STAT 770/BIOS 805 SYLLABUS
Spring 2010

John M. Grego
MWF 10:10-11:00 Leconte 210A
Office Hrs: MW 11-12:30

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Text *Categorical Data Analysis, Second Edition* by Alan Agresti

Attendance Though attendance is rarely a problem with graduate students, I would like to note that my policy corresponds to the policy stated in the student handbook: If you miss more than 10% of your classes (> 4 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.

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

- identify designs of contingency tables and recommend appropriate measures of association and statistical tests.

- develop models for binary, polytomous and multivariate categorical responses, interpret results regardless of model parameterization, and diagnose model fits.

- interpret and communicate categorical data methods to a technical audience.

- critique categorical data designs, including randomization and power analysis.

- analyze dependent categorical data models using both classical approaches and mixed effects models.

Grading Grades will be weighted in the following way:

Take-home Mid-term Exam	100 points
Homework/Classwork	100 points
Project	100 points
Take-home Final Exam	100 points
Total	400 points

The project will be a data analysis or methodology project that can be undertaken with a partner (or partners) and will consist of computer work (25%), final draft (50%) and oral presentation (25%). 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. The oral presentation should provide useful practice for professional presentations.

You are encouraged to discuss homework and class assignments with your classmates and me, but all such assignments must be written indepdently. Do not copy any part of another

student's work or computer code. You are not allowed to discuss take-home 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.

For portions of the course in which the text is exemplary (and that's much of the class), we will have lectures that emphasize active learning. You will come to class having thoroughly read the day's material, and prepared answers to a set of exercise questions. After group discussion of the exercise questions, any remaining questions will be cleared up by me. We will then close the period with either a group activity to reinforce the material or a lecture on advanced topics. Again, grades will be based on participation level.

Computers I will maintain a class web page that will be used to communicate homework assignments, post copies of course-related materials and otherwise update the syllabus. The URL for the class web page is $http://www.stat.sc.edu/\sim grego/courses/stat770$.

I will use the computer/LCD projection system extensively in class for demonstrations and introduction of computer software. We will also convene occasionally in one of the workstation labs for group work on the computer. The group work will include data analysis and stochastic simulations.

We will be using two computer packages throughout the course. I tend to like to use the best available package for the job at hand and thus SAS and R will be used appropriately. Agresti has a tremendous amount of code available through his home page, but additional code will appear on my home page.

Date	Reading Assignment	Graded Work
1/11	Intro	
1/13		
1/15		
1/20		
1/22		
1/25		
1/27		
1/29		
2/1	2 (Skip 2.3)	
2/3		HW 1
2/5		
2/8		
2/10	3.1-3.3	
2/12		HW 2
2/15	3.4-3.6	
2/17		
2/19		
2/22	4.1-4.3	HW 3
2/24		
2/26		Midterm distributed
3/1	4.4-4.6	
3/3		
3/5		
3/15	5	
3/17		
3/19		
3/22	6	HW 4
3/24		
3/26		
3/29		
3/31	7	
4/2		
4/5		HW 5, Proposal Due
4/7	8	
4/9		
4/12	9	
4/14	10	
4/16		
4/19	11	
4/21		Project Due
4/23		Oral Presentations
4/26		Oral Presentations

The final exam will be due Monday, May 3.