STA 573: Theory of Linear Regression, 3 Credits

Prerequisites: grade of at least C in 352 and MAT 310, or 662, or permission of instructor

Textbook (Required):
Applied Linear Regression Models (4th Ed.) by Kutner, Nachtsheim and Neter, McGraw Hill

Topics to be covered
We will cover selected topics from all of the Chapters except for Chapter 13. Major topics to be covered will include:

Ordinary least squares regression, weighted regression, estimation and hypothesis testing, inverse predictions, matrix approach to regression, model testing, analysis of residuals, auto-correlated residuals, polynomial regression, generalized linear models, variable selection techniques

SPSS will be the main statistical package used for the course. We will use SAS for some topics. You may contact Information Technology Services (Software Sales) in the McIver Building if you want to buy a copy of SPSS. You must have at least two modules – The Base Module and the Advanced Statistics.

Course Objectives
After completing this course, you should be able to understand
1. Various data diagnostic tools
2. The basics of regression analysis
3. Basic matrix algebra
4. The significance of underlying assumptions associated with various regression models
5. Variable selection techniques

Grades
Grades will be based on the following components.
Homework Assignments, Two Exams, Final Exam

Grading Scale
90 and above	A-, A, or A+
80 – 89	B-, B or B+
70 – 79	C-, C or C+
60-69	D-, D, or D+
Below 60	F

Attendance Policy

You are expected to attend all classes but there is no formal attendance policy. You will be responsible for knowing the material covered during any lecture you happen to miss. Also, you will be responsible for knowing any announcements that might be made in any class regarding exam schedules etc.

Use of Blackboard

Assignments and all major announcements will be posted on the blackboard site for the course. Make a habit of checking the site regularly. You will need to activate your UNCG computer account to be able to visit the blackboard website (**https://blackboard.uncg.edu**).

Academic Integrity

Students are encouraged to discuss with others solutions to assignments, but each student is expected to write-up his or her solutions independently. Copying other people's work is plagiarism and is an Honor Code violation. You are responsible for knowing and abiding by the UNCG *Academic Integrity Policy*

D*isabilities*

If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible.