Department of Economics
Rutgers University
Fall 2016

50:220:322:90
Introduction to Econometrics
(Online Course)
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Class room and time: Online

COURSE DESCRIPTION

This course introduces students to multiple regression methods for analyzing data in economics and related disciplines. Extensions include regression with discrete random variables, instrumental variables regression, analysis of random experiments and quasi-experiments, and regression with time series data. The objective of the course is for the student to learn how to conduct – and how to critique – empirical studies in economics and related fields. Accordingly, the emphasis of the course is on empirical applications. The mathematics of econometrics will be introduced only as needed and will not be a central focus.

PREREQUISITES

Microeconomic Principles (50:220:102) *AND Macroeconomic Principles* (50:220:103) *AND Introduction to Statistics I* (50:960:283).

TEXTBOOK AND SOFTWARE

The text for this course is: Introductory Econometrics: A Modern Approach, 6th Edition
By Jeffrey M. Wooldridge. And here is the bundle that you need to purchase:
Wooldridge - Bundle: Introductory Econometrics: A Modern Approach, Loose-leaf Version, 6th + LMS Integrated for MindTap® Economics, 1 term (6 months) Printed Access Card | 9781337127134.

The software that will be used in this course is STATA. The software is available at most of public labs on campus. Some labs are open in the evening and at the weekend. No prior knowledge of this software package is assumed. Also a helpful handout on how to use STATA is posted on the course website.

INSTRUCTIONS ON ACCESSING STATA:

You can either purchase STATA directly from the manufacture from the following link; http://www.stata.com/order/new/edu/gradplans/, or use it on campus. If you are on campus, you can easily access STATA on most public labs on campus. But if you are off campus, you can access STATA by using the RU Apps. The link to RU apps is *https://apps.rutgers.edu/novnc/*

You will need to click on "connect" to the upper right part of the screen and then log in with your net id and password on the black box that you will get once you click the apps link. Next, you will get a blue screen, scroll all the way down and click on "Menu" on the lower left part of the screen. Next click on "Education" then choose "STATA". The trick is, you need to have your data saved under your RU home directory (H:). Once you have it there you can access it and use it through STATA. Please note that data saved on USB will not be accessed through the RU apps website. The only accessed files are those saved under your H directory. You can upload your files to the H directory through the Scarlet mail account (assuming you have one, it is the most recent one).

To upload a file you should be able to go to the website http://scarletmail.rutgers.edu/index.php [1], on the left side click on Scarletdocs, sign in with your netid username/password, under drive & next to create click on the up arrow, click files, choose the file you would like to upload, and choose open. If you have a clam account you can use a program like Webdrive, secure shell client (use the ssh secure file transfer), or some other program to connect to clam.rutgers.edu, use your clam userid & password, and the default port 22. Now go to apps.camden.rutgers.edu, type in your netid username/password, click connect, open firefox (on this Linux server not your local computers firefox), and follow the steps up to the point of getting to your scarletdocs. When you click on scarletdocs you should see in the middle of the page what you had uploaded. If you have questions regarding accessing STATA from off campus, please contact help@camden.rutgers.edu.

WEB ACCESS

The course web page is available on Sakai however all the course materials will be posted on MindTap, which can be accessed via Sakai. All the announcements, assignments, additional resources to accompany each chapter, and a secure gradebook will all be available on MindTap website. You are responsible for checking announcements, grades, and discussion board frequently. Here are the instructions for MindTap via Sakai:

- Login to your Sakai Course.
- Click on the link to Cengage content, which is identified with a Cengage Learning logo.
- Link Your Cengage account with your campus Sakai account. If you do not have a Cengage account, create one from this page. Note: This is a one-time process. If you have previously taken this step you will be taken directly to the payment options screen. ·
- Pay for Access. You'll have two payment options:
  - Option 1: Purchase online
  - Option 2: Already purchased an access code? Redeem your code here.
- I suggest that students just purchase the Mindtap code w/ebook: *http://www.cengagebrain.com/shop/isbn/9781305404250*

ONLINE FORMAT

This course offers readings, lecture material, frequent assessments, and online activities, including active discussions and exercises. There are no scheduled meeting times, but deadlines are strictly enforced, as students work together to achieve learning objectives. The class follows a rigorous schedule and you should expect to be working at least as many hours as with a traditionally-scheduled class. Plan to log into Sakai/MindTap and work almost every day, as we

complete a semester's worth of learning activities.

