

ECON 3818 – SECTION 040

# INTRODUCTION TO STATISTICS

WITH COMPUTER APPLICATIONS

SPRING 2024

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- Time & Location : MWF 11:15 am - 12:05 pm @ GUGG 205
- Term : January 15, 2024 ~ May 3, 2024
- Website : Canvas
- Instructor : **Paro Suh**
  - Email : Paro.Suh@colorado.edu
  - Office : Econ 304 (3rd floor of the Econ Building)
  - Office Hours : T. 1:00-2:00pm / R. 09:00-10:00am
- TA : **TBD**
  - Email : TBD
  - Office : TBD
  - Office Hours : TBD

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## COURSE DESCRIPTION

The purpose of this course is to introduce you to the principles of statistical reasoning and inference. To this end, the ultimate goal of the course is for you to thoroughly understand the following concepts:

- Describing data with graphs and numbers
- Basic probability rules, sampling distributions of test statistics
- Hypothesis testing and confidence intervals across multiple settings
- Knowledge of simple regression.

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## PREREQUISITES

- Principles of Micro/Macroeconomics (ECON 2010 & ECON 2020)

AND one of the following Math Courses

- ECON 1088, MATH 1081, MATH 1300, MATH 1310, APPM 1350, or FNCE 2010

with a minimum grade of  $C-$ . This course is also restricted to students with 22 ~ 180 units completed

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## COURSE MATERIAL

- The Basic Practice of Statistics, 9th Edition  
by *Moore, Motz and Fligner* MacMillan Publishing, ISBN 9781319350321

The course will use MacMillan Publishing's Achieve homework system that comes with an electronic version of the book embedded in the system. You will sign up for the Basic Practice of Statistics + Achieve System through Canvas.

# COURSE POLICIES

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## Grading Scheme

|              |           |
|--------------|-----------|
| Attendance   | 8 %       |
| Recitations  | 7 %       |
| Homework     | 20 %      |
| Midterms(×2) | 20 % each |
| Final Exam   | 25 %      |

I will follow the economics department guidelines and assign letter grades with a “+/-”. **There will be no end-of-the-semester rounding up of any kind.** Also, I am not allowed (by FERPA; 1974) to discuss grade related issues with you or anyone else via email. If you have questions or concerns about your grade, come see me during office hours.

## Exams

|           |   |
|-----------|---|
| Midterm 1 | February 16 (Fri), <i>in class, during class time</i> |
| Midterm 2 | March 22 (Fri), <i>in class, during class time</i>    |
| Final     | May 5 (Sun), <i>in class, 7:30-9:00pm</i>             |

- 2 Midterms – 100 points each, 20% of final grade (each), non-cumulative
  - **There will be no make-up exams**
  - Weights of excused midterms (only effective if due to **proven** emergencies) will be shifted to the final exam
    1. You are responsible for providing appropriate proof
    2. If you fail to provide any kind of proof, you will receive minimum credit for that exam
  - \* *Feeling sick or family outings do **not** count as emergencies!!*
- The Final Exam – 125 points, 25% of final grade
  - **You must take the final exam, you will automatically get an F if you don't take the Final**

## Attendance (Clicker Questions)

During each class, you will be given 3 ~ 4 clicker questions (a total of approximately 120+ clicker questions during the semester). These questions will be basic exercises directly related to the content dealt with in the lectures, and thus would be hard to miss if you are present (= paying attention) in class. At the end of the semester,

- If you have at least 100 correct clicker questions, you will receive full credit for attendance
- If you have 99 or less correct clicker questions, you will receive partial credit for attendance
  - the detailed grading scheme will be explained in class and can be found on canvas
- Excess clicker questions (above 100) will count toward **extra credit**

Since you are allowed quite a few absences without penalty, there will be **no excuses or make-ups, under any circumstance, for missed clicker questions due to absences.** You will, however, be given credit for missed clicker questions due to technical issues, but you are responsible for informing me in-person right after that particular class.

## R Days

*R* is a free programming language that is available for Mac, Windows, and Unix operating systems. It is pre-installed on computers in most University computer labs and can be downloaded from the Internet. You will use the *R* Studio Interface to do exercises this semester, and we will be spending some class time (*R* days) for basic training in *R*.

On *R* days,

- **Bring your laptops!** We will spend the day working on specific “Projects”
- These projects should be uploaded to canvas right after class
- The grades (scale from 1 ~ 5) for these submitted projects will count as extra clicker questions

## Recitations & MacMillan Problem Sets

Starting from January 22nd, you will meet weekly with a TA for this course. The goal of recitations is to ask questions, review concepts and practice material. Your TA will entirely determine how your recitation grades will be assigned.

The most important part of the recitations will be working together on the **12 Problem Sets** given each week

- Completing the problem sets before the due date (every Thursday 11:59 pm) is not mandatory, but
  - the problems in this set will be closely related to your weekly homework and exams
  - working on these problem sets will count toward **extra credit**

## Homework

Starting from the second week, you will be given open-book/open-notes problem sets, via MacMillan Acheive, for homework. The problem sets will cover material dealt with in class during the previous week.

- The problem sets will be made available each week on Friday (12:01 am)
- The problem sets will be **due on Sundays before 11:59 pm**
- There will be 2 “Grace” sets, which will be dropped and not counted toward your final grade
  - **late submissions or make-ups will not be allowed**
- In case of a technical difficulty, **correspond with me *before* the due date**

## Communication

I will occasionally announce important information through canvas and emails; so it is expected that you monitor your university email address regularly. Please use your colorado.edu account to email me because sometimes other email accounts are filtered into my spam folder. Please refrain from using the canvas message system. Please allow 24 hours for a response during the week, and 48 hours on weekends. Finally, I may not respond to emails if the answer to your question is already in the syllabus.

**DO NOT FALL BEHIND IN THIS COURSE.** Students who consistently miss class and assignments **almost always fail this course.** If you feel like you’re falling behind **don’t hesitate** to email me or come to office hours (*there’s not much I can do if you wait until the end of the semester...*). **I want you to succeed in the course!**

# UNIVERSITY POLICIES

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## **Classroom Behavior**

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the classroom behavior policy, the Student Code of Conduct and the Office of Institutional Equity and Compliance.

## **Requirements for Covid-19**

As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. CU Boulder currently requires COVID-19 vaccination and boosters for all faculty, staff and students. Students, faculty and staff must upload proof of vaccination and boosters or file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.

The CU Boulder campus is currently mask-optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the “Accommodation for Disabilities” statement on this syllabus.

If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office ([contacttracing@colorado.edu](mailto:contacttracing@colorado.edu)). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office ([contacttracing@colorado.edu](mailto:contacttracing@colorado.edu)).

## **Accommodations For Disabilities**

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or [dsinfo@colorado.edu](mailto:dsinfo@colorado.edu) for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

## **Preferred Student Names and Pronouns**

CU Boulder recognizes that students’ legal information doesn’t always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors’ class rosters. In the absence of such updates, the name that appears on the class roster is the student’s legal name.

## **Honor Code**

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code academic integrity policy. Violations of the Honor Code may include, but are not limited to: plagiarism, cheating,

fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Student Conduct & Conflict Resolution (honor@colorado.edu ; 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found on the Honor Code website.

### **Sexual Misconduct, Discrimination, Harrasment and/or related Retaliation**

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. The university will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by or against members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or email cureport@colorado.edu. Information about university policies, reporting options, and the support resources can be found on the OIEC website.

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about their rights, support resources, and reporting options. To learn more about reporting and support options for a variety of concerns, visit Don't Ignore It.

### **Religious Holidays**

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. See the campus policy regarding religious observances for full details.