

**UNIVERSITY OF OREGON**  
**Department of Economics**

**Introduction to Econometrics**  
**Fall 2022**

**EC 320, CRN 11283**

MW 12:00 p.m. – 1:20 p.m. in McKenzie 240A

**Instructor:** Jeremy Piger

**Contact Information:** Office: 536 PLC; Email: [jpiger@uoregon.edu](mailto:jpiger@uoregon.edu)

**Office Hours:**

**Prof. Piger:** Mondays, 2:00 p.m. – 4:00 p.m. on zoom. You may join these office hours in person in PLC 536 or remotely via zoom at the following link:

<https://uoregon.zoom.us/j/97207657341>

**Emily Arnesen:** Thursdays, 10:00 a.m. – 11:00 a.m. You may join these office hours in person in PLC 407 or remotely via zoom at the following link:

<https://uoregon.zoom.us/j/91399796373>

**Course Description:** EC 320 provides an introduction to the process and methods of econometrics. Econometrics concerns the use of economic data to estimate economic relationships, to statistically evaluate hypotheses, and to forecast. My goal is that you come away from this course with an understanding of basic econometric methods, as well as an ability to apply them to answer interesting questions.

**Prerequisites:** MATH 242 and MATH 243

**Course Readings:** The course textbook is *Introduction to Econometrics* by Christopher Dougherty, Fifth Edition.

**Course Website:** Canvas (<https://canvas.uoregon.edu>) will be used to distribute most documents and information relevant to the class. I will occasionally use email to communicate with the class. Emails will be sent to your official University email address as listed on Canvas.

**Lab:** There is a computer lab associated with this class. The lab will consist of instruction useful to complete computer lab assignments. There may also be help on topics originally covered during lecture. There are two options for you to participate in the lab session. The first is to

attend the live “SYNC WEB” version of the lab, which will be held on zoom on Wednesdays from 4:00 – 4:50 p.m. You can access the live version of the lab at the following link:

<https://uoregon.zoom.us/j/92220589464>

*All students can attend this SYNC WEB section of the lab – you don't have to be registered for it. The second option is to watch the video that will be posted following the zoom session on Canvas. All students will have access to this video content.*

Your lab instructor is Emily Arnesen, who is a 3<sup>rd</sup> year Ph.D. student in the Economics Department. Her office is PLC 407 and her email is [earnesen@uoregon.edu](mailto:earnesen@uoregon.edu).

**Software:** In this class you will have many opportunities to apply econometrics using a computer. We will use the statistical computing language R for this purpose. Because R is not very user friendly on its own, we will use RStudio to manage and interact with R.

Learning R and RStudio can be challenging, particularly if this is your first time writing programs for statistical computing. However, the effort is well worth it. R is one of a few “industry standard” software platforms for data analysis and visualization, and knowledge of R is highly valued by employers. In other words, investing time to learn R will earn a return on the job market. And on top of all that, both R and RStudio are free!

You can find R and RStudio in university computer labs. However, I highly recommend that you install R and RStudio on your own computer if possible. For instructions on installing both R and RStudio, read and follow the instructions in [Section 1.1 of the ModernDive chapter “Getting Started with Data in R](#). *Note that it is important that you install R first, and then RStudio.*

If you are concerned about learning R, or you want to learn more (or more quickly) than we are in class, I suggest you check out the [free online resources compiled by RStudio](#).

**Course Grading:** Your grade in this course will be based on two midterm exams, a final exam, problem sets, and computer lab assignments. Your final course grade will be determined as follows:

10%	Computer Labs
10%	Problem Sets
25%	Midterm 1
25%	Midterm 2
30%	Final Exam

**Computer Labs:** There are eight computer lab assignments in this course. Each computer lab assignment is due by 11:59 p.m. on the Thursday following the lab session where the computer lab is discussed. The computer lab must be submitted electronically on Canvas. Instructions for formatting your submitted computer labs will be discussed in your lab sessions. Late submissions are not accepted. However, I will drop your lowest computer lab score when calculating your final grade. You should feel free to work together on the computer lab assignments. However, each student is required to write and submit independent answers. This means that word-for-word copies will not be accepted and will be viewed as academic misconduct. Copying from other people (even if you worked with them) or from previous assignments is considered cheating.

*Computer Lab Due Dates:*

Computer Lab 1: Thursday, October 6 by 11:59 p.m.  
Computer Lab 2: Thursday, October 13 by 11:59 p.m.  
Computer Lab 3: Thursday, October 20 by 11:59 p.m.  
Computer Lab 4: Thursday, October 27 by 11:59 p.m.  
Computer Lab 5: Thursday, November 3 by 11:59 p.m.  
Computer Lab 6: Thursday, November 10 by 11:59 p.m.  
Computer Lab 7: Thursday, November 17 by 11:59 p.m.  
Computer Lab 8: Thursday, December 1 by 11:59 p.m.

**Problem Sets:** There are six problem set assignments in this course that consist of mathematical problems and short answer questions. You will turn your problem sets in electronically on Canvas. Instructions for formatting your submitted problem sets will be discussed in class and in the prologue of your first problem set. You must turn in your own work – no group submissions. Late problem set submissions are not accepted. However, I will drop your lowest problem set score when calculating your final grade. You should feel free to work together on the problem set assignments. However, each student is required to write and submit independent answers. This means that word-for-word copies will not be accepted and will be viewed as academic misconduct. Copying from other people (even if you worked with them) or from previous assignments is considered cheating.

