

Econ 4371/7371: Introductory Econometrics (Online)

Instructor: Dr. Mihaela Craioveanu

E-mail: mocgnd@missouri.edu

Office: E003 Locust Street Building

Office Hours: email me for a Zoom appointment

Office Phone: 660-543-8353

Required Textbook:

- Hill, Griffiths, Lim, *Principles of Econometrics, 3rd Edition (or 4th Edition)*, John Wiley and Sons, 2007

Stata guide for the textbook (very helpful but not required):

- Adkins and Hill, *Using Stata for Principles of Econometrics, 3rd Edition*, John Wiley and Sons, 2007

Additional Web resources:

<http://principlesofeconometrics.com/>

Prerequisites:

Econ 4371: Economics 1014 or Economics 1000 or ABM 1041 and Economics 2371 or Stat 2200 or Stat 2500 or Stat 4710 or ABM 2225, or equivalent.

Econ 7371: Economics 3251 or 4351, and Statistics 2200 or 2500, or equivalent.

Organization:

The requirements are principles of economics and an introductory statistics course. Neither calculus nor matrix algebra is required. However, the course is rigorous, as we combine basic economics, algebra, statistical concepts, and computer applications. The students are taught to use the econometric software package STATA.

Course Objectives:

1. Select the most appropriate specification from the most well-known econometric models, especially linear regression, to perform data-based economic analysis.

2. Utilize a statistical package to implement the appropriate tools.
3. Interpret the output from estimation and how it can be used to answer economic or other questions of interest, especially questions of causal inference.
4. Think critically about the limitations of empirical results from such models and understand key methods to overcome these limitations.
5. Justify and effectively communicate empirical results to non-specialists.

Technology:

This is an online class. Students should have access to the internet and Canvas. A desktop or laptop computer is needed to run the statistical software (Stata).

Also, there will be online proctored exams. **Students need to have a laptop or desktop computer with a webcam, speakers, and microphone.**

Contact me immediately if you do not meet the technical requirements.

Tentative Course Outline:

- An Introduction to Econometrics (Ch 1)
- Review of Probability Concepts (Appendix B)
- The Simple Linear Regression Model (Ch 2.1-2.3)
- Properties of the Least Squares Estimators (Ch 2.4-2.7)

Exam #1: Chapters 1-2: 100 points **March 3 (4 PM-6 PM)**

- Interval Estimation and Hypothesis Testing (Ch 3)
- Prediction, Goodness-of-Fit, and Modeling Issues (Ch 4)
- The Multiple Regression Model (Ch 5)
- Further Inference in the Multiple Regression Model (Ch 6)

Exam #2: Chapters 3-6: 100 points **April 14 (4 PM-6 PM)**

- Nonlinear Relationships (Ch 7)
- Heteroskedasticity (Ch 8)
- Dynamic Models, Autocorrelation, and Forecasting (Ch 9)

Final Exam: Chapters 7-9: 150 points **May 16 (4 PM-6 PM)**

Tests & Grading:

As noted on the outline there will be 3 exams totaling 350 points. Exams consist of open-ended problems. You can expect traditional closed-book, closed-notes exams. A missed exam will be given a grade of zero points **unless** the instructor is notified **prior** to the exam and the excuse is a valid, fully documented one, and one that is officially approved by the university. A make-up will be scheduled at the instructor's convenience. All exams are online and subject to virtual proctoring (see above for requirements).

In addition, homework will be assigned that will be worth 100 points. Graduate students will also have to complete a project worth 100 points.

Your final grade will be based on a total of 450 possible points for undergraduate students and 550 points for graduate students. No extra credit work is possible. Late homework is not accepted.

Note: In this class, there are both graduate and undergraduate students. All students will take the same exams and do the same homework. The homework and exams will be graded alike for all students. However, undergraduate and graduate students' course grades will be determined using differential standards. ***Undergraduates, you are not competing with graduate students for the A's and B's.*** An undergraduate student's performance will be compared only to that of other undergraduates. A graduate student's performance will be compared only to that of other graduate students. *A higher standard of performance is expected of graduate students.* Thus, if a graduate student and an undergraduate student have the same number of points at the end of the semester, the undergraduate student is likely to be graded higher.

Project: If an employer, family member or another contact is willing to supply data for a question of interest, the student is free to focus on that problem. If not, a problem will be provided. You are required to write a detailed report and present the question, your methodology, and write up your results. The report must be well written, with proper grammar and spelling. Extreme care should be given to avoid plagiarism.

