

## STAT 7000: Experimental Statistics I (Fall 2009) Course Syllabus

### Contact Information:

Instructor: Peng Zeng  
Office: 230C Parker Hall  
Office Hour: 2:00pm – 2:50pm, Tuesday/Thursday or by appointment  
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### Time/Location:

section 095 9:30am – 10:45am, Tuesday/Thursday, Parker Hall 354 (lecture)  
5:00pm – 5:50pm, Wednesday, Parker Hall 254 (lab)  
section 125 12:30pm – 1:45pm, Tuesday/Thursday, Parker Hall 236 (lecture)  
5:00pm – 5:50pm, Thursday, Parker Hall 254 (lab)

### Course Website:

<http://www.auburn.edu/~zengpen/stat7000-fall109/>

### Contents:

Statistical methodologies such as  $t$ -test, ANOVA, linear regression. The SAS system. The majority audience are graduate students majoring in nonstatistical disciplines.

### Textbook:

F.L. Ramsey and D.W. Schafer (2002), *The Statistical Sleuth: A Course in Methods of Data Analysis*, (2nd edition), Duxbury. (<http://www.statisticalsleuth.com/>)

### Prerequisite:

STAT 2510. Familiar with the basic statistical concepts such as mean, standard deviations, histograms, the normal and  $t$ -distributions, estimation, and hypothesis testing. (Reference: D.S. Moore and G.P. McCabe (2005), *Introduction to the Practice of Statistics*, 5th ed.)

### Homework/Exam:

homework	20%
exam I	20%
exam II	25%
project	10%
final exam	25%
total	100%

A	=	(90, 100]
B	=	(80, 90]
C	=	(70, 80]
D	=	(60, 70]
F	=	[0, 60]

Homework is due in lab on the stated due date. No late homework will be accepted without prior approval of the instructor. Computer output should be cut and pasted into solutions appropriately, and it is unnecessary to submit complete computer output. Homework only containing computer output will earn zero point.

The two midterm exams are in-class and open-book exams (calculator is allowed, but no laptop). The final exam is a take-home exam (need to use SAS).

For the project, students are expected to form groups to analyze real datasets. Each group, consisting of three or four students, needs to give a presentation in the end of the semester and turn in a written report.

### **Academic Dishonesty:**

Suspicion of academic dishonesty and/or cheating will result in action by the University Honesty Committee. Refer to the *Tiger Cub* for more specific details.

### **Students with Disabilities:**

Students who need accommodations are asked to arrange a meeting with the instructor in the first week of classes, or as soon as possible if accommodations are needed.

### **Course Outline**

1. introduction
2. review (SAS, basic concepts in statistics)
3. t-test and alternatives
4. one-way ANOVA
5. simple linear regression
6. multiple linear regression
7. logistic regression (optional)