

## Econometrics A | ECU33091

Year	Junior Sophister
ECTS Credits	5
Contact Hours	22 hours of lectures, 10 hours of computer workshops
Pre-Requisite	ECU22031 & ECU22032 Mathematical and Statistical Methods
Semester	1
Module Leader and Lecturer	Professor Barra Roantree
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### Module Outline:

This module provides an introduction to the theory and methods of modern econometrics: a set of techniques and methods to answer economic questions with data. It begins by reviewing and extending the core concepts of probability and statistics covered in the senior freshman year. Following this, students are guided through the fundamental principles of econometrics and working through to more advanced topics as the module progresses. The module provides a balance between core theoretical material and an extensive applied component which aims to develop student's practical skills necessary to conduct independent applied research.

### Topics Covered Include:

- What is econometrics and why is it useful?
- Statistical tools and review of inference
- Causality, experiments and potential outcomes
- Regression basics
- Using (and assessing) multiple regression
- Regression with a binary dependent variables



- Regression with panel data

### **Module Learning Outcomes:**

On successful completion of this module, you will be able to:

- Demonstrate an understanding of and be able to critically assess fundamental techniques and methods of econometrics analysis
- Be able to apply these techniques and methods to datasets using the statistical software package (Stata)

### **Assessment:**

- Two assignments involving use of Stata worth 30% of the overall grade.
- A final exam which is worth 70% of the overall grade.

### **Recommended Reading List:**

- Stock, J.H. and M.W. Watson. *Introduction to Econometrics*, Pearson (4e), 2019.
- Angrist, J.D. and Pischke, J. *Mastering Metrics*, Princeton University Press, 2015