Statistics 2118
Regression Analysis
Spring 2013 (01/14/13-04/29/13)
6:10-10PM, Thursday GELM B01 (2130 H St.)

Instructor: Dr. Aiyi Liu
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Office Hours: Thursday 9:30-10:00PM, or by appointment.
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COURSE STRUCTURE
The class consists of one three-hour lecture per week. Your grade is based on homework assignments, one midterm and the final.

TEXTBOOK

COURSE CONTENT
This graduate level Regression Analysis course is designed as a one-semester course for master-level graduate students in Statistics. This course concentrates on the development of the basic methods and theory for linear regression analysis from simple linear regression and correlation analysis that involves only one predictor, to multiple linear regression with multiple predictors. Topics to be covered include review of normal distribution theory and matrix algebra, linear regression with one independent variable, least squares estimation, inferences in regression analysis, model diagnostic and remedial measures, matrix approach to simple and multiple linear regression, selection of predictor variables, and analysis of variance.

PREREQUISITES
Statistical prerequisites include some exposure to statistical theory and matrices manipulations.

LEARNING OUTCOME
As a result of completing this course students will be able to
1. Learn basic methods required for data analysis and interpretation
2. Comprehend, describe and explain the basic concepts of correlation and regression.
3. Learn how to construct estimation and confidence intervals, test hypotheses, checking model assumptions and selection of variables in regression analysis.
4. Learn how to utilize the linear regression analysis tools to investigate relations among variables and solve real data problems.
5. Build up sufficient programming skills with SAS or R to perform various regression analyses.

HOMEWORK AND PROJECTS
Homework will be assigned in the lecture every week.
There will be a number of assignments involving the use of SAS or R software.

MIDTERM
One closedbook midterm examinations will be given.

FINAL EXAM
The Final examination (Time, Date and format to be announced) is cumulative. Most likely the exam will be partly closed-book and partly open-book. In the event that you are going to miss an examination, you must notify me prior to the examination. Students who miss the final without a valid medical excuse will most likely fail the course. There will be no make-up final.

COURSE GRADING
Final letter grade will be based on a total score computed as follows:
Homework 50%; Midterms 20%; Final exam 30%

A grade of INCOMPLETE will ONLY be given to a student who is passing the course and cannot complete the course due to illness or other (documented) circumstances beyond their control.

CLASS POLICY
Late work will not be accepted. Except for medical cases (with proper documentation) there will be no make-ups. If you miss an exam or miss a deadline you get zero credit for that part. For university policies on teaching see http://www.gwu.edu/academic/Teaching/main.htm

University Policy on Religious Holidays:
1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance;
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations;
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities

ACADEMIC INTEGRITY
I personally support the GW Code of Academic Integrity. It states:: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” For the remainder of the code, see: http://www.gwu.edu/~ntegrity/code.html

SUPPORT FOR STUDENTS OUTSIDE THE CLASSROOM

DISABILITY SUPPORT SERVICES (DSS)
Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss/

UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300
The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include:
- crisis and emergency mental health consultations
- confidential assessment, counseling services (individual and small group), and referrals
http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices

SECURITY
In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building.
After evacuation, seek shelter at a predetermined rendezvous location.