



Instructor: Dr. Sara Avila

Email: [sara.avila@colorado.edu](mailto:sara.avila@colorado.edu)

Voice: (720) 327-1396

Zoom: <https://cuboulder.zoom.us/my/saraavila>

x Office Hours: Wednesdays and Thursdays 9am-12:15pm using Canvas Chat or Zoom

### INSTRUCTOR BIO

I am an economics instructor with more than two decades of experience. My research interests are in the fields of environmental economics and more recently, in how to teach economics. I have worked on topics related to air quality, climate change, urban transportation, and biodiversity conservation. I am passionate about building understanding in a diverse environment.

I am also an avid runner coming back from an injury and I am grateful to have the opportunity to share with you this learning experience.

Term Start: Aug 30, 2021

Term End: Dec 12, 2021

### COURSE WEBSITE

Canvas is our class website:

x Login using your University of Colorado Boulder identifier and password

or message if it is not checked.

### COURSE DESCRIPTION

This course introduces you to the principles of statistical reasoning and inference. To this end, the ultimate goals of the course are for you to thoroughly understand the following concepts: sampling distributions, hypothesis testing, and confidence intervals across multiple settings.

Organized into fourteen modules, the course is divided into four parts. The first part of the course provides an overview of how data is properly collected and how to explore data using visual and numerical methods. The second part is an introduction to probability theory, discrete and continuous probability distributions and mathematical expectation. The third part introduces sampling distributions, confidence intervals and hypothesis testing. Finally, the last section applies statistical inference to population means, to proportions and to simple regressions.

## ECON3818: Introduction to Statistics

This foundational course is essential to your success in the study of economics. CU economics 4000 courses require knowledge of basic statistical reasoning and understanding. Further, our econometric courses build directly off this course.

### COURSE OBJECTIVES

By the end of the course you should be able to:

1. Describe data with graphs and with statistical tools.
2. Identify probability distributions.
3. Conduct hypothesis testing.
4. Conduct statistical inference.
5. Identify which test to use in which case.
6. Run and interpret a simple linear regression.

### COURSE PREREQUISITES

Requires prerequisite courses of ECON 2010 (Principles of Microeconomics) minimum grade C  
AND either ECON 1088 or MATH 1081 or MATH 1300, MATH 1310, or APPM 1350 (minimum) grade C  
Restricted to students with 280 units completed.

### REQUIRED COURSE MATERIALS

Textbook (required) Moore, D., Motz, W. and Fligner, M., The Basic Practice of Statistics edition.  
With Achieve Macmillan. ISBN: 9781319344634

You need the version with Achieve since Achieve will be used for homework and quizzes.

You may also buy a hard copy of the book (ISBN: 9781319408541) but this is not required.

Course Website <https://canvas.colorado.edu/> (Canvas) Grades and any further additional readings will be posted on Canvas. Please check Canvas frequently for any relevant notifications/changes that may occur throughout the course.

### SUPPLEMENTAL MATERIAL

You will use R, a statistical package free to conduct statistical analysis.

### INSTRUCTIONAL METHODOLOGY AND DELIVERY

This course is delivered via distance education format using the Canvas system. This format will use a combination of readings, online re W12 7re , 22

There will be 4 modules, in 4 weeks (1 module per week). You should proceed through one module every week, which will be comprised of readings from the course texts, supplemental class notes, graded discussion questions, homeworks and quizzes, exams, and various outside sources of information such as additional readings and video content, among other content.

### COURSE OUTLINE

Review the separate weekly class schedule.

### CLASS PARTICIPATION

This course is designed to engage you through exercises and two class discussions on the topics covered in the course materials. It is important that you participate in exercises and class discussions.

### EVALUATION AND GRADING

Course grades will be determined by the completion of assignments, exams, discussions, as shown below:

Assignment	Points per Assignment	Frequency	GRADE POINTS	GRADE PERCENTAGE
Problem Sets	20	10	200	20%
Quizzes	20	10	200	20%
R Exercises	20	7	140	14%
Discussions	20	4	80	8%
Proctored Midterm Exam	150	1	150	15%
Proctored Cumulative Final Exam	230	1	230	23%
<b>TOTAL</b>			<b>1000</b>	<b>100%</b>

Keep a copy of all work created for the course, including work submitted through Canvas.

\*The lowest grade of these assignments will be dropped. See below.

