Econ 3640-090

Probability and Statistical Inference

Fall 2017

3.0 credit hours
This is an online course, which does not meet in class.

Instructor

Doyoun Won, Graduate Student instructor
Email: on Canvas
Office: Economics #3 in Bldg. 72 (A cubicle on the first floor)
Office hour: TBA

Textbook (available at the U of U Bookstore)

David S. Moore; George P. McCabe; Layth C. Alwan; Bruce A. Craig, *The Practice of Statistics for Business and Economics*, 4th ed., W. H. Freeman, 2016.

Canvas

This web-based course is supported on Canvas at: http://utah.instructure.com
Official announcements, links and other class materials will be posted in Canvas, so please check periodically for messages pertaining to the course.

Course Description & Learning Objectives

The objects of an economist's interest are real world phenomena. We, however, reason about the world through abstract models. In order to blend the two, we are in need of a bridge. This is the role of probability and statistics. Probability and statistics are fundamentally two sides of the same coin, and they are the means by which we try to rationalize *hypotheses* with noisy data that describe actual *behavior*.

Statistics is not often perceived as the students' most exciting subject. Yet, as they spend more time with this subject, statistics in their environment will take on new meaning to them. They will start to notice statistical concepts in other textbooks, in the news, and in discussions with others about the world around them. As those things in which we are involved become more noticeable in our environment, so will statistical ideas come to their attention as they proceed through the course. An effective way to do this is by presenting living ideas, by using things in their world to illustrate statistics concepts, and by allowing them to collect and analyze their own data in a hands-on fashion.

The main objective of this course is to provide students with the foundations of statistical inference. Topics include basic probability models; random variables; discrete and continuous probability distributions; statistical estimation and testing; confidence intervals. This is a fairly rigorous introduction to statistical methods and concepts that

are needed in much of modern econometrics and economics. We will keep close to the topics and level of coverage given in the first 8 chapters of the textbook.

Course Work

1) Reading

The course will follow the textbook closely. It is **especially important** that you keep up with the associated readings in a timely fashion following the assigned schedule.

2) Graded Quizzes

The average score on 8 graded quizzes will be counted into the final grade. Each quiz has 20 multiple choice questions; you have 60 minutes to complete each quiz, which will be posted on Canvas according to the class schedule. No late submission will be accepted for any reason. You can find out more details about the quizzes in Canvas.

3) Exams

Two exams (mid-term and final) are a closed book examination, which are mainly computerized and partly paper-based (like short answer questions). They will be proctored, as described at https://utahtacc.zendesk.com/hc/en-us/articles/208104916--Student-Scheduling-of-Exams-Involving-Face-to-Face-Proctors

Students are required to schedule an exam date and time. Students have a window of time during which they can take the exams:

Mid-term Exam: 10/19, 10/20 (Thursday – Friday)
Final Exam: 12/14, 12/15 (Thursday – Friday)

Not all hours of those days are available, and at least two weeks before each exam, you have to register online to take it following the instructions on the webpage above. Also, please read https://utahtacc.zendesk.com/hc/en-us/articles/205684836 to learn that center's rules.

After you have taken the exam, do not give any information about it to any other student in the class until the exam testing window has closed. After the exam testing window has opened but before you have taken the exam, do not receive any information about the exam.

4) A Short Essay for Extra Credit

More details will be announced soon in Canvas.

Grading Policy

Your final grade in the course will be based on your results on 8 quizzes and two exams. Students can check out their scores on Canvas. It is calculated as follows:

Total: 100% = 8 Quizzes: 40% + Mid-term: 30% + Final Exam: 30%

Your final grade will be determined by the following scale:

A = 90-100	B+ = 80-84	C+= 65-69	D = 45-54
A- = 85-89	B = 75-79	C = 60-64	E = 44 and below
	B- = 70-74	C- = 55-59	

Note: This tentative grading scale may be adjusted by class statistics.

Make-up Policy

If students know that they will not be able to take an exam, they must submit a written request/email the instructor with acceptable reasons for a previous or late exam one week in advance. If students do not make prior such arrangements, exams taken late will receive only 75% of the full grade points. A medical emergency requires a letter from a physician. Students must contact the instructor within one week after the exam; otherwise, no makeup will be given.