ASSIGNMENTS

There will be a total of five assignments. The five assignments will count a total of 25% toward your final grade. The assignments consist of a series of multiple-choice questions. You will have ONE WEEK to finish and submit the assignment. The post dates for the assignments are **Mondays September 12, September 26, October 10, November 7, and November 28.** The due dates for the assignments are **Mondays September 19, October 3, October 17, November 14, and December 5.**

QUIZZES

There will be a total of nine quizzes, which will count, total of 15% toward your final grade. These quizzes are posted for **ONE DAY**. The post dates for the quizzes are **Fridays September 16, October 7, October 14, October 21, November 4, November 18, December 2, and December 9.**

ONLINE DISCUSSIONS

We'll use the Forums tool in Sakai to engage in meaningful and graded discussions almost every day. The online discussions will count a total of 20% toward your final grade. I expect you to make a substantive post for each discussion topic, as well as a substantive response to a classmate's post. Note that each discussion topic will present two deadlines: one for the initial post and one for the response. You can expect me to access the discussion forum regularly and contribute to the conversation. Discussion grades will be posted in Sakai generally within one day of the discussion closing date. Topics are **available Monday morning, and discussions close at 11pm Sunday**. You must post/respond at least once Monday-Wednesday, and at least once Thursday-Sunday. By 11pm of Wednesday of each week post your first discussion contribution; Thursday-Sunday: follow-up posts in online discussion; Sunday by 11pm: complete posts. Your participation will be graded based on how well you meet these criteria:

Exceeding Expectations 10 points	◦ Post comprehensively addresses the topic, adds value to discussion with stimulating posts ◦ Posts in-depth, incisive reflections that demonstrate critical thinking; shares real-world experiences and examples ◦ Well-written posts made within required timeframe; no grammar/spelling errors
Meeting Expectations 8-9 points	◦ Posts are on-topic, relevant, and contain original content ◦ Posts elicit reflections from and/or build on ideas of others; show evidence of knowledge and understanding of content, may include occasional examples ◦ Posts use complete sentences and rarely have grammar/spelling errors, rarely late
Emerging Towards Expectations 7 points	◦ Posts are on-topic, but may lack originality and/or fail to elicit reflections from or build on ideas of others; examples may be made but may be irrelevant or unclear how they connect to course content

	◦ Posts may contain multiple grammar/spelling errors or be submitted late
Below Expectations 1-6 points	◦ Posts do not contain enough reference back to original topic or may not address the issue at hand sufficiently ◦ Little evidence of knowledge/understanding of course content is shown; examples missing ◦ Posts contain incomplete sentences and/or may not adhere to standard English grammar/spelling
Cannot Judge (Missing) 0 points	Student did not complete discussion board question.

EXAMS

- One Midterm and one Final exam.
- All exams are done online.
- The midterm exam is scheduled for **Wednesday October 26**.
- The final exam is scheduled for **Monday December 19**.

THERE WILL BE NO MAKE-UP EXAMS WITHOUT A DOCUMENTED MEDICAL EXCUSE.

GRADING

Assignments 20%
Quizzes 15%
Discussions 15%
Midterm Exam 25%
Final Exam 25%

GRADES CUTOFF

A	90-100
B+	85-89.99
B	80 - 84.99
C+	75 - 79.99
C	70 - 74.99
D	60 - 69.99
F	0 - 59.99

IMPORTANT DATES

• Wednesday September 7: First day of the class.
• Wednesday October 26: Midterm exam.
• Wednesday October 26: Midterm exam.
• Thanks Giving Recess: November 24 – November 27.
• Wednesday December 14: Last day of the class.
• Final Exam: TBA

FINAL REMARKS

- I will NOT accept late assessments and I will NOT accept any assessments by email or fax.
- You can use a calculator for the exams.

