

Brandeis University  
Department of Economics  
Fall 2009

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**ECONOMICS 83A**  
**STATISTICS FOR ECONOMIC ANALYSIS**  
**SYLLABUS**

**Course description:** This course provides an introduction to probability and statistics. By the end of the semester, you will be better able to assess statistical findings reported in the media, read the professional economics literature, and organize and use data for your own research projects. Topics include descriptive statistics, probability theory, sampling theory, estimation, statistical inference, and regression analysis. You will also learn to use STATA, one of the statistical packages commonly used in economic research.

	<u>Section 1</u>	<u>Section 2</u>	<u>Recitation</u>
<b>Meeting Time:</b>	MWTh 11:10-12:00	MWTh 12:10-1:00	W 6:40-8:30
<b>Classroom:</b>	Lemberg 55	Lemberg 55	Olin Sang 101

**Office hours:** MWTh 2:00-3:30, or appointment.

**Prerequisites:** Introduction to Economics (Economics 2a).

**Textbook:** The required textbook for this course is David R. Anderson, Dennis J. Sweeney, and Thomas A. Williams, *Statistics for Business and Economics*, 9e or 10e (South-Western, 2005, 2008). Supplementary materials will be posted in LATTE on a topic-by-topic basis.

**Grading:** Grades will be assigned according to a curve of raw course scores computed using the following formula:

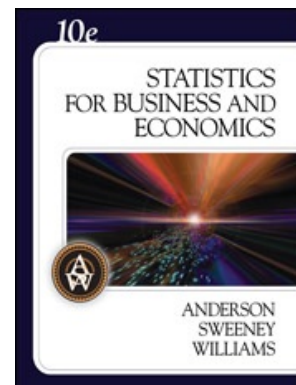
Homework	15%	
Exam I	10%	September 23, in recitation period
Exam II	25%	October 21, in recitation period
Exam III	25%	November 11, in recitation period
Final	25%	In an Econ Common Block, TBD

Classroom participation can also influence your grade. To help you track your progress over the semester, I will post a rough grade distribution for Exams I-III in LATTE.

**Exams:** The topics and chapters covered on each of the exams are given in the course outline below. The exams may include any material from class, the text, the homework, and course supplements. Sample exams will be posted in LATTE.

**Homework:** Homework assignments and due dates will be posted in LATTE.

**“Extra-credit” assignments:** Please note that I will not give any “extra-credit” assignments.



### **Policies.**

Attendance: Class attendance is required and will be monitored over the semester. Recitation attendance is highly recommended.

Excused absences: If there is an emergency in your family or you experience health problems during the semester, **please contact your dean**. Your dean will then inform me, along with your other professors. At an appropriate time, we will then determine what to do about the work you missed.

### **Suggestions for doing well.**

Attend class: In my experience, class attendance is one of the best predictors of exam, and therefore, class performance.

Prepare for class: Do the assigned reading before class to get a preview of the material to be covered and to prepare any questions you have about the material.

Take the homework seriously: The homework assignments provide the best indication of whether you understand the material, and they are the best preparation for the exams.

Keep up with the work: This class covers a lot of material in a single semester, and the concepts build on one another.

Seek help: If you are having difficulty with any of the course concepts, attend recitation and seek help from the T.A.s or the instructor. The earlier the better.

**Information dissemination:** Course information will be posted in LATTE. You are responsible for checking the LATTE course page frequently. Any significant changes to our schedule will be announced via email.

**Contacting me:** In addition to my office hours, the best way to contact me is via email. I check my email regularly. I do not routinely check my office voicemail when I am away from campus so I cannot guarantee a timely response to voicemail messages.

**Accommodations:** If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately. Such accommodations cannot be provided retroactively.

**Academic integrity:** You are expected to be familiar with and to follow the University's policies on academic integrity (see <http://www.brandeis.edu/studentaffairs/sdc/ai/>). Instances of alleged dishonesty will be forwarded to the Office of Campus Life for possible referral to the Student Judicial System. Potential sanctions include failure in the course and suspension from the University.

## COURSE OUTLINE

### I. Introductions.

8/27:	The Course.	
8/31:	Data and Datasets.	ch. 1, 7.2, 7.8
9/2:	Introduction to Stata.	

### II. Descriptive Statistics.

9/3 & 9:	Tabular and Graphical Presentations.	ch. 2.1-2, 2.4
9/10 & 14:	Numerical Methods.	ch. 3.1-2, 3.4-6

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Exam I on Sections I & II – 9/23, in recitation period.

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### III. Probability Theory.

9/16 & 17:	Introduction to Probability Theory.	ch. 4.1-2
9/21 & 23:	Relationships in Probability.	ch. 4.3-5
9/24 & 29:	Discrete Probability Distributions.	ch. 5.1-4
9/30 & 10/1:	Continuous Probability Distributions.	ch. 6.1-2
10/7 & 8:	Joint Probability Distributions.	

### IV. Sampling Distributions (10/12 & 14).

ch. 7.1, 7.4-6

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Exam II on Sections III & IV – 10/21, in recitation period.

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### V. Estimation (10/15 & 19).

ch. 7.3, 7.7, 8

### VI. Hypothesis Testing.

10/21 & 22:	Introduction to Hypothesis Testing.	ch. 9.1-2
10/26 & 28:	One-Sample Tests of Means and Proportions.	ch. 9.3-7
10/29 & 11/2:	Two-Sample Tests of Means and Proportions.	ch. 10
11/4 & 5:	Inference about Population Variances.	ch. 11

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Exam III on Sections V & VI – in recitation period, 11/11.

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### VII. Simple Linear Regression.

11/9 & 11:	The Simple Linear Regression Model.	ch. 14.1-2
11/12 & 16:	Inference about Model Parameters.	ch. 14.3-5, 14.9

### VIII. Multiple Regression.

11/18:	The Multiple Regression Model.	ch. 15.1-2
11/19 & 23:	Inference about the Model.	ch. 15.3-5, 15.8
11/25 & 30:	Dummy Variables.	ch. 15.7
12/2:	Other Extensions.	ch. 16.1

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Final Exam on Sections VII & VIII – in an Econ Common Block, TBD.

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