Class Schedule

The Schedule shows the text chapters which will be covered in each week’s lecture. Dates marked with * will have quizzes. The quizzes will not include material covered in that week’s lecture; generally material from the previous two weeks’ lectures will be covered. The due dates for HLS: Statistics certification are the Tuesdays (class date) corresponding to the week in which the module is listed. Note that to be counted as on time, it is not enough to have done the assignment by the due date; your certification has to be registered in the grade book by the due date. See the separate instructions for the HLS software for more information.

I will always attempt to accommodate students with scheduling problems. Please let me know right away about any problems you may have.

The schedule is subject to change. If it is changed, I will notify you and post a revised version. The date of this version is shown at the bottom right of each page. You can always check yours with the online version to see if you have the most recent.

<table>
<thead>
<tr>
<th>Class Date</th>
<th>Chapters in Neufeld</th>
<th>HLS: Statistics Certifications Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 10</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>Jan 17*</td>
<td>4-5</td>
<td>Constructing Samples (2.3—Use the program’s “Instruct”), Discrete Random Variables (3.7),</td>
</tr>
<tr>
<td>Jan 24</td>
<td>6-7</td>
<td>Binomial Word Problems (3.5), The Standard Normal (4.1), Normal Distribution Word Problems (4.2),</td>
</tr>
<tr>
<td>Jan 31*</td>
<td>7-8</td>
<td>Finding the Value of z (4.3), Sampling Distributions (Means) (5.2)</td>
</tr>
<tr>
<td>Feb 7</td>
<td>9</td>
<td>Estimation (Means) Small Samples (6.2)</td>
</tr>
<tr>
<td>Feb 14*</td>
<td>9-10</td>
<td>Hypothesis Testing (Means P Value) (7.1)</td>
</tr>
<tr>
<td>Feb 21</td>
<td>10-11</td>
<td>Estimation (Proportions) (6.3)</td>
</tr>
<tr>
<td>Feb 25</td>
<td>This time has reserved for a make-up class in case an unexpected event forces the cancellation of one of the class times listed above.</td>
<td></td>
</tr>
<tr>
<td>Feb 28</td>
<td>review and final exam.</td>
<td></td>
</tr>
</tbody>
</table>

Overview:

This course is designed to introduce you to business statistics and the use of the computer to analyze data. It provides a foundation for other courses in the MBA curriculum. The coverage of topics in this course is equivalent to about 90% of the coverage of a full semester undergraduate introductory business statistics course. Classroom time, however, is half that of the undergraduate course. There are two consequences:

1. The out-of-class work load in this course is very heavy. Ten hours per week is a reasonable expectation. Some people will require twice that amount of time.

2. Not all the material for which you will be held responsible can be thoroughly covered in lectures. You will be given ample time in class to ask questions. You
should use that time to ask for additional explanation where needed. In general, you should prepare for class by thoroughly covering the reading before coming to class. You are always welcome to contact me outside of class time.

Instructor: Dr. John L. Neufeld  
449 Bryan Building  
tel: 334-4869  
e-mail: john_neufeld@uncg.edu  
Office Hours: I am generally on campus every day until 5:00. Students who are on campus during daytime hours during the week are welcome to drop by my office at any time. If you would like to meet with me between 5:00 and 6:00 on Tuesdays, please me know in advance. If you want to get in touch with me, don’t hesitate to telephone or communicate with me by e-mail. I check my e-mail frequently, including weekends. If convenient, bring your laptop when you come to my office.

Assistant: TBA  
Web Site: The MBA 600 web site’s URL is http://www.uncg.edu/eco/neufeld/mba600. This is not in Blackboard, but a link to it is provided in Blackboard.

Canceled or Interrupted Class  
Class may be canceled or interrupted because of bad weather, computer or network equipment failure, my illness, or other cause. Class cancellations due to weather are determined by the University administration only. If we have unusual weather, you can determine whether the university is closed by calling 334-4400, by checking the main web site (http://www.uncg.edu), or from local media. Please do not call me or the economics department or the Bryan School. If class is held, but you feel conditions are unsafe, I will work with you to make up any missed work.

If class is canceled, we will have a make-up class. I have scheduled a tentative make up class for Saturday, Feb 25, in the Bryan 221 computer lab, from 9:00 am until noon as shown above. It is possible that the University administration may override these dates. Nevertheless, plan on this date and reserve it in your personal schedule.

Meeting Days: Tuesday Evenings from 6:30 pm to 9:30 pm.

Classroom: Class will meet in the computer lab in room 221. We will never meet in Bryan 105 as indicated in the university schedule.

Laptops: Since our class will be held in a university computer lab, you will use those computers rather than your personal laptop, although you may use your laptop if you prefer. Quizzes and exams, however, must be taken on the lab computers. You will have extensive need to use a computer outside of class, but you need not bring you laptop to campus for this course.

Required Materials: Neufeld, Learning Business Statistics with Microsoft Excel 2003. (textbook) Quant Systems, Hawkes Learning Systems: Statistics. (software) Both of these items will be available at the bookstore in Elliott Center. You may not be able to find either available through Internet text book vendors. Neither is as widely available as most published textbooks. It is possible to
purchase the software online at http://www.quantsystems.com/OnlinePurchasing.asp. Be sure you get Statistics and not Business Statistics. If the bookstore sells you an older version of the software, you can upgrade for free over the Internet.

