ECON 83a: Statistics for Economic Analysis
Spring 2019

Instructor: Tymon Słoczyński
E-mail: tslocz@brandeis.edu
Office hours: M 6:45 pm–7:45 pm; W 2:00 pm–3:00 pm
Office location: Sachar 124
Office telephone number: (781) 736-8550

Lecture: M&W 3:30 pm–4:50 pm; M&W 5:00 pm–6:20 pm
Lecture location: Pollack 001

Recitation: W 6:30 pm–8:20 pm
Recitation location: Lown 002

Teaching assistants:	Elena Gou	Stephen Roselli
E-mail:	crgou@brandeis.edu	smjkh@brandeis.edu
Office hours:	F 2:00 pm–4:00 pm	Tu 4:00 pm–6:00 pm
Location of office hours:	library, at lower green	library, near the printers

Teaching assistants, cont.:	Brandon Stanaway
E-mail:	bstanaway@brandeis.edu
Office hours:	Th 2:30 pm–4:30 pm
Location of office hours:	library, near the printers

Course description: This is the first course in probability and statistics, and their applications in economics. Topics to be covered include descriptive statistics, sampling and sampling distributions, point estimation, properties of estimators, confidence intervals, hypothesis testing, and introduction to regression analysis.

Prerequisites: ECON 2a or 10a. You must earn C- or higher in MATH 10a, or otherwise satisfy the calculus requirement, to enroll in this course.

Learning goals and outcomes: Upon successful completion of this course you should be able to calculate and interpret basic descriptive statistics; calculate confidence intervals and perform hypothesis testing; as well as understand simple regression models.

Textbook: Anderson, David R., Dennis J. Sweeney, Thomas A. Williams, Jeffrey D. Camm, and James J. Cochran, *Statistics for Business & Economics* (13th ed.). All readings come from this textbook.

Electronics in the classroom: The use of cell phones and tablets is not allowed in the classroom at any time. Laptops may be used to take notes, but not for any other activities. Please sit in the front row if you plan on taking notes on a laptop.

Class attendance: You are expected to attend all classes. Up to two absences from class will have no effect on the grade. Further absences will incur a loss of 2 pp each, up to a maximum of 10 pp (see below).

Evaluation: There will be two in-class midterms as well as a final exam. No make-up exams will be offered during the semester. If you are unable to take an exam for a legitimate reason, you must obtain advance authorization. The use of simple non-programmable calculators is allowed during exams. The use of phones and other devices—as a replacement for a calculator—is forbidden. I will also assign a total of seven problem sets—which you are strictly required to do independently. Also, your homework must be legible, stapled (whenever you submit more than one sheet of paper), and must show all of your work. Teaching assistants are permitted to give partial or zero credit otherwise. Each problem set is due at the beginning of the corresponding class (due dates are given below). No late submissions will be accepted, but I will drop the lowest of your seven scores. Your final grade will be calculated as follows:

Class attendance	—	10% of grade
Problem sets	—	20% of grade
Midterms	—	40% of grade
Final exam	—	30% of grade

At my discretion I might increase the weight of the second midterm and/or the final exam for those students whose final grades will be improved in this way.

Special 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.

Workload: Success in this four-credit course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, papers, discussion sections, preparation for exams, etc).

Academic honesty: You are expected to be honest in all of your academic work. Please consult Brandeis University *Rights and Responsibilities* for all policies and procedures related to academic integrity. Students may be required to submit work to TurnItIn.com software to verify originality. Allegations of alleged academic dishonesty will be forwarded to the Director of Academic Integrity. Sanctions for academic dishonesty can include failing grades and/or suspension from the university. Citation and research assistance can be found at LTS-Library guides.

Important dates: This is a tentative list of dates to remember, including two midterms, a Brandeis Monday, and several Mondays and Wednesdays without scheduled classes:

January 21	—	Martin Luther King Jr. Day, no class
January 22	—	Brandeis Monday, extra class
February 13	—	Midterm 1, in class
February 18 & 20	—	Midterm recess, no class
March 25	—	Midterm 2, in class
April 22 & 24	—	Passover and spring recess, no class
TBD	—	Final exam

Also, problem sets will be due at the beginning of class on the following dates:

January 30	February 6	March 6	March 13
March 20	April 17	May 1	

Course outline:

Class	Date	Topic	Reading	PS due
1	1/16	*Introduction*	Ch. 1	
	1/21	Martin Luther King Jr. Day – no class		
2	1/22	*Visualizing data*	Ch. 2	
3	1/23	*Measures of location*	Ch. 3	
4	1/28	*Measures of variability*	as above	
5	1/30	*Covariance & correlation*	as above	1
6	2/4	*Introduction to probability*	Ch. 4	
7	2/6	*Conditional probability*	as above	2
8	2/11	*Bayes' theorem*	as above	
9	2/13	Midterm 1		
	2/18	Midterm recess – no class		
	2/20	Midterm recess – no class		
10	2/25	*Random variables*	Ch. 5	
11	2/27	*Discrete probability distributions*	as above	
12	3/4	*Continuous probability distributions*	Ch. 6	
13	3/6	*Sampling and sampling distributions*	Ch. 7	3
14	3/11	*Sampling distribution of the sample mean*	as above	
15	3/13	*Sampling distribution of the sample proportion*	as above	4
16	3/18	*Interval estimation: population mean*	Ch. 8	
17	3/20	*Interval estimation: population proportion*	as above	5
18	3/25	Midterm 2		
19	3/27	*Introduction to hypothesis testing*	Ch. 9	
20	4/1	*Inference about means and proportions*	as above	
21	4/3	*Inference about means and proportions*, cont.	as above	
22	4/8	*Inference about variances*	Ch. 11	
23	4/10	*Introduction to regression analysis*	Ch. 14	
24	4/15	*Ordinary least squares*	as above	
25	4/17	*Simple regression*	as above	6
	4/22	Passover and spring recess – no class		
	4/24	Passover and spring recess – no class		
26	4/29	*Multiple regression*	Ch. 15	
27	5/1	Review		7