

***ERM 680***  
***Syllabus & Proposed Schedule\****

<b>Week</b>	<b>Topic</b>	<b>Text Reading</b>
1	Review of Syllabus Introduction Describing & exploring data	Howell Ch. 1&2
2	Central tendency, variability, plots Introduction to SPSS	Howell Ch. 2 Morgan Ch. 3
3	The Normal Distribution	Howell Ch. 3
4	Sampling distributions & hypothesis testing	Howell Ch. 4
5	Basic concepts of probability	Howell Ch. 5
6	Probability continued	Howell Ch. 5
7	Categorical data & Chi-square	Howell Ch. 6
8	Chi Square continued	Howell Ch. 6
9	Midterm Exam	
10	Hypothesis Tests applied to means	Howell Ch. 7 Morgan Ch. 2
11	Hypothesis Tests continued	Howell Ch. 7 Morgan Ch. 7 pp 51-55
12	Power	Howell Ch. 8
13	Correlation and Regression	Howell Ch. 9 Morgan Ch. 5
14	Correlation and Regression	Howell Ch. 9 Morgan Ch. 7 pp 69-76
15	Reporting and interpreting statistics in research Review Final Exam Distributed	Morgan Ch. 8

\* Schedule may be modified slightly if class requires additional instruction time for some topics.

**ERM 680**  
**Intermediate Statistical Methods in Education**

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Office Hours: Monday 3:00-4:00 and by appointment

**Required Textbook**

Howell, David C (2002) *Statistical Methods for Psychology, Fifth Edition* CA: Duxbury

**Recommended Texts**

Morgan, S.E., Reichert, T., and Harrison, T.R. (2002) *From Numbers to Words* Boston, MA: Allyn and Bacon

Vogt, W. P. *Dictionary of Statistics and Methodology: A Nontechnical Guide For The Social Sciences, 2<sup>nd</sup> Edition* (1999) CA: Sage Publications, Inc.

Goals and Objectives:

The primary goal of this course is to develop skills in using basic tools of descriptive and inferential statistics. You will learn the mechanics of the most widely used procedures. More importantly, you will develop an understanding of how to use statistics to explain results from educational research, when to apply different statistical procedures to answer research questions of interest, what assumptions underlie those procedures, and how to interpret data analyses after they have been completed. The focus of the course content will be descriptive statistics, inferences about means and inferences about relationships.

Assignments:

There will be a homework assignment requiring the solution of problems and/or running a computer analysis during most weeks of this course. Homework will be due at the beginning of class on Monday following the week in which it was assigned. **I will not grade or provide feedback on homework assignments that are late.** One third of your grade will be based on your homework grade.

Computing and Computer Skills:

The ability to use a statistical analysis software package to analyze data and the ability to interpret output produced by computer software are critical skills to be acquired in this course. We will work with the SPSS computer package in this class. The course will include instruction in the basic procedures necessary to write and run SPSS programs to parallel the data analysis methods that we will cover in this class.

The weekly assignments will frequently include computer work that must be done outside of class. You should anticipate the need either to be on campus at times other

than class time to use the UNCG computing facilities or to have access to the software packages on your own computer.

Communications:

We will use *Blackboard*, a server based course management system, as our major vehicle for course related communications. You can access *Blackboard* via the Web address: <http://bb.uncg.edu>. You will be given written instructions on how to use *Blackboard*.

Special class announcements will be broadcast and class assignments and class notes will be found there. You can communicate with me, with the course tutor, and with each other through this system. Your questions about class material, homework assignments, and take-home exams can be asked through the *Blackboard* discussion board. Through the discussion board, you will be able to view any questions posed by any member of the class as well as the answer provided.

Exams:

There will be two examinations—a mid-term and a final—to allow you to demonstrate your mastery of the material covered in this course. The mid-term will be an open-book examination administered in class. The final exam will be a “take home” examination and you will have one week to complete it. When working on the final examination, the provisions of the UNCG Academic Integrity Policy will bind you. I strongly suggest you review the Policy in the *UNCG Student Handbook*. Any communication with persons other than your professor regarding any aspect of the examination, regardless of purpose or motivation, will be regarded as a serious violation of the UNCG Academic Integrity Policy. All questions about the examination must be communicated to the professor through the *Blackboard* discussion board so that all students will have access to the response from the professor.

Grading:

Grading will be criterion referenced. Achieving an average of 85 percent of possible scores will be required to earn a grade of “A”; an average between 75 and 85 percent will result in a “B”; less than 60 percent, an “F”. Plus and minus grades will be used for grades near the cut points of different letter grades.

Your course grade will be determined as follows:

Midterm Exam	33%
Final exam	33%
Homework & computer assignments	33%

Class Attendance:

The lectures in this class will supplement, not duplicate the material in the text. In addition, you will frequently work on problem sets to test your understanding of concepts that were presented during the more formal presentation part of the class. It is important that you attend class regularly. If you must miss a class, it is your responsibility to assure the timely deliver any homework assignments that are due and to obtain new assignments.

What to bring to class:

You will need your textbook in class most weeks. We will work extensively with distributions that are tabled in the back of the book and we will sometimes work on problem sets that are presented in the book. In addition, you will need a calculator that performs basic arithmetic operations and squares and square roots.

Some General Advice:

- Complete your homework on a weekly basis. Don't be lulled into believing that you can complete the analyses just because you understood the class presentation. The exam is not a great time to try to work through a solution for the first time.
- Don't suffer in silence. If you don't understand, ask questions. My primary objective is to help you learn this material. I want to know when you are having trouble. The chances are that if you don't understand something, there are several of your classmates who also don't understand it. They will thank you for asking!
- Don't fall behind. Keep up with the readings and schedule the time necessary to study and work the problems. The course work is cumulative and it is hard to catch up.
- Some of the material in this course is difficult, but there are a lot of resources to help you learn it. Make use of the tutor and consider forming a study group.
- This is a graduate level course and the demands are commensurate with its level. It will be very difficult to earn an A or B in this course without a consistent and sustained effort over the entire semester.