

Summer 2019

ECON 0150: ECONOMIC DATA ANALYSIS

University of Pittsburgh
Department of Economics

ECON 0150

Instructor:	Marta Boczoń
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Class (Mo and We):	12:00-3:15PM, 205 Lawrence Hall
Office hours (Mo and We):	10:30-11:30AM & 4:00-5:00PM, WWPB 4625

OVERVIEW

Course description: As most decisions are made under uncertainty, the increasing availability of data has led to a greater role of statistics and econometrics in decision making. This course presents a framework for thinking about problems involving uncertainty, and develops tools for tackling these problems. We will consider applications of these tools and framework to a variety of areas, including economics, finance, and marketing. The goal of this course is to sharpen your quantitative and analytical skills, and to provide a foundation in probability, statistics, and econometrics for subsequent courses and for your career.

Although technical expertise and computation are essential to understanding statistics and analyzing information, our focus will be on understanding statistical concepts and being able to interpret analyses; we'll focus on understanding, and not on plugging numbers into formulas. In short, our emphasis is on applying the concepts rather than on their theoretical development.

Required materials: The main reading source are the Class Handouts distributed before each lecture. There are no required textbooks for this course since those handouts, paired with diligent in-class note taking, will suffice. Handouts and lectures complement each other: it is impossible for you to do well in this course without attending class.

Practice problem sets: The material for this course cannot be effectively mastered just through lecture. In order to learn you must also work through problems. The practice problem sets will be posted on CourseWeb every Wednesday at the end of the class and will contain questions of varying difficulty that will help you master the course's content and prepare for tests and the exam. A few of these problems will be discussed in class. The practice problem sets are not graded.

Software: We will handle the necessary computations within Excel. Initially, we'll rely on the basic statistical functions in Excel. In the second half of the course, we'll use an Excel add-in called RegressIt™ to perform regressions (a link to download the software will be on CourseWeb). Although familiarity with Excel will be helpful, it is not required to succeed in this class. The instructor will perform in-class demonstrations on how to use Excel as needed. Familiarity with software will be achieved by the end of the course.

Supplementary readings:

- Introduction to Econometrics, Updated 3rd Edition, by James H. Stock and Mark W. Watson, Pearson Education Limited, 2015.
- Introductory Econometrics: A Modern Approach, 6th Edition, by Jeffrey M. Wooldridge, South-Western Cengage Learning, 2015.
- Mostly Harmless Econometrics: An Empiricist's Companion, by Joshua D. Angrist and Jörn-Steffen Pischke, Princeton University Press, 2009.
- Mastering 'Metrics: The Path from Cause to Effect, by Joshua D. Angrist and Jörn-Steffen Pischke, Princeton University Press, 2015.

REQUIREMENTS

Class participation: Class attendance is compulsory.

Final exam: The final exam is open book and open notes. Laptops (or any other electronic devices) are not allowed with the exception of a calculator. The final exam is cumulative and covers material from the entire course. All exam questions must be answered on an individual basis and on a provided by the instructor sheet of paper. You may request a make-up exam because of illness only if the illness is documented by a health-care provider within the 24-hour period prior to the beginning of the exam.

In-class tests: There are four short in-class tests, each between 30 and 45 minutes long. These tests are open book and open notes. Laptops (or any other electronic devices) are not allowed with the exception of a calculator. All questions must be answered on an individual basis and on a provided by the instructor sheet of paper. Make-up tests will not be granted under any circumstances.

Online quizzes: There are ten short online quizzes. The quizzes will be posted on CourseWeb at the end of each class between 05/13 and 06/12 and will be due at the beginning (12:00PM) of the next class. Their objectives are to make sure everyone understands the material presented in the previous class, and to ensure everyone has prepared for the material to be presented in the forthcoming class. These short assignments are to be submitted online. Make-up quizzes will not be granted under any circumstances.

Assessment: The final grade will be calculated based on the following weights:

Class participation: 12.5%
 Final exam: 37.5%
 In-class tests: 30.0%
 Online quizzes: 20.0%

COURSE SCHEDULE

The *tentative* schedule for the class is as follows:

Week	Date	Topics	Reading	Due at noon
1	05/13	(a) Course introduction and logistics, summary statistics, (b) Probability vocabulary, events, probability tables	Handout 1	
	05/15	(a) Conditional probability, independence (b) Random variables: expected value, variance	Handout 2	Quiz 1
2	05/20	(a) TEST 1 (b) Sampling	Handout 3	Quiz 2
	05/22	(a) Central limit theorem (CLT), Normal distribution (b) Applications to the CLT	Handout 4	Quiz 3
3	05/27	(a) TEST 2 (b) Confidence intervals	Handout 5	Quiz 4
	05/29	(a) Proportions (b) Hypothesis Testing	Handout 6	Quiz 5
4	06/03	(a) TEST 3 (b) Simple linear regression	Handout 7	Quiz 6
	06/05	(a) Forecasting in the simple linear regression (b) Multiple linear regression	Handout 8	Quiz 7
5	06/10	(a) TEST 4 (b) Proxy effect, and simple categorical variables	Handout 9	Quiz 8
	06/12	(a) Dummy variables (b) Non-linear relationships	Handout 10	Quiz 9
6	06/17	(a) Review		Quiz 10
	06/19	(a) FINAL EXAM		

LETTER GRADE ASSIGNMENT

Cumulative points	Grade
≥ 98.0	A+
93.0 - 97.9	A
90.0 - 92.9	A-
87.0 - 89.9	B+
83.0 - 86.9	B
80.0 - 82.9	B-
77.0 - 79.9	C+
73.0 - 76.9	C
70.0 - 72.9	C-
67.0 - 69.9	D+
63.0 - 66.9	D
60.0 - 62.9	D-
≤ 59.9	F

COURSE POLICY

Academic integrity: You are expected to comply with the University of Pittsburgh Policy on Academic Integrity. Anyone suspected of violating this obligation throughout the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity.

Classroom recording: You may not record lectures without the instructor's written permission. Any such recording must be for your own use only.

Electronic devices: Electronic device usage is not permitted in class; cell phones, pagers, laptops, tablets, etc., must not be used during lecture.

Students with disabilities: If you have a disability for which you are or may be requesting special accommodation, you are strongly encouraged to contact both the course instructor and the Disability Resources and Services (Address: 140 William Pitt Union, 3959 Fifth Avenue, Pittsburgh, PA 15260; Phone: 412-648-7890).

* The syllabus is subject to change.