Who is the Teacher?
Dr. John L. Neufeld
449 Bryan Building
tel. 334-4869
e-mail: john_neufeld@uncg.edu
Office Hours: Tuesdays and Thursdays 10:00-11:00 or by appointment. Students in this class are welcome to come to my office at any time.

Who is the Teaching Assistant?
TBA

Where Do We Meet?
On Tuesdays we will meet in room 206.
On Thursdays we will meet in room 221 (computer lab).

What is this Course About?
This is a computer intensive introduction to statistics. Heavy use of computers will be made to learn statistical concepts and to solve statistical problems. Once you successfully complete this course, you will have a solid foundation in business statistics and you will be proficient in the use of Excel.

How Hard is This Course?
The work load is Very Heavy. Expect to spend 10 to 20 hours outside of class each week. This is much more than most courses at UNCG and much more than most other Bryan School courses. If you work more than 20 hours per week, are taking a heavy load, or are not good at time management, be careful! On the other hand, if you devote the time needed, you will almost certainly do well in this course.

Can I Get Extra Help?:
Absolutely. Every semester many students come to my office for extra help. Please don’t hesitate to get in touch with me. I can be easily reached by e-mail (including most evenings and weekends), and you are always welcome to come by my office. In addition, the teaching assistant will also be available with office hours to any student wanting extra help. Occasionally students ask me about tutoring. Don’t jump to the assumption that you need a tutor unless you have already tried getting help from me and from my assistant. I will be glad to assist you in locating a tutor either through the university or privately.

What Texts Must I Buy?
Required:
2. Hawkes Learning Systems: Statistics ver 8.4 (referred to below as HLS). It doesn’t matter if you purchase an old version because a free upgrade to the latest version is available on the web site. Note, however, that you cannot use a “used” copy.

How Will My Course Grade be Determined?
Your grade in the course will be based on your performance on five components explained below. Each component will carry the following weights:

- **HLS modules**: 12% (Each module is 1%)
- **homework average**: 8% (Each assignment is 1%)
- **quizzes**: 25% (Each quiz is 5%)
- **midterm average**: 30% (Each midterm is 15%)
- **final exam**: 25%
There is a penalty for late homework and HLS modules.

Do I Have to Come to Class?

Success in this course requires keeping up with the workload. The material is not difficult, but it is time-consuming. To keep up, you need to attend class regularly. You are expected to attend every class. If you must miss class, provide me with a note (paper or email), preferably in advance. If you are absent an excessive number of times without explanation, I will drop you from the course.

What Behavior is Expected of Me in Class?

1. Be in the classroom before the class is scheduled to start. Do not be surprised to find the door locked if you are late.
2. If you must miss a class, notify me in advance or as soon afterwards as possible.
3. If you must leave class early, notify me before class begins. It is rude to walk out unexpectedly in the middle of a class.
4. Ask questions in class! Participation will help you maintain attention and will help me know how much you are understanding.
5. Follow the rules of the Honor Code. Familiarize yourself with the UNCG honor code in the student handbook. The honor pledge, “I have abided by the Academic Honor Policy on this Assignment,” should be placed on all work submitted for grading. Certification of an Hawkes module must be done by you alone. Homework must be your work alone. Infractions of the honor policy will be dealt with severely.

Do I Have to Memorize Formulas?

No. Understanding statistics is not about memorizing. A (double-sided) sheet containing all of the needed formulas (plus more) will be available for your use during all quizzes and exams. A copy is available on the course web site. You should download it and use it when doing homework so that you learn where the information on it is.

What Will Be On the Exams?

No surprises. As you will see below, by the time you take an exam which weighs heavily on your grade, you will have gained plenty of experience with the very type of question on the exam. In addition, the web site contains copies of all of last semester’s quizzes and exams (with data and answers).

Is There Homework?

Yes, but not enough. You will be responsible for doing HLS modules (described below) and other homework problems available on the class Web site which will be collected and graded. Your answers to the problems distributed on the Web should be turned in either 1) in class or 2) in the tray or envelope outside the assistant’s office before 5:00 pm. Homework turned in late (after 5:00 pm on the due date) is subject to penalty.

To do well in this course, you need much more experience in working problems. In addition to the assigned homework, you should work every problem at the end of assigned chapters and check your answers against those given in Appendix D.

What are the HLS Modules?