- Assignments, midterm exam, and final exam are all taken online.
- Academic dishonesty, including cheating, is never acceptable.

ACADEMIC INTERGRITY

The consequences of scholastic dishonesty are very serious. You are responsible for reading and understanding our policy on academic integrity policy, available from the Rutgers Academic Integrity website. Academic integrity means, among other things, that all Rutgers students are required to:

- Properly acknowledge and cite all use of the ideas, results, or words of others
- Properly acknowledge all contributors to a given piece of work
- Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of unsanctioned materials or unsanctioned collaboration
- Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress

STUDENTS WITH DISABILITY

Students who have a diagnosed disability on file with the Office of Disability Services are eligible for accommodations, as specified by the University. Please contact the Office of Disability Services at 856-225-6442 if you need to begin the process of receiving accommodations. Students who do not have a letter of accommodation from the university will not be eligible to receive accommodations in this course.

COURSE SCHEDULE

WEEK	TENTATIVE TOPICS
WEEK 1: September 6- 11	***Topic 1*: Introduction, Econometric Methodology, and Data** • Introduction to the course • Description of types of data that we will use • Randomized controlled experiments and casual effects Readings: Chapter 1.
WEEK 2: September 12 - 18	***Topic 2*: Ordinary Least Squares Model** • One regressor, estimation and assumptions • Multiple regressors, estimation and assumptions • Hypothesis testing and confidence intervals for one regression coefficient • Testing hypotheses on more than one coefficientReadings: Readings: Chapter 2.
WEEK 3: September 19- 25	***Topic 3*: An Expanded Model** • One regressor, estimation and assumptions • Multiple regressors, estimation and assumptions • Hypothesis testing and confidence intervals for one regression coefficient Testing hypotheses on more than one coefficient Readings: Chapter 3.

WEEK 4: September 26 – October 2	***Topic 4*: Inference In Multiregression Model** • Testing hypotheses on more than one coefficient • Hypothesis testing and confidence intervals for more than one regression coefficient Readings: Chapter 4.
WEEK 5: October 3 - 9	***Topic 5*: Non-Linear Models & Further Issues** • Interactions between regressors • Other nonlinear specifications Readings: Chapter 6.
WEEK 6: October 10 - 16	***Topic 6*: Specification & Data Issues** • Functional form misspecification • Lagged dependent variable • Missing data • Outliers Readings: Chapter 9.
WEEK 7: October 17 -23	***Topic 7*: Binary Dependent Variable** • Linear Probability Model • Probit • Logit • Introduction to maximum likelihood estimation Readings: Chapter 7.
WEEK 8: October 24 – 30	**Midterm Exam** **Wednesday 26th of October** The exam covers the materials from week 1 to week 7
WEEK 9: October 31 – November 6	***Topic 8*: Heteroskedasticity** • Definition • Consequences • Common tests for heteroskedasticity Readings: Chapter 8.
WEEK 10: November 7 - 13	***Topic 9*: Instrumental Variables** • TSLS in the General IV Model • Instrument Relevance and Exogeneity Readings: Chapter 15.
WEEK 11: November 14 - 20	***Topic 10*: Introduction to Panel** • Before and After Regression • Cross-section Fixed Effects • Time Fixed Effects Readings: Chapter 13.
WEEK 12: November 21 - 27	***Topic 11*: Introduction to Time Series Econometrics** • 1st Order and Pth Order Autoregressions • Autoregressive Distributed Model Readings: Chapter 10.
WEEK 13: November 28 - December 4	***Topic 12*: Further Issues in Using OLS in Time Series Models** • Stationarity and weak stationarity • Random walks

	• Persistent time series Readings: Chapter 11.
WEEK 14: December 5 - 11	***Topic 11*: Issues in Time Series Analysis** • Heteroskedasticity in time series models • Serial correlation Readings: Chapter 12.
WEEK 15: December 12 - 18	**Final Exam** **Monday 19th of December (online)** The exam covers the materials from week 8 to week 14