

EC305 – C1 (Economic Statistics)

Fall 2011

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Office Hours: Tu 12-1:30; Th 3:30-5

Course Objective:

The goal of this course is to give you an introduction into the basic concepts of modern statistics and to teach you how to analyze data. We will discuss core topics like Descriptive Statistics and the basics of Probability Theory and Sampling Theory, and also emphasize broader issues like Causation, Mean Regression, and Bias. This course will prepare you for further study in Econometrics as well as higher level courses in Business, Economics, or other social sciences. No prior knowledge of statistics is necessary, but a working knowledge of Algebra and Calculus is assumed.

Required Texts:

- Anderson, Sweeney, and Williams, Essentials of Statistics for Business and Economics. 6th ed.
- Mlodinow, Leonard, The Drunkard's Walk: How Randomness Rules our Lives.

Last I checked the textbook was the same as the other sections of EC305 this semester and was available at the bookstore, though **you do not need** any of the online access stuff (aplia, myeconlab, etc) they may have packaged with it. Due to a miscommunication the other won't be available at the bookstore but is roughly eight dollars on amazon and very likely available at every other bookstore in the city.

Attendance:

Grading: There will be problem sets (20%), one short written assignment (10%), one midterm (30%), and a final (40%).

- *Problem Sets* will be due roughly every other week and will be due **at the start** of class on the days listed. Since we'll be going over the problem sets during that lecture, **no late problem sets will be accepted**. The first problem set will be a review of calculus and some other math just to make sure everyone is up to speed on the tools they need for the rest of the class.
 - Due dates: 9/20, 10/4, 10/18, 11/8, and 12/6.
- The short written assignment (roughly a page) will ask you to find a newspaper or magazine article (or something else you fancy) and critique its use of statistics. Obviously not every article would be appropriate, but there are plenty in virtually every paper every day. More details and an example or two of what I have in mind are forthcoming.
- The Midterm will be in class on October 20th.
- The Final has been scheduled by the registrar for December 17th at 9am and while it will mostly focus on the second half of the course, *it will be a cumulative exam*.

No make-ups will be given for either the problem sets and/or the exams except in extreme cases of documented emergencies. The date for both the midterm and the final are set now, so please ensure that you don't have any conflicts.

Collaboration: You are allowed (encouraged) to work together on the problem sets, but expected to write up your work separately. If you do work with other people, please just note somewhere on your problem set who you worked with. Be careful of letting other people carry you through the problem sets, however, as they won't be there to help you on the exams.

Academic Honesty:

I would love to believe that no one here would consider cheating, plagiarizing, or the like, but sadly experience in previous semesters has suggested otherwise. I take any form of academic dishonesty very seriously. The exams are not a group activity, and anyone who does so will receive a zero for the exam in question and anyone with a prior issue will almost certainly be flunked. If you haven't, please take a moment to familiarize yourself with the CAS Academic Code of Conduct which you can find online at <http://www.bu.edu/academics/files/2011/08/AcademicConductCode.pdf>

Disability Issues: If you have a disability that necessitates extra time for exams, or any other accommodations, you will need to give me a note from the BU Office of Disabilities Services *no later than September 27th* so that I can make arrangements.

Office Hours: My office hours will in my Office (SSW B08). Since my office is small we may move down the hall to SSW B17 if there are too many of us.

If you can't make either day feel free to let me know why and I'll see what I can do about being on campus at some other mutually agreeable time. I'm also happy to try and answer a few questions here and there via email, though plain text is often a poor way to convey information.

The School of Social Work (SSW) is 270 Bay State Road, just behind CAS. www.bu.edu/maps may prove helpful.

Course Website: I'll be using <http://blackboard.bu.edu> to post problem sets, answers, and things of that nature. If you don't have a BU account already, please contact the office of Information Technology to get one set up. If I need to make announcements outside of class I'll use email, so please ensure that you check or forward whatever email address you have with BU.

Course Outline:

This is a rough schedule of the topics we're going to cover, though some variation will almost surely be required. The due dates (listed above) for the problem sets and exams are fixed, however.

Week 1: Descriptive Statistics (ASW Ch. 1-3, LM Ch. 1)

Week 2: Introduction to Probability (ASW Ch. 4, LM Ch. 2)

Week 3: Discrete Probability Distributions (ASW Ch. 5, LM Ch. 3 & 4)

Week 4: Continuous Probability Distributions (ASW Ch. 6, LM Ch. 5)

Week 5: Sampling and Sampling Distributions (ASW Ch. 7)

Week 6: Interval Estimation (ASW Ch. 8)

Week 7: Review & Midterm October 20th

Week 8: Hypothesis Testing I (ASW Ch. 9, LM Ch. 6)

Week 9: Hypothesis Testing II (ASW Ch. 9, LM Ch. 7)

Week 10: Experiment Design, Analysis of Variance, Tests of Independence (ASW 10 & 11, LM Ch. 8)

Week 11: Simple Linear Regression (ASW Ch. 12)

Week 12: Optional Lecture on Applications: Data Mining and Lotteries.

Week 13: Multiple Regression (ASW Ch. 13, LM Ch. 9)

Week 14: Additional Topic TBA (LM Ch. 10)

Final Exam December 17th at 9am!