**Textbook:**

The textbook provides step-by-step instructions for exercises using Excel. The instructions are designed to teach you two different aspects of statistics. Some are designed to enable you to do “experiments” which will help you understand basic statistical concepts. Other instructions are designed to show you how to use Excel as a tool for solving statistical problems. A danger in doing step-by-step instructions is that you may be able to disengage your brain and still follow the instructions! It is very important to maintain an overview of what you are doing. The exercises at the end of the chapters are designed to help you do this. *Work all of the problems at the end of the chapters.* Notice that the answers to most exercises are in appendix D. These problems are similar to those you will see on the quizzes and final exam.

To work through the textbook, you will need a set of data referred to in the book. You can download a program that will create all of the needed files from the class web site: http://www.uncg.edu/eco/neufeld/mba600.

Bring the textbook to each class.

**Hawkes Learning Systems:**

*Hawkes Learning Systems: Statistics* is computer-assisted instruction software. It provides you with word problems to which you supply the answer. As long as you are in “practice” mode, the program will give you hints on how to do a problem if you get stuck. After you have done enough problems in a particular model, you ask the program to give you a test by putting it in “certify” mode. In this mode it won’t give you hints, but it will allow you to make a small number of errors and still allow you to “certify.” There is no penalty for failing to certify. Unlike a test, you simply try again. **Once you successfully certify, print a certificate and keep it as proof you have completed that module.** Keep the certificates until the end of the course. This is your only “backup” record of completing the course.

Specific instructions for installing and using the software are provided on a separate sheet available on the web site.

A serious limitation with the program is that it is designed to teach students how to do statistics in a manner which is both widely taught and anachronistic—without computers. For this reason, the extensive built-in help in the program, including the “Instruct” feature, should be avoided. I will show you in class how to use Excel. If you need more help, I would rather you contact me than use the method taught in the modules even if that results in your completing the module late. Note that the first assigned module is an exception—use “Instruct” with that module.

In order to get credit for a module, the certification must be registered in the online grade book. This must be done on or before the due date to be considered on time.

Consult the HLS: Statistics page on the class web site for additional information about support and possible version updates. If the version you pur-
chased at the bookstore is not the latest, you can upgrade for free at the HLS
website.

**Grading:**

Your grade in the course will be based on your performance on the compo-
nents below. Grading will be done on a 100-point scale with letter grades as-
signed at 10 point breaks. 80 points will be required for a B. 90 points will
be required for an A.

**Hawkes Learning Systems: Statistics modules - 20 per cent:**

Ten modules are assigned. Your average on all modules will have a 20%
weight in determining your final grade. If you complete a module, your grade
for it is 100. If you don’t complete it, your grade is 0. Each module has a due
date designed to correspond with the class material. You have one week’s
grace time to complete the module. That means that if you complete it
within one week of the due date, you will receive the full grade of 100. If you
complete it more than one week after the due date, your grade for that mod-
ule will be 50.

**Quizzes - 36 per cent:**

Three twenty minute quizzes will be given. Each quiz grade will have a 12
percent weight in determining your final grade. These quizzes will consist of
word problems similar to those in the Excel text. Given time constraints, it
is not possible for the quizzes to cover the material comprehensively; instead
topics will be chosen at random. In general, the quizzes will emphasize mate-
rial not covered in the assigned Adventures modules.

The quizzes will cover material covered in previous weeks’ lectures. You will
have the opportunity to ask questions in class before a quiz. You will take
the exams in a computer lab with Excel. You can use the Notes and Formula
sheet, a copy of which is on the class web site.

**Final Exam - 44 per cent:**

The final exam will consist entirely of word problems and will be designed to
test your knowledge of all material covered in the course including the HLS:
Statistics problems.

**Progress Report**

Your online Progress Report will show a calculated average. After all course
requirements have been completed (including the final exam) that calculated
average will be your average grade. To accurately evaluate its meaning in the
middle of the course, you need to understand how it calculates the “average”
when some requirements have not been completed. Once you certify a mod-
ule, your grade for that module will be 100. The Progress Report calculates
the average grade for all modules due at the time the Report is consulted.
Those completed on time get 100. Those not completed get a grade of 0
(This is changed to 100 or 50 if you complete the module). The average of
all of those grades is given a weight of 20 even though some of the modules
may not yet be due and thus do not enter into the grade calculation. By con-
trast, each quiz is given a weight of 12 as soon as it is graded. This means,
for example, that after the first quiz is graded it is given a weight of 12 and
the average of all modules due is given a weight of 20. After the second quiz
is graded, the quizzes collectively will have a weight of 24 (two times 12),
but, even though more modules will have been due, the module average will
still have a weight of 20. The effect of this is to cause the modules to have more weight early in the course and less weight as quizzes and the final exam are taken.

**Honor Policy:** Please 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. Infractions of the honor policy will be dealt with severely.

**Learning Objectives**

After successfully completing course, you should be able to:

1. Use Excel to calculate descriptive statistics from a set of data.
2. Use Excel to produce a histogram of a data set and be able to indicate whether the data is skewed and, if skewed, the direction of the skew.
3. Use Excel to solve problems involving the binomial, normal, student’s $t$, and chi-square distributions.
4. Calculate the expected value, variance, and standard deviation of a discrete random variable. When the random variable is a monetary payoff, be able to interpret these measures to support decisions.
5. Calculate confidence interval estimates for a population mean, population proportion, and population variance or standard deviation.
6. Perform hypothesis tests on a population mean, population proportion, and population variance or standard deviation.
7. Understand the difference between Type I and Type II errors, and interpret the costs associated with these errors for specific hypothesis testing situations.
8. Understand the relationship among significance level, sample size, and probabilities of Type I and Type II error and describe the tradeoffs associated with choosing the significance level and sample size for a hypothesis test.