STA 5166
Statistics in Applications I
FALL SEMESTER 2015

Instructor:	Xu-Feng Niu
Office:	210B OSB niu@stat.fsu.edu
Class Hours:	11:00am - 12:15pm MW (Room: HCB 208)
Office Hours:	12:20pm - 1:20pm MW
Text:	Box, G. E., Hunter, W. G. and Hunter, J. S (2005), Statistics for Experimenters, John Wiley and Sons, Inc.

Course Objectives: Statistics is an applied science whose focus is upon the collection, analysis and interpretation of data. Statistics is also a mathematically-based theoretical science in which the theory necessary to carry out data analysis is developed. This course will focus on the design of experiments which is the most valuable aspect of statistical method. Frequently conclusions are easily drawn from a well-designed experiment, even when rather elementary methods of analysis are employed. Conversely, even with the most sophisticated statistical analysis can not salvage a badly designed experiment. The topics of this course will include comparison of two and more means, random sampling, randomization and blocking with paired comparisons, statistical inference for means, variance, proportions and frequencies, and two-way factorial designs and Latin square design.

The course will use "R" as the statistical computing packages. Each student should have a good calculator.

Prerequisites:
MAC 3312 or consent of the instructor

Course Grade:

Weights		Grading Scale	
Homework	30%	90-100	A
Midterm	30%	80-90	B
Final	40%	70-80	C
		60-70	D
		Below 60	F

Attendance Requirement:
Students are required to attend all the classes. Missing three or more classes without a good excuse will fail the course or get an incomplete.

Please be courteous to your classmates and instructor: 1) do not conduct private conversations during the class; 2) Cell-phones. ipad, laptops, and other electronic devices should be turned off during the class period and exams.

Homework:
Please do your homework on standard size paper (8.5 × 11in). If there is more than one page, staple the pages together. In data analysis problems, do not turn in reams of computer output. Include only those parts of the output which are most relevant for a final report. Tell in clear English the purpose of each step of the analysis, and tell what the plot or statistic shows.

University Policies

University Attendance Policy:
Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy:
The Florida State University Academic Honor Policy outlines the Universitys expectations for the integrity of students academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to . . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University. (Florida State University Academic Honor Policy, found at http://dof.fsu.edu/honorpolicy.htm.)

Americans With Disabilities Act:
Students with disabilities needing academic accommodation should:
(1) register with and provide documentation to the Student Disability Resource Center; and
(2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request.
For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
http://www.disabilitycenter.fsu.edu/

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Tentative Syllabus

Topic	Source
Introduction to the R/Splus language R Online Manuals:	An Introduction to R R Data Import/Export R Language Definition (Chapters 1-6)
Introduction of Applied Statistics	BHH Ch. 1.
Some Basic Probability and Statistical Concepts	BHH Ch. 2.
Comparing Two Entities: Reference Distributions, Tests, and Confidence Intervals	BHH Ch. 3
Comparing a Number of Entities: Randomized Blocks, and Latin Squares	BHH Ch. 4
Factorial Designs at Two Levels	BHH Ch. 5
Fractional Factorial Designs	BHH Ch. 6
Factorial Designs and Data Transformation	BHH Ch. 8
Multiple Sources of Variation	BHH Ch. 9