

**STAT 8200 — Design (and Analysis) of Experiments for Research Workers
Course Syllabus* – Fall, 2013**

Instructor: Dan Hall

Office Hours: T,Th:1:00–2:00, and by appointment

Office: Room 218, Statistics Building **Phone:** 542-3302

E-mail: danhall@uga.edu

Teaching Assistant: Zhen Yan

Office Hours: Tu: 3:30–4:30 in rm 260, F: 5:00–6:00 in rm 307.

E-mail: yzhead@uga.edu

Lecture Hours: Tues & Thurs., Period 5 (2:00–3:15), Statistics Bldg., Room 306

Lab Hours: Occasional Thursdays, Period 5, Statistics Bldg., Room 307

Prerequisite: Any one of the following courses: STAT 6220, STAT 6230, STAT 6315, STAT 6320, STAT 6420.

Textbook:

Oehlert, G.W. (2000). *A First Course in Design and Analysis of Experiments*. W.H. Freeman and Company: New York.

- Good news! This book is available for free download from Gary Oehlert's website. Go to <http://users.stat.umn.edu/~gary/Book.html> to obtain it. Be sure to read the conditions for use of the book given there.

Course Topics:

- Basic ideas of experimental design.
- Review of Two-sample inference and basic statistical concepts
- Completely Randomized Designs
- Randomized Complete Block Designs
- Latin Square and Graeco-Latin Square Designs
- Incomplete Block Designs
- Split-plot Designs
- Repeated Measures Designs
- Cross-over Designs
- Factorial Designs (possibly)
- Fractional Factorial Designs (possibly)

Evaluation:

Grades will be based on homework (35%), labs (5%), two midterms (20% each), and a final (20%).

* Note that the course syllabus is a general plan for the course; deviations from the syllabus may be necessary and will be announced by the instructor.

Homework and Labs:

You will have 5 or 6 homework assignments this term, each of which will be due approximately 1 week from when it is assigned. In addition, you will have regular lab assignments. After the first lab, you will be responsible for completing the labs on your own, outside of class. In addition, you will have weekly labs. After the first lab, you will be responsible for completing the labs on your own, outside of class. The idea behind the labs is to give you practice implementing the methods that we discuss in lecture and to provide further examples beyond those we discuss in class. We will use the statistical software SAS as our primary analysis tool, and the labs will give you practice using this software in a Windows environment.

Homeworks and labs are due in class or by 4:30PM on the announced due date, and may be turned in by sending an electronic copy to me via e-mail (danhall@uga.edu) or slipping a hard copy under my door if they are not turned in during class. **No late homeworks or labs will be accepted!** One of the reasons for this policy is that I will provide solutions for the homeworks (and some labs) shortly after they have been turned in. I will drop one of your labs (the worst one or one that you didn't complete) in forming your lab grade. No homeworks will be dropped.

Web Page:

I will post copies of homework and lab assignments, homework and lab solutions, lecture notes, this syllabus, etc. on the internet. The address (url) for this material is <https://faculty.franklin.uga.edu/dhall/content/courses/stat-8200>. I will hand out all material in class, but if you miss something, check the web page before asking me if I have extra copies. I will continuously update the web page throughout the term, so check back often.

E-mail:

I will utilize e-mail to contact you fairly often. Therefore **it is important that you provide me with a correct e-mail address and that you check your e-mail regularly.** I encourage you to contact me via e-mail if you have a simple question that does not require an office hours visit.

Attendance:

You are graduate students. I expect you to be mature enough to come to class regularly without me formally *requiring* it or taking attendance. If you have to miss class for one reason or another, you need not inform me, but of course you are still responsible for the material you missed in class, including any announcements regarding course business.

Academic Honesty:

All academic work must meet the standards contained in the UGA Academic Honesty policy, "A Culture of Honesty". Students are responsible for informing themselves about those standards before performing any academic work. The link to more detailed information about academic honesty can be found at:

<http://www.uga.edu/ovpi/honesty/acadhon.htm>