University Policies

ADA (Americans With Disabilities Act) Statement

"The University seeks to provide equal access to its programs, services and activities for people with disabilities. Reasonable prior notice is needed to arrange accommodations. Evidence of practices not consistent with these policies should be reported to the individual who the University has designated as its Title IX and ADA/Sec. 504 Coordinator: Director, Office of Equal Opportunity and Affirmative Action, 201 S Presidents Cr., Rm. 135, (801) 581-8365 (V/TDD)." The complete policy can be found here: http://regulations.utah.edu/human-resources/5-117.php

Accommodations Policy

"Some of the readings, lectures, films, or presentations in this course may include material that may conflict with the core beliefs of some students. Please review the syllabus carefully to see if the course is one that you are committed to taking. If you have a concern, please discuss it with me at your earliest convenience. For more information, please consult the University of Utah's Accommodations Policy, which appears at: https://academic-affairs.utah.edu/wp-content/uploads/sites/3/2015/03/accommodations-policy-background.pdf "

Responsibilities

"All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee."

"Faculty... must strive in the classroom to maintain a climate conducive to thinking and learning." PPM 8-12.3, B.

"Students have a right to support and assistance from the University in maintaining a climate conducive to thinking and learning." PPM 8-10, II. A.

"The syllabus is not a binding legal contract. It may be modified by the instructor when the student is given reasonable notice of the modification."

"Attendance requirements & excused absences: The University expects regular attendance at all class meetings. An instructor may choose to have an explicit attendance requirement. Physical attendance may be used as a criterion in determining the final grade only where it indicates lack of participation in a class where student participation is generally required or as required by accrediting bodies. Any particular attendance requirements of a course must be available to students at the time of the first class meeting."

"Students absent from class to participate in officially sanctioned University activities (e.g., band, debate, student government, athletics) or religious obligations, or with instructor's approval, shall be permitted to make up both assignments and examinations. The University expects its departments and programs that take students away from class meetings to schedule such events in a way that will minimize hindrance of the student's orderly completion of course requirements. Such units must provide a written statement to the students describing the activity and stating as precisely as possible the dates of the required absence. The involved students must deliver this documentation to their instructors, preferably before the absence but in no event later than one week after the absence."

