STA 291: Statistical Methods, 3 credits
Prerequsite: STA 271 or STA 290 or permission of instructor

Textbook (Required):
Ott, R. L. & Longnecker, M. T. *A First Course in Statistical Methods*, Thompson Brooks-Cole, 2004

Topics to be covered

Focus of this course will be on learning statistical methodology and writing results clearly, coherently and effectively. We will begin with a quick review of various discrete and continuous probability models and an introduction to hypothesis testing and confidence intervals. Then we will attempt to cover most of the topics from Chapters 5-13. Some statistical package (SPSS or MINITAB) will be used throughout the course. Specific topics to be covered include:

Two group comparisons, simple and multiple regression, one and two-factor ANOVA, analysis of covariance, categorical data analysis, and selected non-parametric methods.

Course Objectives
After completing this course, you should be able to

- Understand basic diagnostic tools for identifying outliers.
- Design and implement data collection techniques.
- Use numeric and graphical methods to describe univariate and bivariate data.
- Select appropriate data analysis tools for a given situation.
- Make valid statistical inferences regarding the population of interest.

Specific Objectives Relative to the WI Marker

At the completion of this course, the student will be able to:
- Demonstrate the ability to write clearly, coherently and effectively about various statistical procedures.
- Accurately describe the results of a statistical analysis in jargon-free language.
- Adapt modes of written communication to a particular target audience through several course components (case study, research paper and bi-weekly written reports) that are specifically designed to improve writing skills.
- Incorporate constructive feedback from the instructor through out the course to improve the quality of written work.

Specific Requirements Relative to the WI Marker

Case Study:
Students will complete a case study involving analysis of real data. Students will be required to submit a 1-2 page typed report describing the goals of the case study and how the results of the data analysis address those goals. Students will first submit a draft and receive appropriate feedback from the instructor. This feedback should be incorporated in the final submission. Only the final submission will be graded.

Research Paper
The research paper will involve first submitting a one page research proposal for the design and analysis of an experiment or survey, followed by a 3-4 page research report describing the results of the study. Students will first submit a draft and receive appropriate feedback from the instructor. This feedback should be incorporated in the final submission. Only the final submission will be graded.

Bi-weekly Reports:
Each student will turn in bi-weekly reports summarizing the concepts learned during the previous two weeks. You will receive appropriate feedback from the instructor on each report. This exercise will be very helpful in writing the research paper and the results of the case study.

Grades
Grades will be based on the following components.

> **Homework Assignments, Case study, Research Paper, Bi-weekly Reports, Two in-class 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-
Less than 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 their solutions will be posted on Blackboard site for the course. Make a habit of checking the site regularly.

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.

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