The Hawkes Learning Systems software gives you the opportunity to practice the kind of problems which you will be asked to do in exams. You are required to work through some modules as part of the course homework. You can do this either in a computer lab or on your home computer. The software can be used in practice or certify mode. In certify mode, the software gives you a test. You are asked to answer a certain number of questions. If you succeed, you have certified that module. There is no penalty for failing to certify during an attempt, but, as shown in the course schedule, you are required to certify certain modules by specified deadlines.
Specific instructions on how to install the software on your home computer and how to use the software either on your computer or on a UNCG lab computer are available on the class web site. Before you can use the software, you must obtain a user code. The instructions cover this as well. In order to get a user code, you must purchase the software. This means that even if you intend to do all of your work on a UNCG lab machine, you will not be able to use the software installed there unless you purchase the software and get a user code.

It is important that use Excel to work the HLS modules. Unfortunately, the “help” provided by the modules does not teach you how to do this. Therefore, do not use the help features in the modules; instead follow the instructions I give in class. If you have trouble using Excel, ask me for help. Your grade will be higher if you are conscientious about using Excel (even if you certify late) than it will be if you use the (non-Excel) procedure given in the modules (even though you certify on time).

Once you certify a module, the software will offer to print a certificate. Print the certificate and keep it for the duration of the course. It will probably never be collected from you, but in case of a computer glitch, it is the only proof you have met a course requirement.

In order to get credit for completing a module, your completion must be registered on the online grade book. This should happen automatically if you certify on an Internet connected machine, but you would be wise to check to make sure. The due dates for HLS modules refer to the date on which the certification was registered. This might not be the same as the date you completed the assignment.

HLS provides an online web-based grade book (called the Progress Report), which we will be using in the class. That grade book will have a complete record of all of your graded assignments (HLS modules, homework, quizzes, and midterms).

To get to the online grade book, point your browser to http://www.hawkeslearning.com/UNCGSTAT. A link to this site is also available on the class web site on the “Progress Report” link on the navigation bar of every page. In order to enter the web site, you must provide your HLS user code (the same one you need to run the HLS: Statistics program). It is best if you store a copy of the file containing your code that was e-mailed to you when you first registered with HLS. You can then tell the web site to read your code from that file.

The first time you view the Progress Report, you will be asked for your “Instructor” and “Section.” Choose “ECO 250 for Instructor,” and “05” for your Section. You will not be asked for that information in subsequent accesses. If you give the wrong information initially, please get in touch with me.

What is My Current Average?

HLS provides an online web-based grade book (called the Progress Report), which we will be using in the class. That grade book will have a complete record of all of your graded assignments (HLS modules, homework, quizzes, and midterms).

To get to the online grade book, point your browser to http://www.hawkeslearning.com/UNCGSTAT. A link to this site is also available on the class web site on the “Progress Report” link on the navigation bar of every page. In order to enter the web site, you must provide your HLS user code (the same one you need to run the HLS: Statistics program). It is best if you store a copy of the file containing your code that was e-mailed to you when you first registered with HLS. You can then tell the web site to read your code from that file.

The first time you view the Progress Report, you will be asked for your “Instructor” and “Section.” Choose “ECO 250 for Instructor,” and “05” for your Section. You will not be asked for that information in subsequent accesses. If you give the wrong information initially, please get in touch with me.

How Do I Register an HLS Module?

First go to the Progress Report on the web site and enter it with your user code. To register certification open the “Register” menu on the menu bar and select “Register certificate.” The program will ask you which module you wish to register will give you several choices for entering the code. The easiest method is to enter it by pointing the Progress Report to the file that was created by HLS: Statistics when you certified. You also can enter the certification code by hand from the hard copy certificate you should have printed when you certified.

The deadlines shown on the schedule are deadlines for registering certification, not completing certification. To get full credit you must register a certificate as described above before the deadline. HLS certifications must be registered before midnight Monday in the week shown on the schedule. Timely registration results in a grade of 100. Late registrations receive a 10 point penalty per day to a maximum of 50 points.
You will receive at least a grade of 50 if you register before the end of class. If you do not register an assigned module at all, your grade will be zero.

It is a violation of the honor code for you to help another person working in certification mode, or to receive help from another person while you are working in certification mode. It is a violation of the honor code for you to use another person's identification code or to allow another person to use your code.

**Why so Many Quizzes?**

The purpose of the quizzes is to give you experience working problems in an examination setting before a Midterm or the Final exam. Quizzes will be, at most, 30 minutes long. The best way to prepare for a quiz is to do the problems at the end of each chapter in *Learning Business Statistics* and to do the homework.

