

Dartmouth College  
Department of Economics  
Fall 2004

**Economics 10 – Statistics**

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Office Hours:  
Monday: 3-4pm  
Thursday: 1-2pm  
or by Appointment

**Course Description:** This course is an introduction to statistics for business and economics. The main focus of this course is in understanding how to interpret data. We will use this information to analyze problems, evaluate programs and policies, judge risks, and make decisions. Much of the material is technical, but we will use examples from several different fields of economics to apply our methods.

**Readings:** The textbook is *A Brief Course in Business Statistics* by William Mendenhall, Robert Beaver and Barbara Beaver (2nd ed., 2001). The Statistical Tutor accompanying this book is also highly recommended. I will also try to leave a couple of other textbooks on reserve in the library. You can get additional material and practice problems from these.

**Requirements:** There will be three in-class quizzes and a cumulative final exam. Each quiz will count as 20% of your grade, and the final will count as 40%. Much of the material is cumulative in nature, so you will find it hard going unless you make an effort to keep up throughout the course. The frequent quizzes will help you do this. We will also do practice problems (from the book and elsewhere) in class, so please bring your calculators to class every day. I will also occasionally ask you to solve problems on the board. For each topic, I will suggest some problems from the textbook, which are not mandatory, but will go a long way towards preparing you for the tests.

**Please note that the quizzes are on Monday, October 11, Friday, October 29, and Monday, November 15.** In general, exams may not be postponed except in the case of a **documented** emergency. The final is as per the registrar's schedule.

**Grading:** Your total grade will be determined as follows:-

Quiz 1	20%
Quiz 2	20%
Quiz 3	20%
Final exam	40%
Total	100%

**Special Needs:** If you have a learning, physical or psychiatric disability which may warrant disability-related classroom accommodations, please speak with me by the end of the second week of classes. The Academic Skills Center in 301 Collis Center will be asked to verify that you are registered for these services.

**Lecture Schedule and Readings:**

The schedule below indicates the topic covered in each lecture. Please note that this is meant to be a rough road map only. The readings from the textbook are noted in the fourth column. The final column consists of some suggested problems from the textbook. These are not mandatory, but I may ask you to work these out in class, so you should have at least tried most of these problems. All the problems from a chapter are listed on the day we start that chapter, but I do not expect you to be able to do these until we have covered that part of the chapter in class. Before each quiz, I will try to devote at least half of a class to a short review and/or working out problems.

Date		Topic	Textbook Reading	Textbook Problems
9/22	Wednesday	Introduction	Chap.1	
9/24	Friday	Describing Data	Chap.2	12, 26, 30, 34, 36, 38, 42, 47, 56, 58
9/27	Monday	Probability	Chap. 3.1-3.4	8, 16, 26, 28, 34, 36, 38, 42, 46, 50, 54
9/29	Wednesday	Probability Contd.	Contd.	
10/1	Friday	Bayes Rule	Chap. 3.5	
10/4	Monday	Random Variables	Chap. 3.6-3.8	
10/6	Wednesday	Discrete Distributions	Chap. 4.1-4.3	18, 20, 30, 34, 48, 52, 56, 58
10/8	Friday	Discrete Distributions Contd.	Chap. 4.4-4.6	
10/11	Monday	<b>First Quiz</b>		
10/13	Wednesday	Continuous Distributions	Chap.5.1-5.3	20, 22, 24, 34, 38, 62, 64, 70
10/15	Friday	Cont. Distributions Contd.	Chap.5.4-5.7	
10/18	Monday	Sampling	Chap.6.1-6.3	2, 16, 26, 40, 42, 44
10/20	Wednesday	Sampling Contd.	Contd.	
10/22	Friday	Central Limit Theorem	Chap.6.4-6.7	
10/25	Monday	Estimation	Chap.7.1-7.4	10, 14, 20, 30, 34, 40, 42, 50, 78, 80, 86, 88, 92, 96
10/27	Wednesday	Estimation Contd.	Chap.7.5-7.11	

10/29	Friday	<b>Second Quiz</b>		
11/1	Monday	Hypothesis Testing	Chap.8.1-8.5	12, 14, 22, 23, 32, 44, 52, 60, 70, 74, 82, 86
11/3	Wednesday	Hypo. Testing Contd.	Chap.8.6-8.9	
11/5	Friday	Hypo. Testing Contd.	Chap.8.10-8.13	
11/8	Monday	Chi Square Tests	Chap.13.1-13.2	6, 8
11/10	Wednesday	Linear Regression Model	Chap.11.1-11.5	10, 18, 20, 22, 28, 30, 38, 52, 54, 56
11/12	Friday	Lin. Reg. Model Contd.	Contd.	
11/15	Monday	<b>Third Quiz</b>		
11/17	Wednesday	OLS and Correlation	Chap.11.6-11.10	
11/19	Friday	Multiple Regression Analysis	Chap.12.1-12.1	14, 16, 17, 20, 24, 26, 29
11/22	Monday	Mult. Reg. Analysis Contd	Chap.12.3-12.5	
11/29	Monday	Mult. Reg. Analysis Contd	Chap.12.6-12.12	
12/1	Wednesday	<b>Wrap-up and Final Review</b>		