Exam and Homework Schedule:

The exams and homework are due on the following dates (**tentative**) and times (**subject to change**):

Approx. Date	Exam #	Time
March 3	1	4:00 PM-6:00 PM
April 14	2	4:00 PM-6:00 PM
May 16	3	4:00 PM-6:00 PM

Approx. Date	Homework #	Time
February 3	1	11:59 PM
February 17	2	11:59 PM
March 10	3	11:59 PM
March 31	4	11:59 PM
April 28	5	11:59 PM

Grading Scale:

The grading scale for this course **will not be more difficult than:**

97%-100% - A+	87%-89% - B+
93%-96% - A	83%-86% - B
90%-92% - A-	80%-82% - B-
77%-79% - C+	67%-69% - D+
73%-76% - C	63%-66% - D
70%-72% - C-	60%-62% - D-
Below 59% - F	

Course Requirements:

1. Students are expected to use the online resources and are responsible for keeping up-to-date with the course content.
2. Late assignments will be penalized (and possibly not accepted). While you may assist each other with the homework, what you turn in should be your own work and in your own wording (no direct copies or photocopies allowed).
3. If you are unable to complete an assignment according to the schedule, you should notify me well in advance to make other arrangements.
4. Cheating of any kind will result in an F grade. I expect all work to be your own and will allow no outside materials to be used on exams (except a formula sheet to be provided). Each student is required to read and understand the University Policy on Academic Integrity (see below). I will strictly adhere to its provisions.
5. For each homework I will give you the opportunity to revise and resubmit your work according to my feedback. You can resubmit the homework as many times as needed until you get a score of 100%. The deadline to submit corrections is a week. The idea here is that if you work hard, you can get 100% on the homework.

6. Cell phones and other electronic devices are not allowed during exams. The use of cell phones during an exam will result in an F grade for the class.
7. Please note that there will be arranged online proctoring for all examinations. You need a laptop (desktop) with an internet connection and a webcam, microphone, and speakers.
8. This course maintains a strict policy against the use of AI software in any aspect of the learning process. Students are expected to rely solely on their own cognitive abilities and academic skills when drafting, editing, and revising assignments. This course policy is in place to uphold the principle of individual academic achievement and to ensure that assessments accurately reflect each student's independent learning and writing capabilities. This policy aligns with the UM System Student Code of Conduct 200.010. (MU CWP)

ADMINISTRATIVE MATTERS

ACADEMIC INTEGRITY

Academic integrity is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor or the [Office of Academic Integrity](#).

Students are expected to adhere to this honor pledge on all graded work whether or not they are explicitly asked in advance to do so: "I strive to uphold the University values of respect, responsibility, discovery, and excellence. On my honor, I pledge that I have neither given nor received unauthorized assistance on this work."

ACADEMIC INQUIRY, COURSE DISCUSSION, AND PRIVACY

When students record something that happens in a course (a lecture, class discussions, meetings, etc.) it has an impact on the rights of the people captured in that recording. For example, the instructor and the University may have rights to the intellectual property contained in that recording. At the same time, another student who may have been recorded has the right to privacy. In order to protect these rights, MU employs a policy (called "[Executive Order No. 38](#)") to govern both situations you may encounter while taking a course – when an instructor allows recordings and when they do not.

In this class, students may make audio or video recordings of course activity unless specifically prohibited by the faculty member. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course is prohibited without the express permission of the faculty member and of any students who are recorded.

Students who violate this policy are subject to discipline in accordance with provisions of [section 200.020](#) of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

FERPA

The [Family Educational Rights and Privacy Act](#) (FERPA) of 1974 is a federal law designed to protect the privacy of educational records; to establish the rights of students to inspect and review their education records; and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. The law applies to any individual who is or has been in attendance at an institution *and* regarding whom the institution maintains educational records. Once students have matriculated to the University of Missouri, i.e. enrolled in course work, FERPA rights transfer to the student, regardless of the student's age.

Students can enable certain individuals to have access to their education records by signing a [FERPA waiver](#). The consent must specify records to be disclosed, state the purpose of the disclosure and identify the party or class of parties to whom the disclosure must be made.

INTELLECTUAL PLURALISM

The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the departmental chair or divisional director, the [Office of Academic Integrity](#), or the [MU Equity Office](#).

MENTAL HEALTH

The University of Missouri is committed to supporting student well-being through an integrated network of care, with a wide range of services to help students succeed. The MU Counseling Center offers professional mental health care and can help you find the best approach to treatment based on your needs. Call to make an appointment at 573-882-6601. Any student in crisis may call or go to the MU Counseling Center between 8:00-5:00 M-F. After hours phone support is available at 573-882-6601.

