours)
Spring 2008
Course Information and Policies

Description: STA 6207 is a required core course for graduate students of Statistics. It emphasizes technical aspects of experiment design and analysis, oriented toward students familiar with basic statistical theory and linear models. Major topics include principles of design, completely randomized designs, contrasts, multiple comparisons, factorial treatment structure, random effects, mixed effects, complete and incomplete block designs, full and fractional factorials, analysis of covariance, and split-plot designs.

Prerequisite: STA 4322 or 5328 (or an equivalent course in mathematical statistics) and some understanding of linear models and associated theory. Exposure to SAS® or R statistical software is useful. Course sequences like STA 6126/7 or STA 6166/7 are *not* acceptable as prerequisites — they do not provide the necessary background in *mathematical* statistics.

Course Web Site: `http://www.stat.ufl.edu/~tpark/STA6207`
Please check this site regularly! Most course documents and important information, including homework assignments, course schedule, and special announcements, will be posted there.

Instructor: Trevor Park, Griffin-Floyd 116C, `tpark@stat.ufl.edu`, 392–1941, Ext: 228, Fax: 392–5175

Lecture: Monday, Wednesday, & Friday, Period 6 (12:50–1:40), Rinker Hall, Room 110

Office Hours: Listed on course web site, and *subject to change*, particularly in the first few weeks of class. Special appointments with the instructor may be arranged by mutual agreement.

Textbook: Gary W. Oehlert, *A First Course in Design and Analysis of Experiments*, Freeman (available at bookstore). *Required.* (Refer to the course web site for information about optional reference material.)

Homework: Homework will be assigned almost every week. There will be approximately 10 assignments, not necessarily equally weighted. *Late assignments are generally not accepted*, unless prior permission has been granted.

Software: Data analysis will be performed using either the SAS® System or the R statistical environment. Details concerning access to SAS® and R software are provided on the course web site.

Preliminary Exams: Two evening midterm exams are tentatively scheduled:

February 20 — Midterm 1 **April 2** — Midterm 2

Policies and coverage details will be announced prior to the date of each exam. If you expect a conflict with an exam date or time or any other circumstance that will prevent you from taking the exam, *you must notify the instructor as early as possible.* If an emergency situation precludes an advance arrangement, you must provide, upon request, official documentation of the reason for your absence (e.g. an official note from the Student Health Care Center) to be eligible for an alternative arrangement.

Final Exam: **Monday, April 28, 7:30 AM – 9:30 AM** (exam group 28A) Details will be announced near the end of the semester. *You must take the exam at the official date and time — no exceptions for personal travel will be granted!*

Course Grade: Grading will be based on a composite score: 20% homework assignments, 25% each midterm exam, 30% final exam.

You may be assigned a grade of Incomplete (I) only when extenuating circumstances preclude your completion of required course work and no make-up can be completed in time to determine your final course grade before final course grades are officially submitted. You are eligible for a grade of Incomplete only if you have completed enough work to determine *at least half* of your final composite score, *and* you are currently passing the course based on that work, as determined by the instructor. If you find that you cannot continue the semester before this point is reached, you should instead seek an administrative withdrawal. As part of receiving a grade of Incomplete, University of Florida policy requires you to sign a contract with the instructor that specifies a plan and deadline for completing the course.

Lecture Attendance: Unless otherwise announced, your attendance of ordinary lectures is not monitored, nor is it directly used in determining your grade. However, almost all topics covered in lecture are potentially examinable, and will likely be more representative than material in the textbook of the topics covered on exams.

Tentative Course Outline:

Topic	Textbook Sections
Experiments: Concepts and Terminology	Chapter 1
Randomization	Chapter 2
Completely Randomized Designs	Chapter 3
Contrasts	Chapter 4
Multiple Comparisons	Chapter 5
Model Diagnostics and Remedies	Chapter 6
Power and Sample Size	Chapter 7
Factorial Designs	Chapters 8 and 9
Random Effects	Chapter 11
Nested and Mixed Effects	Chapter 12
Complete Block Designs and Latin Squares	Sec. 13.1–13.3.3
Balanced Incomplete Block Designs	Sec. 14.1
Full and Fractional Two-Series Factorial Designs	Sec. 10.4, 15.1, 18.1–18.2
Analysis of Covariance	Sec. 17.1–17.2
Split-Plot Designs	Sec. 16.1–16.3
Repeated Measures (time permitting)	Sec. 16.6

Reasonable Accommodations: To request classroom accommodation, please be certain that you have made all necessary arrangements with the Dean of Students Office, and obtain from them a letter to submit to the instructor at the time of your request. A request must be made to the instructor *at least one week in advance* of the date for which the accommodation is requested.

This course information and policies sheet can be made available in alternative formats to accommodate print-related disabilities. Contact the instructor for information.