**ECON 3640-001**  
Probability and Statistical Inference for Economists  
Spring 2021  
Tuesday & Thursday, 2:00 PM - 3:20 PM  
This class will be taught in IVC mode via Zoom at the listed class time.  
3 Credit Hours, Fulfills QR-B Requirement

**Instructor**  
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**Course overview**  
This course introduces students to the foundations of statistical analysis. The course will cover graphical and numerical methods of summarizing data, the basic concept of probability, and how to test hypothesis based on samples. You can find these skills useful in a wide range of contexts ranging from reading and interpreting news articles critically, becoming an educated consumer, evaluating policies, to taking more advanced classes in quantitative analysis. This course belongs to the category of Quantitative Reasoning (QR-B) courses.

**Course objectives**  
This course will prepare you to:

- Examine a dataset and construct meaningful graphical and numerical summaries of the data using EXCEL
- Apply statistical inference tools based on point and interval estimation, and test hypotheses in a wide range of contexts
- Critically evaluate statistical results and communicate the implications in simple language to a general audience
Recommended textbook


Topics

- Frequency distributions (Week 1)
- Central tendency (Week 2-3)
- Variability (Week 3-4)
- z-Scores (Week 5)
- Probability (Week 6 - 8)
- Populations, Samples, Distribution of sample means (Week 10)
- Hypothesis tests for mean and variance (Week 11-13)
- Correlation (Week 14)

Course evaluation components and their weights

- There will be three exams. The best of your three exam scores will receive 50% weight, the second best will receive 30% weight and the lowest score will receive 20% weight.
  - Exam 1 on February 16, 2021
  - Exam 2 on March 18, 2021
  - Exam 3 in May 3, 2021 (as per university schedule)
Course grade criterion

- A ≥ 93%, 93% > A- ≥ 90%
- 90% > B+ ≥ 87%, 87% > B ≥ 83%, 83% > B- ≥ 80%
- 80% > C+ ≥ 77%, 77% > C ≥ 73%, 73% > C- ≥ 70%
- 70% > D+ ≥ 65%, 65% > D ≥ 60%, 60% > D- ≥ 50%
- 50% > E

Notes

- The course will be based on online lectures and applied exercises. We will first go through the theory and then apply the statistical techniques for data analysis.

- The lecture slides and relevant data for applied exercises will be posted on Canvas ahead of time for each topic. The online meetings will be used for discussing the key theoretical concepts of each topic and demonstrating applications using data. Recording of the online meetings will be posted on canvas after each meeting.

- I will provide practice problem sets on canvas. You are encouraged to work in virtual groups. The solutions will be discussed in the meetings.

- The exams will be held online through canvas and must be taken at the scheduled time. When a student has a legitimate (documented) reason for missing one exam, the weight of the exam will be distributed equally to the other exams. No make-up exams are given. All students are expected to abide by the academic code of conduct as laid out by the university: https://regulations.utah.edu/academics/6-400.php

- Incompletes are not generally given for non-medical reasons.

- If you have any question regarding your grades, you must ask within a week from the day the grades are posted. No exceptions to this rule will be entertained.
This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. Any changes will be announced on Canvas.

Wellness Statement

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness - www.wellness.utah.edu; 801-581-7776.

Americans with Disabilities Act (ADA) Statement

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, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services. (www.hr.utah.edu/oeo/ada/guide/faculty/)

Student Names & Personal Pronouns

Class rosters are provided to the instructor with the student’s legal name as well as ‘Preferred first name’ (if previously entered by you in the student profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected.

Addressing Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such
as race, national origin, color, religion, age, status as a person with a dis-
ability, veteran’s status or genetic information. If you or someone you know
has been harassed or assaulted, you are encouraged to report it to the Title
IX Coordinator in the Office of Equal Opportunity and Affirmative Action,
135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270
Union Building, 801-581-7066. For support and confidential consultation,
contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report
to the police, contact the Department of Public Safety, 801-585-2677(COPS).

LGBT Resource Center

If you are a member of the LGBTQ community, I want you to know that
my classroom is a safe zone. Additionally, the U of Utah has an LGBT
Resource Center on campus. They are located in Room 409 in the Oplin
Union Building. Hours: M-F 8-5pm. You can visit their website to find
more information about the support they can offer, a list of events through
the center and links to additional resources: http://lgbt.utah.edu/. Please
also let me know if there is any additional support you need in this class.

Veterans Center

If you are a student veteran, the U of Utah has a Veterans Support Center lo-
cated in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please
visit their website for more information about what support they offer, a list
of ongoing events and links to outside resources: http://veteranscenter.utah.edu/.
Please also let me know if you need any additional support in this class for
any reason.

Safety on Campus

The University of Utah values the safety of all campus community members.
To report suspicious activity or to request a courtesy escort, call campus po-
lice at 801-585-COPS (801-585-2677). You will receive important emergency
alerts and safety messages regarding campus safety via text message. For
more information regarding safety and to view available training resources,
including helpful videos, visit safeu.utah.edu