STATISTICS J506 SYLLABUS
Spring 2013

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MW 9:30-10:45 Wardlaw 116   777-5070
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Text PowerPoint handouts, and web-based materials. *Design of Experiments for Engineers and Scientists* by Jiju Antony is *recommended*, but not required.

Disabilities If you qualify for accommodations because of a disability, please submit a letter to me from the Office of Student Disability Services in a timely manner so that your needs may be addressed. The Office of Student Disability Services determines accommodations based on documented disabilities. Contact: 777-6142, LeConte 112A; *http* : *//www.sa.sc.edu/sds*

Learning Outcomes Students should be able to

- Understand the role of random behavior in experimental processes, particularly industrial, scientific and engineering processes.

- Plan a sound experimental design, including the use of orthogonality, randomization, blocking, and replication (through a sample size analysis).

- Plan a practical experimental design, including the use of parsimonious methods when experimental resources are limited.

- Analyze factorial experiments using exploratory data analysis, informal and formal inferential methods.

- Communicate experimental designs to technical and non-technical audiences.

Attendance My attendance policy corresponds to the policy stated in the student handbook: If you miss more than 10% of your classes (more than 3 classes), the teacher may choose an appropriate penalty. I will deduct 2% from your final class average for each additional day that you miss after the third absence.

Grading Grades will be weighted in the following way:

In-class Exams (2)	100 points
Homework/Classwork	100 points
Project	100 points
Final Exam	100 points
Total	500 points

The project can be undertaken with a partner (or partners) and will consist of a project proposal, final draft and oral presentation (when practical). I use the project to enhance (or reinforce) several skills you will need in your future (or current) career: written and oral communication, practical problem-solving and teamwork.

For most of the course the handouts are exemplary, and I will assume that you have reviewed relevant material before I cover the material in class. The handouts contain numerous in-class activities; the assessment of your participation in these activities will form an important part of your Homework/Classwork grade.

You are encouraged to discuss homework and class assignments with your classmates and me, but all such assignments must be written independently. Do not copy any part of another student's work or computer code. You are not allowed to discuss exams with your classmates; please consult me if you have any questions. Incidences of cheating and academic dishonesty will be punished to the full extent allowed under university regulations.

Computers I will maintain a class web page that will be used to post homework assignments, class assignments, tests, computer handouts and syllabus updates. Homework solutions *do not* appear on the web page. The URL for the class web page is *http : //www.stat.sc.edu/* ∼ *grego/courses/stat*506. All class notices will be posted on Blackboard, and students will upload assignments on Blackboard.

We will be using Minitab exclusively in the course. I tend to like to use the best available package for the job at hand and Minitab's design of experiments software is excellent (SAS's design package is excellent too, but is available only as a separate SAS module and thus not generally available in the computer classrooms). Descriptions of any Minitab sessions in class will be posted on the Web page.

Date	Slideshow	Graded Work
1/14	1	
1/16	2	
1/21		No classes
1/23		
1/28	3, 4	
1/30	5, 6	
2/4		CE 1 (Helicopter)
2/6		HW 1
2/11	7	CE 2 (Ladder)
2/13	8	CE 3 (3b.9, 3b.15)
2/18	8	HW 2
2/20	9	CE 4 (8.1)
2/25		Test 1
2/27	13	CE 5 (Replication)
3/4	14	
3/6	ANOVA	
3/11		No classes
3/13		No classes
3/18	Sample Size	
3/20	Centerpoint	HW 3
3/25	15	
3/27	16	CE 6 (Violin)
4/1	17, 18	HW 4
4/3	19	Project Proposal Due
4/8		Test 2
4/10	20	
4/15	21	
4/17	22	HW 5
4/22	23	Project Draft Due, CE 7 (Foldover)
4/24		
4/29		Oral Presentations

The final exam will be due on Monday, May 6