

Boston College
Department of Economics

EC155- Statistics Honors
Richard McGowan, S.J.

Spring, 2000
Tues, Thurs: 12:00

Text: Applied Statistical Methods, Carlson and Thorne, Prentice Hall, 1997.

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Office Hours: Tu: Th: 3:00 – 4:30

If you can not meet me at any of these times, please make an appointment. The graduate assistant will also have office hours that will be posted. The ADC (the Academic Development Center in O'Neill) also has tutors available for you to consult.

Course Structure:

Welcome to the Wonderful World of Statistics! God knows what you have heard about the subject but hopefully, this will be an enjoyable and somewhat painless experience. Classes will consist of problem review and lecture. Usually, I will go over assigned problems as well as cover new material every class. It is important to note that we will be covering a fair amount of material in limited amount of time. In "doing" Statistics, a considerable amount of computation is required (so give up a six pack and buy a good financial calculator). Much of this calculation is rather mindless and best suited for the computer (or someone, *anyone* else). In this class, these mindless tasks will be minimized by learning the use of computer packages (such as SPSS, STATVIEW or Excel). You will have three computer projects so that you will be required to learn a statistical package. These projects will also give you a chance to present and write up your conclusions from analyzing some "real" world data so that you can appreciate how a manager would use statistical information to make decisions.

In general, Statistics is a subject that is best learned at the point of a pencil and a little bit at a time. I would highly advise you to make class although I will not keep attendance. I will give a quiz, a computer assignment or a hourly exam (hence, something will be due every week) so that you will keep up with the work. Finally, feel free to stop me at any point to ensure that you understand the material before we move on. The only dumb questions are those not asked (and you'd be surprised how grateful the rest of the class is when a "dumb" question is asked).

Course Objective:

You will not be a statistician at the end of this course. But you will have an appreciation of the power as well as the limitations of statistical thinking. Some of you will find Statistics to be interesting- even fun- some of you won't; most will find it somewhere between tolerable and mildly entertaining. Regardless, a proper dose of Statistics will be invaluable in your future as a student and a businessperson (Sure you can get through life without it- but the same can be said for literacy, not to mention other "collegiate" activities, such as visits to 18 hour trips to ND or living in a triple as a Freshman!)

What you will not be expected to do is memorize formulas although some concepts will come second nature to you. I will try and give you examples from Economics, Finance, Accounting and Marketing as well various stories from my research on the various "sin" industries such as cigarettes, gambling and alcohol. Hopefully this applications approach will make you feel that this material is not just merely a theoretical nightmare or another educational hoop that needs to be jumped through. Hopefully, you will come to realize that Statistics is a type of thinking that needs to be appreciated by anyone who hopes to have a career where decisions have to be made on the basis of analyzing data.

Grading Procedure:

- 1.) There will be quizzes as well as case studies which will account for 25% of the final grade.
- 2.) Two hourly exams: 40% of the final grade
- 3.) Cumulative Final exam: 35% of the final grade

N.B. All exams and quizzes will be open notes and book. There will also be a back-test file which is kept on the reserve desk at O'Neill. The answer book for your text book is also at the reserve desk. **Please take the tests, quizzes and hand in the cases on time!** Unless you have an excuse that would have Hillary and Rudy embrace in New York!

Grade Equivalents

A = 93 or above	B- = 80 - 77	D+ = 64 - 62
A- = 92 - 90	C+ = 76 - 74	D = 61 - 57
B+ = 89 - 86	C = 73 - 69	D- = 56 - 54
B = 85 - 81	C- = 68 - 65	F = 54 and under

Tentative Schedule for topics and exams:

<u>Topic</u>	<u>Classes of</u>	<u>Chap. in text</u>
Descriptive Statistics	Jan. 18	1, 2, 3
Probability Theory Bayes' Theorem	Jan.20,25	4,
Concept of a Probability Distribution: Discrete & Continuous	Jan. 27, Feb. 1	5.1, 5.2, 5.3 6.1, 6.2
Probability Distributions: Binomial, Poisson, Normal	Feb.3,8,10	5.4, 5.5, 5.6 5.7, 5.8, 6.5, 6.7
Sampling, Confidence Intervals, Sample Size, Proportions, "t" distribution	Feb.15,17,22	Chap.8,9,10

EXAM 1: Thurs. Feb.24 - CHAPS. 1 thru 10

Hypothesis Testing (Single population) (Two populations parameters)	Feb. 29 March 2,14,16, 21,23	Chap.11
Chi-Square Distribution	March 28,30	Chap.12
ANOVA (F test)	April 4,6	Chap.13.1,13.2

EXAM 2 : Tues. Apr11- CHAPS. 11,12,13

Simple Regression	April 13,18,25	Chap.14
Multiple Regression	April 27, May 1	Chap.15

FINAL EXAM: Sometime during the Rites of Spring in early May!