*Problem Set Due Dates:*

Problem Set 1: Monday, October 10 by 11:59 p.m.  
Problem Set 2: Monday, October 17 by 11:59 p.m.  
Problem Set 3: Monday, October 31 by 11:59 p.m.  
Problem Set 4: Monday, November 7 by 11:59 p.m.  
Problem Set 5: Monday, November 14 by 11:59 p.m.  
Problem Set 6: Wednesday, November 30 by 11:59 p.m.

**Exams:** Exams will be administered in person in McKenzie 240A. If you must miss an exam due to a religious observance or a documented, University-sanctioned, event, please let me know during the first two weeks of the term. In these cases, I will work with you to arrange a time for you to take the exam. If you otherwise have an emergency that causes you to miss one of the midterms, the weight of the missed midterm will be added to the original weight of the final exam. A missed final exam due to an emergency will be handled with an “incomplete” for the course. If you have an emergency that causes you to miss an exam, you should let me know as soon as possible.

*Dates of Exams*

Midterm 1: Wednesday, October 19 (during normal class time in McKenzie 240A)  
Midterm 2: Wednesday, Nov 16 (during normal class time in McKenzie 240A)  
Final Exam: Friday, December 9 (10:15 a.m. – 12:15 p.m. in McKenzie 240A)

**Academic Misconduct:** The University Student Conduct Code (available at [conduct.uoregon.edu](http://conduct.uoregon.edu)) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Any violations of academic integrity involving an exam will result in a failing grade for the course.

**Accessible Education:** Please let me know within the first two weeks of the term if you need assistance to fully participate in the course. Participation includes access to lectures, web-based information, in-class activities, and exams. The Accessible Education Center (<http://aec.uoregon.edu/>) works with students to provide an instructor notification letter that outlines accommodations and adjustments to class design that will enable better access. Contact the Accessible Education Center for assistance with access or disability-related questions or concerns.

**Cancellations:** There will be no class or lab on Wednesday, November 23. In the event of an additional class cancellation, I will alert you using Canvas's email function. Thus, you should check your email account that is linked to Canvas regularly.

**Outline of Course Material:** The following should be viewed as tentative and may be subject to change throughout the term.

<b>Week</b>	<b>Topic</b>	<b>Readings</b>
1	Course Overview and Review of Statistics	Review Chapter
2	Introduction to Regression Analysis	Chapter 1
3	Statistical Properties of the OLS Estimator	Chapter 2
4-5	Hypothesis Testing	Chapter 2
5-6	Multiple Regression Analysis	Chapter 3
7	Functional Forms and Nonlinear Regression	Chapter 4
8	Dummy Variables	Chapter 5
9-10	Specification and Review	Chapter 6

## **Other Information and Policies**

### ***Academic Disruption due to Campus Emergency***

In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas. If the instructor of this course has to quarantine, this course may be taught online during that time.

### ***Inclement Weather***

It is generally expected that class will meet unless the University is officially closed for inclement weather. If it becomes necessary to cancel class while the University remains open, this will be announced on Canvas and by email. Updates on inclement weather and closure are also communicated in other ways described here: <https://hr.uoregon.edu/about-hr/campus-notifications/inclement-weather/inclement-weather-immediate-updates>

### ***Mental Health and Wellness***

Life at college can be very complicated. Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you're facing such challenges, you don't need to handle them on your own--there's help and support on campus.

As your instructor if I believe you may need additional support, I will express my concerns, the reasons for them, and refer you to resources that might be helpful. It is not my intention to know the details of what might be bothering you, but simply to let you know I care and that help is available. Getting help is a courageous thing to do—for yourself and those you care about.

University Health Services help students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates. Find out more at [health.uoregon.edu/ducknest](http://health.uoregon.edu/ducknest).

University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at [counseling.uoregon.edu](http://counseling.uoregon.edu) or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).

### ***Basic Needs***

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live and believes this may affect their performance in the course is urged to contact the Dean of Students Office (346-3216, 164 Oregon Hall) for support.

This UO webpage includes resources for food, housing, healthcare, childcare, transportation, technology, finances, and legal support: <https://blogs.uoregon.edu/basicneeds/food/>

### ***Accommodation for Religious Observances***

The university makes reasonable accommodations, upon request, for students who are unable to attend a class for religious obligations or observance reasons, in accordance with the university discrimination policy which says “Any student who, because of religious beliefs, is unable to attend classes on a particular day shall be excused from attendance requirements and from any examination or other assignment on that day. The student shall make up the examination or other assignment missed because of the absence.” To request accommodations for this course for religious observance, visit the Office of the Registrar's website (<https://registrar.uoregon.edu/calendars/religious-observances>) and complete and submit to the instructor the “Student Religious Accommodation Request” form prior to the end of the second week of the term.

### ***Mandatory Reporting***

I am an assisting employee. For information about my reporting obligations as an employee, please see [Employee Reporting Obligations](#) on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing sex or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit [safe.uoregon.edu](http://safe.uoregon.edu) for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 541-346-3216 or the non-confidential Title IX Coordinator/OICRC at 541-346-3123. Additional resources are available at [UO's How to Get Support](#) webpage.

I am also a mandatory reporter of child abuse. Please find more information at [Mandatory Reporting of Child Abuse and Neglect](#).