**What about the Midterm Exams?**

These exams have a heavy weight in determining your grade. They will take an entire class period, and the dates on which they will be given are shown in the schedule. By the time you take a midterm, you will have already seen all of the types of questions on homework problems and quizzes. You can prepare for the midterm exams by reviewing the homework problems (including all the questions at the back of the covered chapters) and by reviewing the quizzes.

**What about the Final Exam?**

The date and time of your final exam in this course are shown on the schedule. The exam will be cumulative.

**What Will I Learn From This Course?**

You will have the opportunity to learn the following:

1. Learn how to use Excel to take a set of data and calculate common measures of location and dispersion and determine the presence and direction of skew.
2. When given a business choice expressed as different discrete probability functions, be able to determine the expected value and standard deviation of each choice and be able to apply the concept of risk aversion to determine the extent to which this can help determine choice rankings.
3. Calculate probabilities of random variables from binomial, normal, and \( t \) distributions using Excel.
4. Given a set of sample data, use Excel to estimate a confidence interval estimate on a population mean.
5. Given a set of sample data, use Excel to estimate a confidence interval estimate on a population proportion.
6. Given a hypothesized population standard deviation, be able to estimate the sample size required to achieve a targeted sampling error for a given level of confidence.
7. Given a hypothesized population proportion, be able to estimate the sample size required to achieve a targeted sampling error for a given level of confidence.
8. Given a set of sample data, use Excel to perform a hypothesis test on a population mean.
9. Given a set of sample data, use Excel to perform a hypothesis test on a population proportion.
10. Explain the consequences of Type I and Type II error within the context of a hypothesis test of a business problem and determine how the test design can be altered to affect the likelihood of each type error.
11. Given a set of sample data, estimate and interpret a simple regression using Excel and interpret the results.
12 Given the output from a simple regression, be able to determine the significance of the relationship and to use the regression equation to predict the value of the dependent variable given a value of the independent variable not in the original data.

**Tentative Schedule**

Unless otherwise noted, Adventures modules must be certified by 11:00 pm **Monday** in the week shown in the schedule. **Homework is due on Tuesday** of the week shown. Changes and corrections from the syllabus available at the beginning of the semester are in **red**.

<table>
<thead>
<tr>
<th>Tuesday’s Date</th>
<th>Chapters in Neufeld</th>
<th>Adventures Modules (Due <strong>Monday</strong> Unless Indicated Otherwise)</th>
<th>Homework (Turn in Tues)</th>
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<tbody>
<tr>
<td>Aug. 16</td>
<td>1 &amp; 2</td>
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<tr>
<td>Aug. 23</td>
<td>3</td>
<td>Descriptive Statistics (2.2), Constructing Samples (2.3) (both due 8/25)</td>
<td>#1</td>
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<tr>
<td>Aug. 30</td>
<td>4</td>
<td>Discrete Random Variables (3.7)</td>
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<tr>
<td>Sept. 6 (Quiz 9/8)</td>
<td>5</td>
<td>Binomial Word Problems (3.5)</td>
<td>#2</td>
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<tr>
<td>Sept. 13</td>
<td>5</td>
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<tr>
<td>Sept. 20 (Quiz 9/22)</td>
<td>6</td>
<td>The Standard Normal (4.1), Normal Distribution Word Problems (4.2), Finding the Value of Z (4.3)</td>
<td>#3</td>
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<td>Sept. 27</td>
<td>6</td>
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<td>Oct. 4</td>
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<td>Sampling Distributions (Means) (5.2)</td>
<td>#4</td>
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<td>Oct. 11 (no class 10/11) (Midterm 10/13)</td>
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<td>Oct. 18</td>
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<td>Estimation (Means) Small Samples (6.2)</td>
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<tr>
<td>Oct. 25 (Quiz 10/27)</td>
<td>8 &amp; 9</td>
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<td>Nov. 1</td>
<td>9</td>
<td>Hypothesis Testing (Means P Value) (7.1)</td>
<td>#6</td>
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<td>Nov. 8 (Quiz 11/10)</td>
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<td>Nov. 15 (Midterm 11/17)</td>
<td>10 &amp; 12</td>
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<td>Nov 22. (No class 11/24)</td>
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<td>Estimation (Proportions) (6.3)</td>
<td>#7</td>
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<td>Nov. 29 (Quiz 12/1)</td>
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<td>Regression Analysis I (9.2) (due 12/2)</td>
<td>#8</td>
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**Final Examination:** Thursday, Dec. 8, 8:00–11:00 am

8/2/2005