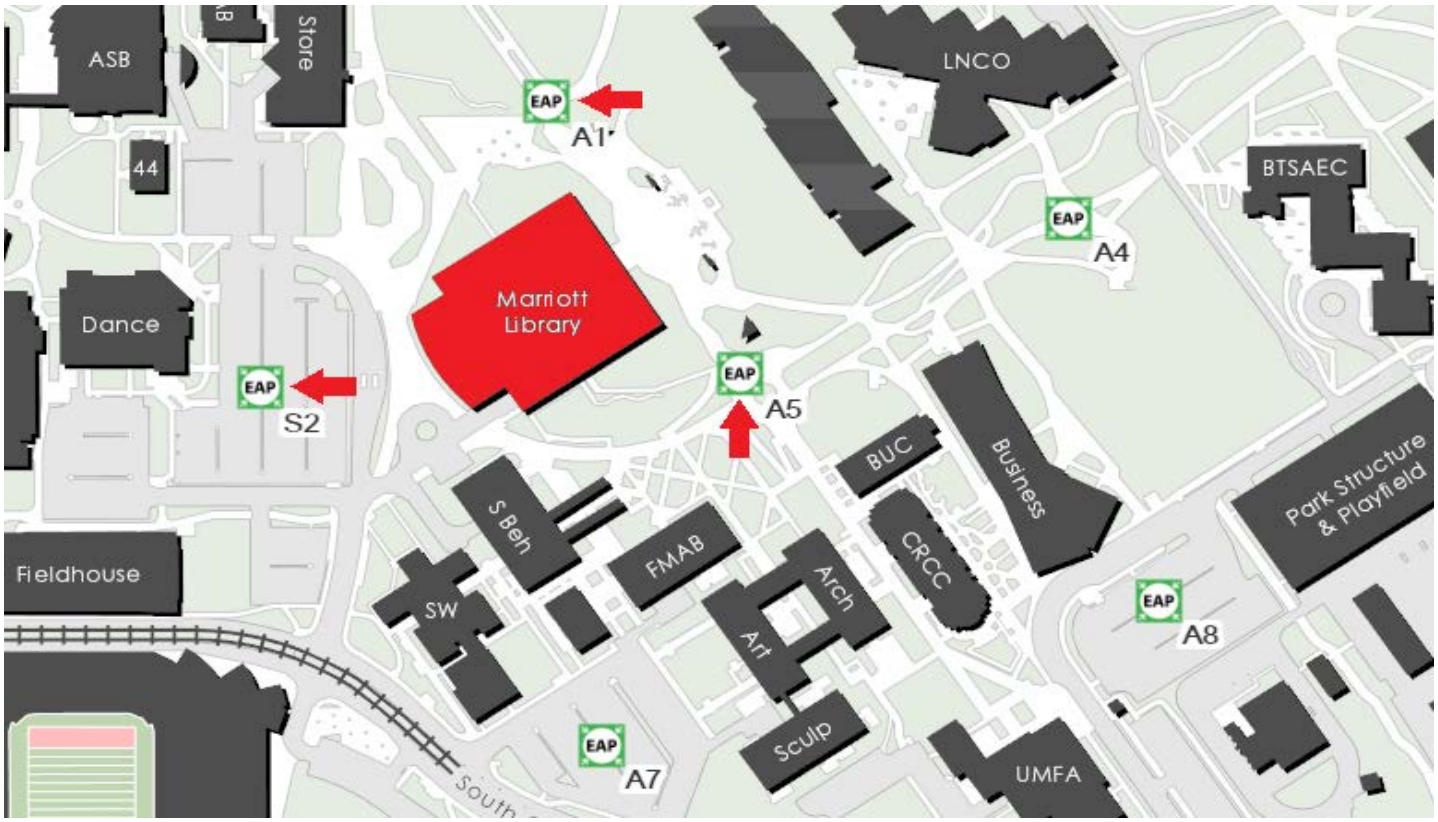
CSBS Emergency Preparedness

The following one page document about building evacuation plans and other relevant resources (at the last page of the syllabus) is a required part of all course syllabi. Although it is an online course, the two exams will be proctored by the Uonline center at the main campus. Please familiarize yourself with the information in the document just in case of any type of emergency.

Fall 2017 Class Schedule

Week	Date	Outline	Assignment & Coverage
1	8/21 – 8/26	Course Introduction Ch 1. Examining Distributions	Reading Ch 1
2	8/28 – 9/2	Ch 1. Examining Distributions	Reading Ch 1 Graded Quiz 1 (Ch 1)
3	9/4 – 9/9	Ch 2. Examining Relationships	Reading Ch 2
4	9/11 – 9/16	Ch 2. Examining Relationships	Reading Ch 2 Graded Quiz 2 (Ch 2)
5	9/18 – 9/23	Ch 3. Producing Data	Reading Ch 3 Graded Quiz 3 (Ch 3)
6	9/25 – 9/30	Ch 4. Probability: The Study of Randomness	Reading Ch 4
7	10/2 – 10/7	Ch 4. Probability: The Study of Randomness	Reading Ch 4 Graded Quiz 4 (Ch 4)
8	**10/9 – 10/14**	**Fall Break**	
9	**10/16 – 10/21**	**Mid-term Exam: 10/19 & 20**	**Chs 1 to 4**
10	10/23 – 10/28	Ch 5. Distributions for Counts and Proportions	Reading Ch 5 Graded Quiz 5 (Ch 5)
11	10/30 – 11/4	Ch 6. Introduction to Inference	Reading Ch 6
12	11/6 – 11/11	Ch 6. Introduction to Inference	Reading Ch 6 Graded Quiz 6 (Ch 6)
13	11/13 – 11/18	Ch 7. Inference for Means	Reading Ch 7
14	11/20 – 11/25	Ch 7. Inference for Means	Reading Ch 7 Graded Quiz 7 (Ch 7)
15	11/27 – 12/2	Ch 8. Inference for Proportions	Reading Ch 8
16	12/4 – 12/9	Ch 8. Inference for Proportions	Reading Ch 8 Graded Quiz 8 (Ch 8)
17	**12/11 – 12/16**	**Final Exam: 12/14 & 15**	**Chs 5 to 8**

CSBS EMERGENCY ACTION PLAN



BUILDING EVACUATION

EAP (Emergency Assembly Point) – When you receive a notification to evacuate a building either by campus text alert system or by building fire alarm, please proceed in an orderly fashion to the EAP designated for that building. Once everyone is at the EAP, you will receive further instructions from Emergency Management personnel. You can look up the EAP for any building you may be in on campus at http://emergencymanagement.utah.edu/eap.

CAMPUS RESOURCES

U Heads Up App: There's an app for that. Download the app on your smartphone at alert.utah.edu/headsup to access the following resources:

- **Emergency Response Guide:** Provides instructions on how to handle any type of emergency, such as earthquake, utility failure, fire, active shooter, etc. Flip charts with this information are also available around campus.
- **See Something, Say Something:** Report unsafe or hazardous conditions on campus. If you see a life threatening or emergency situation, please call 911!

Safety Escorts: For students who are on campus at night or past business hours and would like an escort to your car, please call 801-585-2677. You can call 24/7 and a security officer will be sent to walk with you or give you a ride to your desired on-campus location.

College of Social and Behavioral Science
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