### COURSE GRADING CRITERIA

Grade	Percentage Grade	Equivalent Points	Indicates
A	93-100	930-1,000	Excellent



Exams (380 POINTS): There will be two (2) exams. The proctored midterm exam is worth 150 points and the proctored cumulative final exam is worth 230 points. The format of the exam will be multiple choice and calculations and will be closed book. The exams are completed on Connect in a proctored setting.

This course requires proctored examinations. Exams are proctored which will require planning on your part. Proctors are individuals who administer the exam process following the guidelines provided by University of Colorado Boulder to ensure academic integrity.

Who can be my proctor?

If you are in Boulder or nearby you can take your exam:

1. At the Department of Economics. There is no cost for using this proctor. This option is only on selected days during the exam period.
2. At the University Testing Center on-campus in Boulder, CO. There may be a cost for using the testing center. This option is only available M-F during regular business hours.
3. With Proctorio. Online proctoring is a service that uses a webcam and microphone to ensure academic integrity. To use this service, you must have access to a computer with a webcam and a microphone. There will be a cost for using the online proctoring services. Please review [Proctorio Minimum System Requirements](#) to ensure you have the correct hardware and software to use this tool.

If you are outside of Boulder you can take your exam:

1. At an accredited college or university testing center



## COURSE POLICIES.

**Course Withdrawal Policy:** Any student who wishes to withdraw from the course must submit a request directly to [Continuing Education](#). For complete information, please visit their website at <https://ce.colorado.edu/resources/topics/dates-and-deadlinesgeneralinfo/>

## POLICY ON DUE DATES

Each lecture you will complete Problem Sets, Quizzes, R Exercises and sometimes discussion posts. It is your responsibility to turn in each assignment on the required date. Exercises or discussion postings turned in after the scheduled due date will be lowered to the next letter grade each 12-hour period late. The exceptions that may be considered is due to sickness, university excused function, or grounds constitutes a reasonable excuse for missing or submitting a late work assignment, the right to require the student to submit proper verification of such excuse.

## NETIQUETTE

All students should be aware that their behavior impacts other people, even online. I hope that we will all strive to develop a positive and supportive environment and will be courteous to fellow students and your instructor. Due to the nature of the online environment, there are some things to remember.

1. Always think before you write. In other words, without the use of nonverbals with your message, your message can be misinterpreted. So please think twice before you hit submit.
2. Keep it relevant. There are places to chat and post for fun everyday stuff. Do not stray from the discussion in the assigned questions.
3. Never use all caps. This is the equivalent of yelling in the online world. It is not fun to read. Only use capital letters when appropriate.
4. Make sure that you are using appropriate grammar and structure. In other words, do not use abbreviations, not to mention it does nothing to help expand your writing and vocabulary skills. Emoticons are fine as long as they are appropriate. A smile is welcome, anything offensive is not.
5. Treat people the same as you would face (or kinder). It might be easy to hide behind the computer. In some cases, it empowers people to treat others in ways they would not in person. Remember there is a person behind the name on your screen. Treat all with dignity and respect and you can expect that in return.

Website: <http://www.albion.com/netiquette/corerules.html>

Compiled by Melissa Landin, Instructor, Dept. of Communication, Inver Hills Community College, [mlandin@inverhills.edu](mailto:mlandin@inverhills.edu)

## 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 di

creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on [classroom behavior](#) and the [Student Conduct & Conflict Resolution policies](#)

## REQUIREMENTS FOR COVID

As a matter of public health and safety due to the pandemic, 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. When attending class, students who fail to adhere to these requirements will be asked to leave class, and those 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 [syllabus](#).

As of Aug. 13, 2021, CU Boulder has returned to requiring masks in classrooms and laboratories regardless of vaccination status. This requirement is a temporary precaution during the delta surge to supplement the COVID-19 vaccine requirement. Exemptions include individuals who cannot medically tolerate a face covering, as well as those who are hearing impaired or otherwise disabled or who are communicating with someone who is hearing impaired or otherwise disabled and where the ability to see the mouth is essential to communication. If you qualify for a requested accommodation, please follow the [instructions](#).

Instructional faculty who are engaged in an indoor instructional activity and are separated by at least 6 feet from the nearest person are exempt from wearing masks if they so choose.

Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home. In this class, if you are sick or quarantined, you can have access to all the materials online. Get in touch with me if you need anything else.

## ACCOMMODATION 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 303-442-8671 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. Violations of the policy may include: plagiarism, cheating, fabrication, lying,





Introduction to Statistics ECON818, Fall2021, Avila, University of Colorado Boulder

Module