



**Oregon State University**  
**Ecampus**

**Course Name:** Introduction to Econometrics

**Course Number:** ECON 424

**[REQUIRED] Credits:** 4

**Instructor name:** Michael Jerman

**Instructor email:** michael.jerman@oregonstate.edu

### **Course Description**

Application of statistical techniques, including sampling theory, hypothesis testing, and multiple regression analysis, to economic models. Economic modeling, analysis of economic data, and policy analysis are emphasized.

### **Prerequisites**

(ECON 311 with C or better or ECON 411 with C or better) and (ST 351 [C] or ST 351H [C] or ECON 423 [C])

### **Communication**

Please post all course-related questions Microsoft Teams site for this class so that the whole class may benefit from our conversation. Please contact me privately for matters of a personal nature. I will reply to course-related questions within 24 hours. I will strive to return your assignments and grades for course activities to you within five days of the due date.

### **Technical Assistance**

If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the [IS Service Desk](#) online.

### **Learning Resources**

The required textbook for this course are available for free online:

Hanck, Arnold, Gerber, and Schmelzer: *Econometrics with R*.

<https://www.econometrics-with-r.org/>

Weekly reading assignments will be posted to Canvas.

In addition, it is recommended (but not required) that you purchase a print edition of some econometrics textbook for reference. Below is a partial list of recommended textbooks. Older and “international” editions are generally sufficient, and can be found at low cost online:

- Wooldridge: *Introductory Econometrics: A Modern Approach*. (The course will roughly follow this text).
- Stock and Watson: *Introduction to Econometrics*.
- Dougherty: *Introduction to Econometrics*.
- Hill, Griffiths, and Lim: *Principles of Econometrics*.

We will make extensive use of the statistical software RStudio. This is a very commonly used language in social science, government, and private industry. You can install RStudio free of charge on your own computer. Alternatively, you can access RStudio for free through the Oregon State University Citrix application:

<https://it.engineering.oregonstate.edu/citrix>

More detailed instructions on downloading and using RStudio will be made available on Canvas.

## Measurable Student Learning Outcomes

- Explain the fundamental theory underlying regression analysis (that is, what it is and why we use it)
- Identify the major properties of the ordinary least squares regression estimator
- Estimate economic relationships by applying regression analysis to data
- Test economic hypotheses
- Interpret and analyze regression estimates
- Make predictions about economic phenomena using regression analysis

## Evaluation of Student Performance

Your grade will be calculated based on the following weights:

- Quizzes – 35%
- Weekly Lab Assignments – 35%
- Final Exam – 25%
- Participation – 5%

## Letter Grade

Grade	Percent Range
A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	64-66
D-	60-63

Grade	Percent Range
F	0-59

## Course Content

Week	Topic	Lab/Homework Assignments	Quizzes/Exams
1	Introduction to R and Statistics Review	Lab 1	
2	Simple Regression Model	Lab 2	
3	Multiple Regression Model	Lab 3	Quiz 1
4	Multiple Regression - Inference	Lab 4	
5	Asymptotics	Lab 5	Quiz 2
6	Functional Form	Lab 6	
7	Categorical Variables	Lab 7	Quiz 3
8	Heteroskedasticity	Lab 8	
9	Data and Specification		Quiz 4
10	Applications	Week 10 Homework	
Finals			Final Exam

## Course Policies

### Discussion Participation

Students are expected to participate to discussions regarding lab assignments and quizzes on the Microsoft Teams site for this page. While there is great flexibility in online courses, this is not a self-paced course.

### Late Work Policy

No late assignments or quizzes will be accepted.

### Statement Regarding Religious Accommodation

Oregon State University is required to provide reasonable accommodations for employee and student sincerely held religious beliefs. It is incumbent on the student making the request to make the faculty member aware of the request as soon as possible prior to the need for the accommodation. See the [Religious Accommodation Process for Students](#).

### Guidelines for a Productive and Effective Online Classroom

(Adapted from Dr. Susan Shaw, Oregon State University)

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

### **Expectations for Student Conduct**

Student conduct is governed by the university's policies, as explained in the Student Conduct Code (<https://beav.es/codeofconduct>). Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.

### **Academic Integrity**

Integrity is a character-driven commitment to honesty, doing what is right, and guiding others to do what is right. Oregon State University Ecampus students and faculty have a responsibility to act with integrity in all of our educational work, and that integrity enables this community of learners to interact in the spirit of trust, honesty, and fairness across the globe.

Academic misconduct, or violations of academic integrity, can fall into seven broad areas, including but not limited to: cheating; plagiarism; falsification; assisting; tampering; multiple submissions of work; and unauthorized recording and use.

It is important that you understand what student actions are defined as academic misconduct at Oregon State University. The OSU Libraries offer a [tutorial on academic misconduct](#), and you can also refer to the [OSU Student Code of Conduct](#) and [the Office of Student Conduct and Community Standard's website](#) for more information. More importantly, if you are unsure if something will violate our academic integrity policy, ask your professors, GTAs, academic advisors, or academic integrity officers.

### **Statement Regarding Students with Disabilities**

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval, please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

### **Accessibility of Course Materials**

If you require accommodations please contact [Disability Access Services \(DAS\)](#).

Additionally, Canvas, the learning management system through which this course is offered, provides a [vendor statement](#) certifying how the platform is accessible to students with disabilities.

## **Ecampus Reach Out for Success**

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about [resources that assist with wellness and academic success](#).

Ecampus students are always encouraged to discuss issues that impact your academic success with the [Ecampus Success Team](#). Email [ecampus.success@oregonstate.edu](mailto:ecampus.success@oregonstate.edu) to identify strategies and resources that can support you in your educational goals.

- **For mental health:**

Learn about [counseling and psychological resources for Ecampus students](#). If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

- **For financial hardship:**

Any student whose academic performance is impacted due to financial stress or the inability to afford groceries, housing, and other necessities for any reason is urged to contact the Director of Care for support (541-737-8748).

## **Academic Calendar**

All students are subject to the registration and refund deadlines as stated in the Academic Calendar: <https://registrar.oregonstate.edu/osu-academic-calendar>.

## **Student Evaluation of Courses**

During Fall, Winter, and Spring term, the online Student Evaluation of Teaching system opens to students the Wednesday of week 8 and closes the Sunday before Finals Week. Students will receive notification, instructions and the link through their ONID email. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the learning experience of future students. Responses are anonymous (unless a student chooses to "sign" their comments, agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.