Visit our website at <https://wellbeing.missouri.edu/> to take an online mental health screening, find out about workshops and resources that can help you thrive, or learn how to support a friend.

LAST DATE OF ATTENDANCE AND IMPACT ON FINANCIAL AID

Federal regulations for financial aid require the student financial aid office to document the attendance of students who have received federal financial aid if they do not successfully complete any courses during the term. As a result, the last day of attendance (or activity) for any student receiving an F, U, or FN in this course will be recorded in the grade roster and reported to the financial aid office. **Based on the last day of attendance, students may be required to repay a portion of their financial aid award for the semester.**

A student's last day of attendance (or activity) is the last day on which a student participates in an academically-related activity at the University. These include:

- Attendance in class, lab, or an instructor's office hours
- The completion of an assignment or examination
- An appointment with a professor or e-mail correspondence regarding course material
- (Online courses only) For online courses, the last day a student submits an assignment or exam. Only logging into an online class without participating is *not* acceptable for last day of attendance

Please note that discussing a course withdrawal or notifying the instructor of an absence in class does not constitute participation for financial aid purposes. Moreover, any office hour visits or email correspondence must be related to the course material.

NETIQUETTE

Your instructor and fellow students wish to foster a safe online learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Our differences, some of which are outlined in the University's nondiscrimination statement, will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions. Working as a community of learners, we can build a polite and respectful course ambiance.

RELIGIOUS HOLIDAYS & ACCOMMODATIONS

Many religious faiths are represented in the student body. The University of Missouri does not restrict student free exercise of religion, unless 1) the restriction is in the form of a rule of general applicability and does not discriminate against religion or among religions; and 2) it can be demonstrated that the application of the restriction is essential to furthering a compelling university interest and is not unduly restrictive considering the relevant circumstance. The policy of the University attempts to strike a reasonable balance between accommodating the religious practice of students and meeting academic needs and standards.

Consult IDE's [Guide to Religions](#) for the form that can be used to notify an instructor of an absence associated with religious practice. Students are expected to notify their instructor(s) by completing and submitting this form in a manner that is consistent with the procedure outlined in the university's policy on student religious accommodation. Providing false information regarding sincerely held religious practice is a violation of the university's Standard of Conduct and will not be tolerated.

NONDISCRIMINATION POLICY (PROHIBITED DISCRIMINATION)

The University of Missouri does not discriminate on the basis of race, color, national origin, ancestry, religion, sex* (including gender), pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, and any other status protected by applicable state or federal law. Discrimination includes any form of unequal treatment such as denial of opportunities, harassment,

and violence. *Sex discrimination includes rape, sexual assault, sexual harassment, unwanted touching, stalking, dating/domestic violence, stalking, and sexual exploitation. Retaliation for making or supporting a report of discrimination or harassment is also prohibited.

If you experience discrimination or sexual violence, you are encouraged (but not required) to report the incident to the MU Office of Institutional Equity. Learn more about your rights and options at equity.missouri.edu or call 573-882-3880. You also may make an anonymous report online.

If you are a survivor, or someone concerned about a survivor, and need immediate information on what to do, see [RSVP Resources page](#). Both the [Office of Institutional Equity](#) and the [RSVP Center](#) can provide assistance to students who need help with academics, housing, or other issues.

In the event that you choose to write or speak about having experienced any of these forms of prohibited discrimination or harassment, Mizzou policies require that, as your instructor, I share this information with the MU Office of Institutional Equity. They will contact you to offer information about resources, as well as your rights and options as a member of our campus community.

STUDENTS WITH DISABILITIES

The goal of the University of Missouri is to ensure an inclusive learning environment for all students. [The University of Missouri Disability Center](#) provides services and accommodations for students to participate fully in the learning experience and to experience equitable evaluation of their performance. Students (including online students) with a documented disability can contact the Disability Center to establish an [Accommodation Plan](#). Documented disabilities include *hearing, vision, mobility, learning and attention, psychological health, and physical health*. Students' accommodations are implemented with the input of students to maximize the learning experiences. The MU Disability Center keeps information about a student's disability confidential.

Please notify me of your eligibility for accommodations as soon as possible. Additionally, if there are aspects of the course that present as barriers, such as inaccessible course content (e.g., learning assessments, PowerPoints, non-captioned videos, images, tables, PDFs) or if you need an immediate accommodation due to an injury, please contact me or the Disability Center as soon as possible.