Fall 9-1-2016

ECNS 403.01: Introduction to Econometrics

Douglas Dalenberg
University of Montana - Missoula, douglas.dalenberg@umontana.edu

UNIVERSITY OF MONTANA
ECNS 403: Introduction to Econometrics

Course Information:
Semester: Fall 2016
Section: Section 01
Meeting time: TR 12:30-1:50, R 4:00-4:50
Classroom: LA 306 for TR 12:30-1:50, LA 206 for R 4:00-4:50
Credits: 4 credits
CRN: 70051

Instructor Information:
Instructor: Douglas Dalenberg
Office: LA 413
Email: doug.dalenberg@mso.umt.edu
Phone: 406-243-4406 (message only – email will get a faster response).
Office hours: TR 11:30-12:25, W 12:00-1:00 or by appointment or discovery.

Course Description:
This course is designed to develop undergraduate-level competency in econometric analysis with emphasis on interpretation and testing. Statistical software will be used to assist the student in handling of complex empirical problems and to demonstrate the use of statistical software in business and research environments. The ultimate objective of the course is to familiarize the student with the regression technique used in economics but also found in business, forestry, and other social sciences. I aim to help students develop a strong foundation for more advanced applications of econometrics in the future. This is an applied rather than theoretical econometrics course.

Prerequisites:
The prerequisite is an introductory statistics course.

Required Text:
Gujarati, Damodar, *Econometrics by Example*, New York, NY: Palgrave Macmillan, 1st edition, 2011.

Optional Software:
Stata. We will use Stata in the lab and I will pass out instructions on how to purchase Stata for home use, however, you do not need to purchase Stata.

Optional Hardware:
You may want a USB stick to save your lab work. However, many students use e-mail or Box to save their work.

Course Moodle Page:
The course Moodle page will contain the data sets we use in the lab.

Learning Outcomes:

Students who successfully complete this course will be able to:

1. interpret regression results; this includes interpreting coefficient estimates and the related measures of fit.
2. explain the standard ordinary least squares assumptions and the consequences, detection, and potential corrections for violations of the standard assumptions.
3. perform and interpret the relevant hypothesis tests associated with the regression coefficients, model, fit, and violations of the ordinary least squares assumptions.
4. explain how to distinguish between practical and statistical significance.
5. demonstrate proficiency with a statistical software program.
6. identify situations in which methods such as logit or two-stage least squares are called for.

Assessment:

You will be assessed with regular short homework assignments, two exams, and a comprehensive final exam. Your homework score will account for 25% of your grade, each exam for 20% and your final exam will account for 35% of your grade.

Assignment	Percent	Date
Homework	25%	Throughout the term, almost every meeting
Exam 1	20%	Thursday, October 13
Exam 2	20%	Tuesday, November 22
Comprehensive Final Exam	35%	Thursday, December 15, 10:10-12:10

I will use plus/minus grading with 100-92=A, 91-90=A-, 89-88=B+, 87-82=B, 81-80=B-, 79-78=C+, 77-72=C, 71-70=C- 69-68=D+, 67-62=D, 61-60=D-, 59 and below=F.

Graduate Increment:

Students taking this course for graduate credit are required to complete a graduate increment. I will pass out a separate graduate increment assignment. The graduate increment does not change your grade but must be completed in order to earn a grade in this class.

Policies:

1. Please note the starting time for our class.
2. If you miss an exam and you contact me prior to or immediately after the exam, we will make arrangements for dealing with the missing score (usually a make-up exam). If I am not contacted promptly, then no make-up exam is possible.
3. Late homework is penalized with a deduction of points reflecting the cost it imposes on me. Homework is considered late if I receive it after I have finished grading those assignments handed in on time.
4. If my office hours conflict with your schedule, see me for an appointment or try to catch me in my office by chance.
5. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification. For more information, visit the Disability Services for Students website (http://www.umt.edu/dss).

6. All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code (http://www.umt.edu/vpsa/policies/student_conduct.php). Academic dishonesty will result in a score of zero for the work in question and possible university sanctions.
7. The University sets deadlines for adding classes, dropping classes, changing grade options, and changing to or from audit status. These policies can be found at the Registrar's web page (http://www.umt.edu/registrar/students/dropadd.php) while the actual dates for this term can be found on the Registrar's calendar http://www.umt.edu/registrar/PDF/OfficialDatesandDeadlinesfall2016.pdf
8. University policy states "For undergraduates, a CR grade (credit) will be equivalent to a D- or better and an NCR grade (no credit) will be equivalent to an F." University rules require you to earn a grade of C- or better in order for the course to satisfy the requirements of a major.
9. I do not take attendance. The consequences of missing class are reflected in the homework and exam scores. However, I take material for the homework and exams out of lecture, so if you do miss class you will want to copy a classmate's notes.
10. As a courtesy to your classmates, please set your cell phones on vibrate rather than ring and please leave the classroom to talk on a phone. You may text during class if it does not disturb those sitting near you and it does not disturb me. Absolutely no texting or cell phone use during exams. If you believe that you will need to leave during class, please sit where you will not bother others as you leave. A classroom is a community, so I trust you will act as a mature and responsible citizen and treat each other with respect and courtesy. Please do not interfere with the learning of your classmates. I will ask you to leave if you are interfering with others' learning and it would be very embarrassing for you.

Calendar:

This schedule of topics is subject to modification. All changes will be announced in class.

Week	Week of:	Topic	Special Dates	Reading Assingment[1]
1	8/29	Introduction and Terminology	No class Thursday 9/1	Appendix 2, A1-A7
2	9/5	Ordinary Least Squares		Chapter 1
3	9/12	Testing		Appendix 2, A8-A12
4	9/19	More Testing		
5	9/26	Functional Form		Chapter 2
6	10/3	Dummy Variables		Chapter 3
7	10/10	Dummy Variables Midterm 1	Midterm Thursday 10/13	
8	10/17	Multicollinearity		Chapter 4
9	10/24	Heteroskedasticity		Chapter 5
10	10/31	Serial Correlation		Chapter 6
11	11/7	Specification Error	No class Tuesday 11/8	7.1-7.7
12	11/14	Introduction to Logit and Probit		Chapter 8
13	11/21	Midterm 2	Midterm 2 Tuesday 11/22; No class Thursday 11/24	
14	11/28	Panel Data Methods		Chapter 17
15	12/6	Introduction to the Endogeneity Problem		Chapter 19
16	12/12	FINAL EXAM – Thursday, December 15, 10:10-12:10.	No class Tuesday 12/13 Study Day; Final Exam: Thursday, 12/15, 10:10-12:10	

[1] If you have a 2nd edition book, see me for the chapter mapping.