

ECO206 Data Analysis for Economics and Business

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY REGULAR SEMESTER

Synopsis:

ECO206 Data Analysis for Economics and Business covers intermediate data analytical tools relevant for empirical analyses applied to economics and business. The main workhorse in this course is the multiple linear regression, where students will learn to estimate empirical relationships between multiple variables of interest, interpret the model and evaluate the fit of the model to the data. Where the underlying assumptions of linear regression are not met, issues such as specification error, multicollinearity, measurement errors, heteroscedasticity are then examined and solutions such as standard error adjustments and instrumental variable regressions will be explored. Beyond cross-sectional data, students will also learn how to construct models with limited dependent variables (as opposed to continuous dependent variables) and design regression frameworks for panel data. Lastly, the course will explore the fundamentals of modelling with time series data and business forecasting.

Topics:

- Principles of statistical inference
- Computing and mathematics for statistics
- Data analysis and regression principles
- Model evaluation and specifications
- Common regression issues
- Instrumental variable regression
- Regression with binary dependant variables
- The Logit and Probit models
- Regression with panel data
- Fixed effects regression
- Time series regression and forecasting
- Non-stationarity

Textbooks:

Introduction to Econometrics 4th James H. Stock & Mark W. Watson Pearson
ISBN-13: 9780136879787

ECO206 Study Guide (UDC - SUSS)
ISBN-13: SG-2054

Learning Outcome:

- Interpret the results from multiple linear regressions
- Explain the key assumptions and potential pitfalls for multiple regressions
- Employ analytical methods for different business data types
- Apply statistical/econometric methods to mitigate violations of underlying assumptions, such as through the use of Instrumental Variables, first differencing.
- Develop computing programs to implement regression analysis
- Implement suitable regression analysis for specific data such as dummy variables, limited dependent variables, panel data and time series data

Assessment Strategies - Regular Semester (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	PRE-CLASS QUIZ 3	2
	PARTICIPATION 1	6
	TUTOR-MARKED ASSIGNMENT 1	18
	GROUP BASED ASSIGNMENT 1	20
Overall Examinable Components	Written Exam	50
Total		100

*The information listed is subject to review and change.