University of Colorado at Boulder
Department of Economics
Econ 4818 - Introduction to Econometrics
Professor Carlos Martins-Filho

Office. Economics Building 105.

Meetings. MWF 1:00 PM - 1:50 PM, EDUC 231.

Office hours. M 8:00 AM - 11:00 AM. For appointments email carlos.martins@colorado.edu.

Prerequisites. Econ 3070 and Econ 3818.

Course description and objectives. This course has two main objectives: 1) introduce you to estimation and testing for the multivariate linear regression (MLR) model under classical assumptions; 2) consider the estimation and testing of the MLR model when some of these classical assumptions are violated. Our emphasis will be on the theoretical aspects of estimation and testing with a secondary interest on applications and empirical questions.

Grades. Your course grade will be determined by two midterms, five homework sets and a final examination. The homework sets will be posted on the teaching portion of my webpage http://spot.colorado.edu/∼martinsc. The table below lists all evaluations, provides dates, and points.

Evaluation	Points	Date and time
homework 1	1 point	

Topics and Readings.

Unless otherwise indicated, all readings, chapters and sections are from the textbook. Handouts are available from my webpage in PDF format.

1. a) The nature of econometrics and economic data: chapter 1 and handout called Econometrics ; b) Review of mathematical tools: appendix A; c) Review of probability and statistics: appendix B and C.
2. The simple linear regression model and the least squares estimator: chapter 2.
3. Multiple linear regression (MLR) model and the least squares estimator: chapter 3
4. Midterm 1
5. Hypothesis testing for the MLR model under normality: chapter 4.
6. Asymptotic properties of the least squares estimator and Hypothesis testing for the MLR model under non-normality: chapter 5.
7. Data scaling, dealing with data transformations, regressor selection, goodness-of-fit and prediction: chapter 6.
8. Regression with binary variables: chapter 7.
9. Accounting for heterocedasticity: chapter 8.
10. Midterm 2
11. Functional form misspecification, regressor misspecification, measurement error: chapter 9, sections 9.1-9.4.
12. MLR model with time series data: chapter 10
13. The autoregressive model of order p: chapter 12, sections 12.1-12.3.

Important information.

- If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and `www.colorado.edu/disabilityservices`.
- Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with sched-

- Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty has the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. See polices at `www.colorado.edu/policies/classbehavior.html` and at `www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code`

- All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (`honor@colorado.edu`; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at `www.colorado.edu/policies/honor.html` and at `www.colorado.edu/academics/honorcode/`.

- The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combinations of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed should contact the Office of Discrimination and Harassment (ODH)