Economics

UNIVERSITY OF COLORADO BOULDER

10pm on weekdays. The library lab is open some hours on the weekend with details on the OIT website. Those who are interested in purchasing a personal copy can go through the University's GradPlan website in order to receive a substantial discount (starting at $69). Among the dierent versions that are available, Stata/IC is sucient for the requirement of this course.

## Course Objectives:

At the completion of this course, students will be able to:

1. Be familiar with basic probability and statistical terms and models.
2. Conduct regression analysis on real-life data in a meaningful way.
3. Understand the power and the limits of regression analysis.
4. Diagnosis the imperfection in the data set by using statistical tests.
5. Construct hypothesis and use proper statistical testing to \accept"/reject the hypothesis.
6. Demonstrate the ability to conduct meaningful economic research by a) proposing research question(s) b) acquiring necessary data (c) analyzing data (d) interpreting the results from (c) to address (a).

## Grade Distribution:

| Assignment | Weight | Due Date |
|---|---|---|
| Attendance & Course participation | 10% | |
| Midterm Exam 1 | 15% | Wed., Feb. 12 (tentative) |
| Midterm Exam 2 | 15% | Wed., Mar. 19 (tentative) |
| Research Paper & Presentation | 30% | Mar. 11: proposal due (15%) |
| | | Apr. 18: paper draft due (10%) |
| | | Apr. 21 - Apr. 30 in-class presentation (25%) |
| | | 5pm, May 2: nal draft due (50%) |
| Final Exam | 30% | Tue., May 6 (7:30pm-10pm) |

## Course Policies:

### General

{ Attendance is critical to succeed in this class. In order to incentivize you to do so, regular attendance will be taken. Together with in-class participation, this will contribute to 10% of the nal grade.

{ The deadline to drop the course with no record and at no cost is 11:59pm on Jan. 29. You can drop the course from MyCUInfo with a 'W' on the transcript between Jan. 30 to Mar. 21. After that, it requires signature from both your instructor and the Dean.

{ All exams are closed book, closed notes.

### Homework

{ Students will regularly work on in-class exercises to practice course material while no graded take-home homework will be given.

### Exams

Topics to be covered (tentative)  :

Intro & Review

- { Unit 1: Introduction to quantitative economic researches
- { Unit 2: Review of probability and statistics
- { Unit 3: Introduction to Stata
- { Unit 4: Descriptive and graphic analysis with Stata
- { Unit 5: Con dence Interval  &  Hypothesis Testing

Regression Analysis

- { Unit 6: Overview of regression analysis (Ch. 1)
- { Unit 7: Ordinary least square (OLS) (Ch. 2)
- { Unit 8: Bivariate correlation  &  Bivariate regression model(Ch. 2.1)
- { Unit 9: Multivariate regression model (Ch. 2.2)
- { Unit 10: Steps in applied regression analysis (Ch. 3.1)
- { Unit 11: The classical OLS model assumptions (Ch. 4.1)
- { Unit 12: Regression Diagnostics - How to deal with imperfect data
- { Unit 13: Functional form speci cation (Ch. 7)
- { Unit 14: Omitted variable problem (Ch. 6.1)
- { Unit 15: Multicolinearity (Ch. 8)
- { Unit 16: Serial correlation (Ch. 9)
- { Unit 17: Heteroskedasticity (Ch. 10)
- { Unit 18: Dummy dependent variables (Ch. 13)

Data Management

- { Unit 19: Working with IPUMS data and Running your own regression project (Ch. 11)
- { Unit 20: Merging data sets

\Live as if you were to die tomorrow. Learn as you were to live forever."

|  Gandhi