

Instructor: Chong Ma

Course: Statistics for Engineers(Section 3)

Class Time/Place: 8:30-9:20AM MWF in 111 Petigru

Office: 127C LeConte

Office Hours:10-11AM MWF

Email: chongm@email.sc.edu

url: <http://people.stat.sc.edu/chongm/>

Course overview: This course is an introduction to probability and statistics at the undergraduate level shedding light on applications in engineering. You are required at least having the Math 142 prerequisite course for this class. The optional textbook is **Montgomery, D. and Runger, G.(2013). *Applied Statistics and Probability for Engineers, Six Edition. John Wiley and Sons, Inc.*** We will follow my course slides and the optional textbook to discuss the following materials:

- Probability and Distributions(Chapters 2-5): Probability Laws; Discrete and Continuous Random Variables and Their Distributions; Reliability and Lifetime Distributions.
- Estimation and Statistical Inference(Chapters 6-9): Sampling distributions; One/Two-Sample Statistical Inference; One-Way Analysis of Variance.
- Regression(Chapter 10-11): Simple/Multiple Linear Regression including estimation and prediction, confidence intervals, hypothesis tests and residual diagnostics.
- Factorial Experiment(Chapter 12): 2^k Factorial Experiment; Replicated and Unreplicated Analysis.

Homework: There will be tentatively 10 homework assignments during the semester, each one covered by one chapter in the notes. Homework must be written up neatly and stapled, and late homework is not be accepted. You are encouraged to discuss and work together on homework, but you must write your solutions independently of others. "Copy-cat" type of solutions will be identified and cause you serious academic consequence.

Exams: We will have two midterm exams in class and one cumulative final exam. All of exams are closed-book and closed-notes. Make-up exams will merely considered when your absence is due to extreme excuses and you must discuss it with me at least one week in advance and provide me appropriate documentations.

- Exam I: 8:30-9:20AM Friday, February 24(Chapters 2-5)
- Exam II: 8:30-9:20AM Friday, April 7(Chapters 6-9)
- Final: 9:00-11:00AM Monday, May 1(Chapters 2-11)

Computing: R is a requisite scripting language in class for computing, plotting and conducting data analysis. I will teach you some basic R scripting skills during this semester. You are encouraged to read the “ An Introduction to R” manual on the website <https://cran.r-project.org/>.

Grade: Your course grade will be determined by your performance on homework, midterm exams and the final.

Assignment	Weight	Grade	Scale
Homework	20%	A	90%-100%
Exam I	20%	B	80%-89%
Exam II	20%	C	70%-79%
Final	40%	D	60%-69%
Total	100%	F	< 60%

Table 1: Course assignments contribution to the grade and grade distribution.

Remarks on STAT 509

- Attend every class and be on time.
- Don't hesitate to interrupt me for asking questions during class.
- Spend sufficient time on homework and read appropriate sections of the slides and the textbook.
- Feel free to let me know for any special attentions with exams or other aspects of the course because of disability.
- You can reach the Student Success Center for free peer-facilitated study sessions or additional questions for this course via its website <http://www.sc.edu/success/peertutoring.html>, at phone 803-777-1000 or at email tutoring@sc.edu.