BOSTON COLLEGE
DEPARTMENT OF ECONOMICS

EC 151.10
Introduction to Statistics
Spring 2001
T/Th 12-1:15

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Course Description:
This is an introductory course in statistics. The course is designed to teach students to learn how to analyze data using various statistical tools. Students are expected to develop both intuitive understanding and technical ability in interpreting data-based information.

Text:

1. Anderson, Sweeney and Williams (ASW), *Essentials of Statistics for Business and Economics* (2nd edition). This is a required textbook for the course. There are two books in the bookstore by the same authors so please make sure that you buy the right one.

2. Pelosi and Sandifer (PS), *Doing Statistics for Business.* This is an optional book. It is a good supplement to the main textbook; many people find it easier to read than ASW.

Course Requirements:
Problem Sets (10%)
First Midterm (20%) on Feb. 15
Second Midterm (30%) on Mar. 29
One Final (40%) on May 5 at 12:30

Problem sets will cover questions from the main textbook. Some of the questions are computer exercises. 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 a total of 10 problem sets.

All exams are cumulative but the emphasis is on the current material. **There will be no make-up exams.** Please make sure you have no scheduling conflict with the exam dates.

Academic Integrity:
Students are expected to do their own work on problem sets, quizzes and exams. You may consult your fellow students on problem sets but you are responsible to write your own answer. 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.16	Introduction, Descriptive Statistics: Tabular /Graphical Methods	ASW Ch. 1& 2 PS Ch. 1-3
Jan.18	Descriptive Statistics: Numerical Methods, Measure of Location and Variability	ASW 3.1-3.3 PS Ch. 4
Jan.23	Covariance, Correlation, and Weighted Mean	ASW 3.4-3.6
Jan.25	Experiments, Permutations, Combinations	ASW 4.1-2
Jan.30	Basic Probability Rules, Conditional Probability	ASW 4.3-4.4
Feb. 1	Bayes' Theorem	ASW 4.5
Feb. 6	Random Variables, Discrete Probability Distributions, Expected Value, Variance	ASW 5.1-5.3 PS 6.3
Feb. 8	Binomial & Poisson Probability Distribution	ASW 5.4-5.5 PS 6.4
Feb.13	Review Session	
Feb.15	First Midterm	ASW Ch. 1-5
Feb.20	Uniform & Normal Probability Distribution	ASW 6.1-6.2 PS 6.5-6.6
Feb.22	Approximation of Binomial, Exponential Distribution	ASW 6.3-6.4
Feb.27	Simple Random Sampling, Point Estimation	ASW 7.1-7.4 PS 7.1-7.4
Mar. 1	Sampling Distributions	ASW 7.5-7.7 PS 7.5-7.7, 7.9
Mar.13	Interval Estimation: Large and Small Sample Cases	ASW 8.1-8.2 PS 7.8, 7.11
Mar.15	Determining the Sample Size Interval Estimation of a Proportion	ASW 8.3-8.4 PS 7.12
Mar.20	Null and Alternative Hypotheses, Type I and Type II Errors	ASW 9.1-9.2 PS 8.1-8.4
Mar.22	One-tailed and Two-tailed Tests, Test about Population Proportion	ASW 9.3-9.4 PS 8.5- 8.8
Mar.27	Review Session	ASW 9.5-9.6
Mar.29	Second Midterm	ASW Ch. 6-9
Apr. 3	Simple Linear Regression, Least Squares Method	ASW 12.1-12.2 PS 11.1-11.2
Apr. 5	Coefficient of Determination	ASW 12.3
Apr.10	Testing for Significance, Estimation and Prediction	ASW 12.5-12.6 PS 11.3-11.4
Apr.17	Model assumptions, Residual Analysis	ASW 12.4,12.8 PS 11.6
Apr.19	Multiple Regression	ASW 12.9 PS Ch. 12
Apr.24	Time Series and Moving Average	PS 13.1-13.3
Apr.26	Forecasting	PS 13.4-13.6
May. 1	Review Session	
May. 5	Final Exam	ASW Ch. 1-12 PS Ch. 11-13