

## Introduction to Statistics and Econometrics

Lectures: (M001) Mon/Wed, 2:15pm - 3:35pm, Crouse-Hinds Hall 101  
(M002) Mon/Wed, 12:45pm - 2:05pm, Crouse-Hinds Hall 101  
Instructor: Prof. Yoonseok Lee (Eggers 426; [ylee41@maxwell.syr.edu](mailto:ylee41@maxwell.syr.edu))  
Office Hour: Mon, 3:35pm - 4:35pm  
TA: (M001 & M002) Dahae Choo (Eggers 026; [dachoo@syr.edu](mailto:dachoo@syr.edu))  
OH: Tue/Thu, 12:30pm - 2:00pm

### Course Description

This course provides basic knowledge of probability, statistics and regression analysis for undergraduate economics majors. The course is intended for BA economic students and is not a substitute for ECN 521 and/or ECN 522. Upon completion of this course, students can read empirical literature in economics and carry out their own basic economic data analysis. No prior knowledge of statistics is assumed, though college-level calculus is expected. No credit is granted to those who have completed or are enrolled in ECN 521 and/or ECN 522. (*Prerequisites: ECN [301 or 311] and ECN 302; Declared majors and minors only*)

The class web page is available at <http://blackboard.syr.edu>. Announcements, lecture slides, problem set questions, and additional course materials are to be posted there, so make sure to visit the site frequently. Hard copies of these materials will *not* be distributed.

### Textbooks

The textbook for the course is:

Keller, G. (2015). *Statistics for Management and Economics*, Abbreviated, 10th ed., Cengage Learning.

E-Book is also available. Most of the problem set questions are from this textbook. If you want more advanced (and more math-involved) textbook, the following one would be helpful, which is not required for this course though:

Hogg, R.V., E.A. Tanis, and D. Zimmerman (2014). *Probability and Statistical Inference*, 9th ed., Pearson.

Some lectures and problem sets use MS Excel as a basic statistical software. Students are encouraged to bring their own laptop computers for Wednesday computer sessions.

## Organization and Evaluation

The grade is based on class/session attendance and quizzes; there are no extra midterm or final exams. The grading breakdown is as follows:

Class/Session Attendance 30%;      Quizzes 70%

Seven quizzes are scheduled in total (six in-class quizzes and one take-home quiz), which are scheduled as follows:

[Quiz I ] Sep.12 (W); [Quiz II] Sep.26 (W); [Quiz III] Oct.10 (W);  
[Quiz IV ] Oct.24 (W); [Quiz V] Nov.7 (W); [Quiz VI] Nov.28 (W);  
[Quiz VII] Dec.7 (F)\*

Quiz VII on Dec. 7th is a take-home quiz; the exam is to be posted on Dec. 6th and it is due by 4:00pm on Dec. 7th. All other quizzes (i.e., Quiz I to VI) are in-class closed-book exams. *No makeup quizzes nor early quizzes will be given for any reasons. Any incident of academic dishonesty will result in an F grade for the course.*

Weekly problem sets are to be posted on the Blackboard web site on every Friday, so make sure to visit the site frequently. Students are encouraged to form study groups and collaborate with other students to work on problem set questions.<sup>1</sup> However, students do not need to turn in the problem sets. Instead, the quiz questions are vary similar to the problem set questions as well as examples during the class/sessions.

## Course Outline and Schedule

### I. Probability

1. Introduction and Descriptive Statistics (Ch 1 - 4)
2. Probability Theory (Ch 6)
3. Random Variables and Distribution Theory (Ch 7.1 - 7.3)
4. Important Distributions (Ch 7.4 - 7.5, 8)

### II. Statistical Inference

1. Sampling Distribution (Ch 5, 9)
2. Interval Estimation (Ch 10)
3. Hypothesis Testing (Ch 11 - 13)

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<sup>1</sup>A word of advice: When you write the solution, provide the major steps of your calculation as you are taking exams. It is a good training for organizing and explaining your idea. When you are taking the quizzes, you will not be able to get the full credit if you simply write down the final answers without providing details.

### III. Regression Analysis

1. Linear Regression Model (Ch 16)
2. Least Squares Estimation (Ch 16)
3. Multiple Regression (Ch 17)

#### < Class Schedule >

Date	Coverage	Date	Coverage
8/27(M)	Introduction & Descriptive Statistics	8/29(W)	Descriptive Statistics
9/03(M)	<i>Labor Day</i>	9/05(W)	Computer & Review 1
9/10(M)	Probability Theory	9/12(W)	Quiz I
9/17(M)	Probability Theory	9/19(W)	Computer & Review 2
9/24(M)	Random Variables & Distribution	9/26(W)	Quiz II
10/01(M)	Random Variables & Distribution	10/03(W)	Computer & Review 3
10/08(M)	Important Distributions	10/10(W)	Quiz III
10/15(M)	Important Distributions	10/17(W)	Computer & Review 4
10/22(M)	Sampling Distribution	10/24(W)	Quiz IV
10/29(M)	Interval Estimation & Hypothesis Test	10/31(W)	Computer & Review 5
11/05(M)	Interval Estimation & Hypothesis Test	11/07(W)	Quiz V
11/12(M)	Interval Estimation & Hypothesis Test	11/14(W)	Computer & Review 6
11/19(M)	<i>Thanksgiving Break</i>	11/21(W)	<i>Thanksgiving Break</i>
11/26(M)	Linear Regression	11/28(W)	Quiz VI
12/03(M)	Linear Regression	12/05(W)	Computer & Review 7
		12/07(F)	Take-home Quiz VII due

Note: The schedule can be changed based on the class performance.

**Academic Integrity** Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. For more information about the policy, see <http://class.syr.edu>.

**Accommodations for Students with Disabilities** If you believe that you need academic adjustments (accommodations) for a disability, please contact the Office of Disability Services (ODS), visit the ODS website– <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call (315) 443-4498 or TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting academic adjustments. ODS is responsible for coordinating disability-related academic adjustments and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since academic adjustments may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.