

Ec151.14 Statistics
MWF 10
Spring 1998
Boston College

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Office Hours: Mondays 1:10-1:50 p.m., Wednesdays and Fridays
11:00-11:50 a.m. and by appointment

TEXT: Triola, Mario F. and LeRoy A. Franklin: **Business Statistics**, Addison-Wesley, 1995.

Introduction

This course is an introduction to probability theory and statistics for economics and management students. Its objectives are to acquaint the students with : a) statistical inference and the basic concepts used in probability theory and statistics, b) statistical problem solving, and c) the basics of computerized data analysis.

The work in the course consists of lectures, homework problems (based on problems in the text) and some computer assignments. Testing takes the form of three examinations (two during the term and one final examination), 5-7 preannounced quizzes on the homework problems, and at least one graded computer assignment. Because of the quizzes, the homework problems do not have to be handed in and are not graded (although you are welcome to see me about them during the office hours). Correct answers to assigned problems will be made available. The computer assignments will be discussed in a later handout. These assignments are to be handed in.

Statistics is an inherently cumulative discipline: concepts studied early in the course are still needed in the final sections. This means that you should not plan to leave the work

until the night before the exam! Doing the homework problems regularly is a good way to make sure that you keep up with the material.

Examination Schedule and Grading Policy

Your course grade depends on two in-term examinations, the final examination, the computer assignments and the quizzes. The in-term examinations are each worth 25%, the final exam 30%, and the computer assignments 10%. The remaining 10% is the total weight of the quizzes.

The dates of the quizzes will be preannounced at least one week in advance. The in-term examination dates are likely to fall on or near the following dates:

First in-term exam: 2/20/1998

Second in-term exam: 4/6/1998

The due dates of the computer assignments will be given at a later date. The final examination will be held on the date scheduled by the Registrar. Let me know as soon as possible if the midterm dates clash with your general schedules.

Make-up examinations for in-term examinations may be given a) in the case of a temporarily incapacitating illness (a note from a health care practitioner is needed), b) if the examination is missed because of an absence for religious reasons as described in the Undergraduate Catalog, provided that I am informed about this prior to the scheduled examination date. Make-ups may also be arranged for reasons of 'severe life-events'. A letter of support from the relevant dean is required.

All students in this course are expected to follow Boston College's code of academic integrity. In particular, collaboration is not allowed in the examinations or quizzes, and all students must be the true authors of any work they submit.

Course Outline and Assigned Readings in the Text

DATE	TOPIC	CHAPTERS TO STUDY
1/12-1/14	I. Introduction	1
1/16-1/28	II. Descriptive Statistics	
	A. Pictures of Data	2.1-2.4, 2.8
	B. Measures of Central Tendency	2.5
	C. Measures of Variation and Position	2.6-2.7
	III. Introduction to Probability Theory	
1/30-2/9	A. Basic Tools	
	Defining the Concepts	3.1-3.2
	Probability Rules	3.3-3.5
	Permutations & Combinations	3.6
2/11-2/18	C. Discrete Probability Distributions	
	Discrete Random Variables, their Probability Distributions, Expected Values and Standard Deviations	4.1-4.3
	The Binomial Probability Distribution	4.4-4.5
First In-Term Examination 2/20 (Chs. 1-4)		
2/23-2/27, 3/9-3/13	D. The Normal Distribution	
	The Standard Normal Distribution	5.1-5.2
	Nonstandard Normal Distributions	5.3-5.5
	Continuity Correction	5.6
	The Central Limit Theorem (omit section 5.8)	5.7

IV. Statistical Inference

3/16-3/20	B. Estimation	
	Introduction	6.1
	Estimating the Population Mean	6.2
	Estimating the Population Proportion	6.3
	Estimating the Population Variance	6.4
3/23-4/3	C. Hypothesis Testing	
	Basic Methods	7.1
	Tests about the Mean	7.2-7.4
	Tests about the Proportion	7.5
	Tests about the Variance	7.6
Second In-Term Examination 4/6/98 (Chs. 5-7)		
4/8, 4/15	D. Inferences from Two Samples	
	Introduction	9.1
	Comparing Two Variances	9.2
	Comparing Two Means	9.3
	Comparing Two Proportions	9.4
4/17-4/27	D. Simple Linear Regression	
	Introduction	12.1
	The Simple Linear Regression Model	12.2-12.3
	Estimation, Testing and Prediction	12.4-12.5
	Correlation	12.6
4/29	Review	

ASSIGNED PROBLEMS:

Chapter	Section	Problem Numbers
1	1.2	1-5, 11-15, 21
	1.3	2, 5, 11, 14, 15
2	2.2	1, 5, 9, 13, 17, 26
	2.3	3, 4, 12, 13
	2.5	1, 6, 14, 17
	2.6	1, 14, 18, 19, 21
	2.7	3, 11, 40
	2.8	17
3	3.2	1, 2, 7, 19, 22
	3.3	2, 6, 21, 24
	3.4	2, 3, 10, 21, 23
	3.6	1, 3, 5, 7, 8, 15, 16, 28, 36, 40
4	4.2	2, 10, 11, 19
	4.3	1, 11, 12, 16, 17, 18
	4.4	2, 4, 6, 10, 16, 22
	4.5	1, 3, 7, 19, 26
5	5.2	1, 5, 8, 12, 16, 22, 36, 37, 43, 45, 51
	5.3	9, 17, 25
	5.4	11, 14
	5.5.	1-6, 16, 27
	5.6	12, 22
	5.7	2, 5, 15, 19
6	6.2	1, 4, 6, 9, 12, 16, 19, 22, 28
	6.3	1, 3, 5, 8, 12, 13, 28
	6.4	1, 3, 5, 10, 19, 20

7	7.2	1, 3, 5, 7, 9, 12, 26, 30
	7.3	2, 4, 6, 24, 27
	7.4	1, 3, 13, 24
	7.5	2, 6, 14, 17
	7.6	1, 5, 13, 18
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9	9.2	4, 8, 10, 17, 20
	9.3	1, 5, 9, 10, 21, 22
	9.4	1, 3, 13, 14, 19
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12	12.2	2, 4, 8, 12, 20
	12.3	1, 2, 7, 13
	12.4	4, 8, 16, 19
	12.5	5, 10
	12.6	3, 5, 7, 19, 21, 23, 29
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