

**BOSTON COLLEGE
DEPARTMENT OF ECONOMICS**

EC 157.01
Introduction to Statistics-Honors
Spring 2002
Office Hrs: T/Th 10:30 – 11:30
Or by appointment

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Course Description:

This is an intensive course in statistics. The curriculum is designed for highly motivated students with intellectual curiosity and willingness to work. The goal of this course is to lead students to develop an intuitive understanding of fundamental concepts in statistics as well as technical ability in interpreting data used for decision-making in a business context.

Text:

Anderson, Sweeney and Williams, Statistics for Business and Economics (8th edition)

Course Requirements:

Two Computer Assignments (10%)
Quizzes (10%)
Two Midterms (50%) on Feb. 19 and Mar. 26
One Final (30%)

There will be no make-up exams. Please make sure you have no scheduling conflict with the exam dates. If you miss an exam for a good reason, you will be graded on the other exam and the final.

Computer Assignments:

Students are encouraged to use computers to develop their technical skills in working with data. Excel is the program that students will become accustomed to during this class. There are two computer exercises.

1st Assignment: Pick one out of the following case problems (Due Date: 4 p.m. January 29, 2002)

Case Problem 2: National Health Care Association (Ch. 3 page 124)

Case Problem 3: Business Schools of Asia-Pacific (Ch. 3 page 125)

2nd Assignment: Pick one out of the following case problems (Due Date: 4 p.m. April 30, 2002)

Case Problem 1: Consumer Research, Inc. (Ch. 15 page 662)

Case Problem 2: NFL Quarterback Rating (Ch. 15 page 663)

Quizzes and Problem Sets:

There are a total of 9 problem sets posted on my website. Solution sets are also available online. Students are not required to hand in their work; **however**, the material covered in problem sets will be tested in six quizzes. Quiz dates are not announced in advance, attendance is therefore crucial. Students should know the material covered to date in order to be able to perform well on quizzes. Only the four best quizzes are counted towards the final grade.

Academic Integrity:

Students are expected to do their own work on quizzes and exams. It is important that you make sure you are familiar with the sections on “Academic Honesty” in the Undergraduate Catalog and act accordingly.

Syllabus

Dates	Topics	Readings
Jan. 15	Introduction, Descriptive Statistics: Tabular /Graphical	Ch. 1& 2
Jan. 17	Measure of Location and Variability	Ch. 3.1-3.3
Jan. 22	Covariance, Correlation, and Weighted Mean	Ch. 3.4-3.6
Jan. 24	Computer Lab O'Neill 248	
Jan. 29	Due Date for 1st computer assignment Probability: Permutations, Combinations	Ch. 4.1-2
Jan. 31	Probability: Basic Rules, Conditional Probability	Ch. 4.3-4.4
Feb. 5	Bayes' Theorem	Ch. 4.5
Feb. 7	Random Variables, Discrete Probability Distributions, Expected Value, Variance	Ch 5.1-5.3
Feb. 12	Binomial & Poisson Probability Distribution	Ch. 5.4-5.5
Feb. 14	Uniform & Normal Probability Distribution	Ch. 6.1-6.2
Feb. 19	First Midterm	Ch. 1-5
Feb. 21	Exponential Distribution	Ch. 6.3-6.4
Feb. 26	Sampling, Point Estimation	Ch. 7.1-7.4
Feb. 28	Sampling Distributions	Ch. 7.5-7.7
Mar. 12	Interval Estimation: Large and Small Sample Cases	Ch. 8.1-8.2
Mar. 14	Determining the sample size Interval Estimation of a Proportion	Ch 8.3-8.4
Mar. 19	Null and Alternative Hypotheses Type I and Type II Errors	Ch. 9.1-9.2
Mar. 21	One-tailed and Two-tailed Tests, Small Sample Test	Ch. 9.3-9.6
Mar. 26	Inference about Population Variance	Ch. 11
Apr. 2	Analysis of Variance	Ch. 12
Apr. 4	Second Midterm	Ch. 6-9
Apr. 9	Simple Linear Regression, Least Squares Method	Ch. 14.1-14.2
Apr. 11	Coefficient of Determination, t Test, F Test	Ch. 14.3-14.5
Apr. 16	Prediction, Residual Analysis	Ch. 14.6-14.9
Apr. 18	Multiple Regression	Ch. 15
Apr. 23	Model Building	Ch. 15 -16
Apr. 25	Forecasting	Ch. 18
Apr. 30	Due Date for 2nd assignment Review Session	
May. 6	Final Exam at 12:30 p.m.	Ch. 11-16, 18