Course Description:

Collection and Use of Data in Economics (3 units): Economic data gathering via Internet and other sources, data entry into spreadsheets and graphing techniques, statistics using spreadsheets, and introduction to basic regression.

Course Goals

This course has three primary goals. (1) Develop an ability to search for and obtain economic and business data. (2) Be able to gather data into Microsoft Excel and produce relevant graphs and tables. (3) Be able to statistically analyze data including the appropriate use of summary statistics, hypothesis testing, confidence intervals, and regression analysis. Upon completion of this course you should be able to find a data set, present appropriate graphs and tables, and provide a statistical analysis of relevant issues associated with the data set. This course is designed to prepare you for research projects in other upper division courses as well as develop skills attractive to potential employers.

Prerequisites

This class is only open to declared econ majors.

Successful completion of Economics 101 and 102; Economics 201 or Statistics 119; and Information and Decision Systems 180.

Textbook and other Materials

- Analysis of Economic Data (4th edition) by Gary Koop, Wiley Publishers
- Introductory Econometrics: A Modern Approach (5th edition) by Jeffrey Wooldridge (first four chapters)
- Computer Access with Excel, PowerPoint, and Word
Grading:

- Four projects worth 40% of the grade (10% each)
- Two midterm exams worth 40% of the grade (20% each)
- One final exam worth 20% of the grade

Projects due:

- Project 1 due Sep 17
- Project 2 due Oct 15
- Project 3 due Nov 12
- Project 4 due Dec 3

Exams:

- Midterm exams:
  - Midterm 1: Monday, September 22 in class
  - Midterm 2: Monday, October 27 in class

- Final Exam:
  Monday, December 15, 1pm – 3pm
  Link to the Registrar’s office exam schedule:
  [http://arweb.sdsu.edu/es/registrar/finalexams/14_fall.html#MWF](http://arweb.sdsu.edu/es/registrar/finalexams/14_fall.html#MWF)

There will be no makeup exams. Please make your travel plans accordingly.

Tentative Class Schedule:

**Week 1: Aug 25 and Aug 27**

- Introduction, Syllabus etc
- Differential Calculus review

**Week 2: Sep 1 (holiday) and Sep 3**

- Different types of data – Cross Section, Time Series and Panel data;
- Basic data handling
- Getting going on Excel

**Week 3: Sep 8 and Sep 10**

Univariate data analysis:

- Analysis of a single economics variable
- Summarizing data using descriptive statistics
Week 4: Sep 15 and Sep 17
Univariate data analysis continued
- Which chart type to use
- Variability
- Z-score
- Bell-shaped curve from histogram

Project 1 due on Sep 17

Week 5: Sep 22 and Sep 24
Univariate data analysis continued
- Analysis of mean, variance, the area under the standard normal curve
- Confidence Interval
- Hypothesis testing

Midterm 1 scheduled on Monday, Sep 22

Week 6: Sep 29 and Oct 1
- Seasonal Adjustment of data – why it is necessary
- Nominal vs Real data analysis
- Creating index

Week 7: Oct 6 and Oct 8
Bivariate: The relationship between two economic variables continued
- Visualizing and summarizing data using correlation, correlation matrix
- Introduction to simple bivariate regression

Week 8: Oct 13 and Oct 15
Bivariate: The relationship between two economic variables continued
- Simple regression analysis
- Derivation of OLS estimates

Project 2 due on Oct 15

Week 9: Oct 20 and Oct 22
Bivariate: The relationship between two economic variables continued
- Bivariate regression
- Interpreting intercept and coefficient estimate
**Week 10: Oct 27 and Oct 29**
Bivariate regression
- Goodness of fit, nonlinearity in regression
- Homoskedasticity and Heteroskedasticity

**Midterm 2 scheduled on Monday, Oct 27**

**Week 11: Nov 3 and Nov 5**
- Hypothesis testing
- t-statistic, Confidence interval, P-value

**Week 12: Nov 10 and Nov 12**
Multivariate: The relationship between more than two economic variables
- Multivariable regression analysis
- Hypothesis testing

**Project 3 due on Nov 12**

**Week 13: Nov 17 and Nov 19**
Multivariate: The relationship between more than two economic variables
- Multivariate regression: hypothesis testing
- Statistical aspects of multivariate regression, F stat

**Week 14: Nov 24 and Nov 26**
Multivariate: The relationship between more than two economic variables continued
- Robustness check

**Week 15: Dec 1 and Dec 3**
- Multivariate regression analysis

**Project 4 due on Dec 3**

**Week 16: Dec 8 and Dec 10**
Multivariate: The relationship between more than two economic variables continued
- Regression with dummy variables
- Case study
- Final Review

**Final Exam: Monday, December 15, 1pm – 3pm**
http://arweb.sdsu.edu/es/registrar/finalexams/14_fall.html#MWF
SYLLABUS STATEMENT
for Students with Disabilities

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact Student Disability Services at (619) 594-6473. To avoid any delay in the receipt of your accommodations, you should contact Student Disability Services as soon as possible. Please note that accommodations are not retroactive, and that accommodations based upon disability cannot be provided until you have presented your instructor with an accommodation letter from Student Disability Services. Your cooperation is appreciated.