

# Economics 4650

## Principles of Econometrics

### Spring 2016

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**WHEN** MW, 11:50 – 1:10

**EMAIL** michael.hogue@utah.edu

**WHERE** AEB 330 (Mon) and OSH 273 (Wed)

**OFFICE** Bus. Classroom Building (BU C) 470 C

**WEB** See the course page on Canvas

**OFFICE HOURS** TH, 12:00 – 1:00

**INSTRUCTOR** Michael Hogue

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**COURSE OVERVIEW** In economics, the vast majority of data is non-experimental; that is, data generated by a process other than a randomized controlled experiment. Non-experimental data complicates the discovery and measurement of causal effects (e.g. the effect of worker training programs on worker productivity, or the effect of health insurance on health.) This course concerns the methodology of measuring causal effects in spite of the limitations of non-experimental data. A major component of the course is the analysis of real questions using real data. We will see how econometric principles can figure in such questions as whether smaller classroom sizes improve student performance, the relationship between smoking and birthweight, how earnings relate to age, gender, and education, and whether people behave “rationally” in the way described by simple, traditional, accounts of microeconomic theory. Because this course builds on the material covered in Econ 3640 *Probability and Statistical Inference for Economists*, it is essential that students have completed that course, or an equivalent statistics course, prior to this one.

**COURSE OBJECTIVES** Students who successfully complete this course should have a basic conceptual understanding of multivariate regression analysis—the fundamental technique learned in this course—be able to carry out such an analysis using the statistics software **R**, and be able to give appropriate interpretations of the results.

**PREREQUISITES** This course has two prerequisites: Econ 3620 *Mathematics for Economists* and Econ 3640 *Probability and Statistical Inference for Economists* (or equivalent; see below). Please do not attempt to take this course before completing Econ 3620 and Econ 3640 (or equivalent). If you have not taken these classes but have taken other classes you believe have similar or equivalent content, please let me know as soon as possible, indicating which courses you have taken. You will want to be fully prepared before taking Econ 4650.

**REQUIRED TEXT** There is one required text for the course: *Introduction to Econometrics* by James H. Stock and Mark W. Watson, 3rd edition update (2014), ISBN-13: 978-0133486872.

**OPTIONAL TEXT** *Mastering Metrics* by Joshua D. Angrist and Jörn-Steffen Pischke.

**TOPICS** We will cover most of the material in Chapters 1–9 and select topics from Chapters 10–13 of the required text. By Friday of the prior week I will post to Canvas what material from the text to read for the next week.

**SOFTWARE** Assignments will require use of the statistics software R. More detailed instructions and comments about R will be put on Canvas.

**EVALUATION** The final grade for this course will be determined by performance on 8 assignments (25%), two exams (25% each), and a course project (25%). Letting  $S$  stand for the overall numerical score for the course, computed according to the weights given above, letter grades will be assigned to

S as shown below.

$93 \leq S \leq 100$ : A	$81 \leq S < 85$ : B	$69 \leq S < 73$ : C	$57 \leq S < 61$ : D
$89 \leq S < 93$ : A-	$77 \leq S < 81$ : B-	$65 \leq S < 69$ : C-	$53 \leq S < 57$ : D-
$85 \leq S < 89$ : B+	$73 \leq S < 77$ : C+	$61 \leq S < 65$ : D+	$S < 53$ : E

**IMPORTANT DATES** Please note the dates below. The first exam will be held on Wednesday, Feb. 24. The second exam will be held on Wednesday, Apr. 6. Since exams cannot be rescheduled without a valid reason—see below for what constitutes “valid”—please ensure you arrange your schedule accordingly.

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Jan. 18	Martin Luther King Jr. Day holiday
Feb. 15	Presidents’ Day holiday
Feb. 24	Exam 1
Mar. 14	Spring break
Mar. 16	Spring break
Apr. 6	Exam 2
Apr. 25	Last class
May 3	Course project and final assignment due

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## POLICIES

1. **Attendance** Students are strongly encouraged to attend lecture, but attendance is not recorded.
2. **Phones and other devices during class** Use of laptops, tablets, phones, or similar devices during class is limited to purposes directly related to the course.
3. **Electronic devices during exams** The only electronic devices allowed during exams are simple hand-held calculators. Laptops, tablets, phones, and any device capable of communicating with another device must be put away, out of sight, before the exam.
4. **Makeup exams** Makeup exams are only available for reasons of (1) medical emergency (2) participation in an officially sanctioned university event, or (3) religious obligations. In case (2) students must provide me notice of their absence at least one week in advance and a written letter from the appropriate University unit. In case (3) students must let me know the dates of their absence no later than Feb. 1. For case (1) a doctor’s note will be sufficient.
5. **Assignments** Assignments will be due approximately every two weeks. Late assignments are subject to the same policy as makeup exams. Students may discuss the assignments with other students, each student must turn in their own assignment, written in their own words. Copying verbatim, or nearly verbatim, the work of another student and presenting it as one’s own constitutes a form of academic misconduct (see below).
6. **Extra credit** It will not be possible to receive extra credit in this course.
7. **Incompletes** A grade of “incomplete” will be given only in cases of documented medical emergency.
8. **Academic conduct** Cheating, plagiarism, or other forms of academic misconduct will be dealt with according to University policy (see <http://regulations.utah.edu/academics/6-400.php>).
9. **Accommodations for disability.** The following statement is provided by the University of Utah, Center for Disability Services (See <http://disability.utah.edu>).

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 801-581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

If you require such accommodations please let me know at the beginning of the course.

**ABOUT THIS SYLLABUS** I reserve the right to make such alterations to this syllabus as circumstances may warrant. Any changes will be announced in class and on Canvas.