Economics 3640: Probability and Statistical Inference for Economists
Spring 2010, Section 03, Class Number 10407

Catalog Class Description:	Frequency distributions, moments, sample spaces, random variables, probability distributions, sampling theory, estimators, confidence intervals, hypothesis testing, two-variable regression models. Applications of computer software packages.
Prerequisite:	College Algebra, (MATH 1090 preferred), ECON 2010 and 2020. Fulfills Quantitative Reasoning (Statistics/Logic).
Class Location:	BUC 305
Class Hours:	H (Thursday) 6:00 PM to 9:00 PM
Instructor:	Steve Bannister
Email:	steve.bannister@economics.utah.edu
Office:	BUC 5 (in the basement)
Office Hours:	Thursday, 4:30 PM to 6:00 PM, or by appointment

Text book:	Schaum's Outline of Business Statistics, Fourth Edition by Leonard Kazmier Published by McGraw-Hill (2009) ISBN: 978-0071635271 Available in the U Book Store. Or Amazon link

http://www.amazon.com/Schaums-Outline-Business-Statistics-Fourth/dp/0071635270

Course Objectives.
Build numeracy in probability and statistics. Numeracy is a journey. no one is completely numerate. So this is just another step, an important one, to building the necessary toolkit if you wish to understand and contribute to modern economic discourse.

Enable understanding of economic literature. Statistics are widely used in modern economic studies. To understand what the authors are trying to say, and to be able to judge them critically, you need a good base in probability and especially statistics.

To do quantitative research in economics should you choose to continue along that path, you will need these tools. So to be able to ask, and answer, a whole class of interesting and important economic questions (and beyond), you will need these tools.

To have some fun. Freakonomics? www.fivethirtyeight.com? There are some truly amazing insights we can develop using probability and statistics.

Why are we using the Schaum's Outline as the course textbook?

Well, several of us spent a lot of time on this. In the end, our judgement was that any value which may be added by more complex texts was not close to being worth the extra money. More positively, this text covers the bases very well; if you understand this text,

you will be well on the road to numeracy in this subject. And, probably some of you would have turned to this or something like it in any case.

What about the title? The title has "Business" and not "Economics" in it. Should we be concerned? In a word, no. This is largely marketing on the part of publishers. All the fundamentals, probably word for word and example for example, are the same. There are a couple of business oriented chapters we may well not cover.

If you wish thicker supplementary texts, and I do not at all discourage this as I often do it myself, here are a couple of well-worn choices:

http://www.amazon.com/Introductory-Statistics-Business-Economics-CUSTOM/dp/0470107383/ref=sr_1_2?ie=UTF8&s=books&qid=1262113951&sr=8-2

http://www.amazon.com/Introduction-Practice-Statistics-w-CD-ROM/dp/1429216220/ref=sr_1_4?ie=UTF8&s=books&qid=1262114075&sr=1-4

The Wonnacott and Wonnacott is more straightforward; the Moore and McCabe is more multi-media trendy.

How I will organize this class:

We will use a mixture of lecture, book work, quizzes, and projects. There will be a final exam.
Naturally, you should attend class as frequently as possible.
You should also work practice problems from the text. Although there is no assigned homework, working problems are the surest path to good scores on quizzes and the final. These problems will also give you the background knowledge needed to successfully complete the projects.
Spending an appropriate amount of time on projects is, of course, key. The projects are not so small that they can be done the day before they are due. Some of the projects will require students to learn new skills related to the computing packages as well. I will make some written tutorials available, and I will also be personally available to help with this material.
Finally, I encourage you to study together as you wish. The social experience is useful so that you can fill in gaps in each other's knowledge. You may even choose to work on projects together.

As a preliminary outline, I see four modules into which I will organize the material:

Descriptive statistics, or how to describe and display data, Chapters 1-4
Probability theory, which underpins classical inference, and which is essentially drawing conclusions from data analysis. Chapters 5-7
Inference, confidence intervals, and hypothesis testing, Chapters 8-13
Model building using regression and correlation, Chapters 14-17 (depending on how we progress).

Grading and Assessment
Here is the grading scheme:
Projects: 40%
Quizzes: 30%
Final: 30%

Although examinations are poor at actually testing knowledge, they do force students to stay on track with the material in the class, so we will have quizzes and a final.

The projects should be thought of as the main event where the bulk of the genuine learning will take place. I will assign either two or three projects, and will provide topics and dates in our first or second meeting. We will use computer software throughout the class, and it will be useful in the projects.

We will have at least 4 quizzes. I will provide the schedule in the first or second meeting. It is your responsibility to be in class in order to keep abreast of the required work and to stay aware of quiz schedule.

For the quizzes and final, you will be allowed a single letter-sized sheet of notes. You should constantly create, refine, and recreate the note-sheets for each quiz, incorporating new information and better understanding, with this refinement process culminating in a sheet that can be used at the final.

All graded assignments are median-curved. That is, I will add however many points I need to raise the median student to 75%. However, even with scaling, the numerical grades may be unreliable. Thus, to set grades for the course I use a qualitative process.

At the end of the term, all students will be organized in a list, sorted by the final numerical score. I will start from the bottom of the list and go up. The cutoff between C- and D+ will be set based on both numerical scores and a subjective assessment of your preparedness and participation. In order to pass, you must learn the basics and show commitment to the course in your quiz average.

ADA Statement
The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.