Course Outline

Quantitative Methods in Finance – EC5330

Course Leader: Rob Sauer

Autumn Term – 20 credits

Version 1.0

AIMS

The aims of this course are to introduce the basic tools of quantitative analysis used in both economics and finance. The course will cover the linear regression model and non-linear regression functions. One of the main focuses will be on the many potential sources of bias and inconsistency in Ordinary Least Squares (OLS) estimation. Applications in economics and finance will serve to illustrate the theoretical concepts.

LEARNING OUTCOMES

The objectives are that students will be able to use the general linear model with competence and confidence to analyse economic relationships in the applied work for their dissertation and in future research investigations. They will be familiar with methods for testing hypotheses by examining restrictions placed on models by econometric theory and aware of the advantages and limitations of the procedures and methods they apply.

COURSE DELIVERY

One 2-hour lecture and one 1-hour seminar class every week, over a period of 10 weeks.

ASSESSMENT

Formative assessment:

- Weekly problem sets and classes provide feedback.

Summative assessment:

- One 2-hour unseen written exam taken in the Summer Term contributing to 75% of the final mark
- One 1-hour test contributing 25% to the final mark

Deadlines and dates for tests will be confirmed in the Departmental Student Handbook and on the website.

READING

Textbook references for this course:

- W. Greene (WG) Econometric Analysis, Prentice Hall, 2007, Sixth edition, {HB139 GRE}
- J. H. Stock and M.W. Watson (S&W) Introduction to Econometrics, 2nd edition, 2007, Pearson Education, Inc. {HB139 STO}

WEEKLY TIMETABLE

Weeks 1-4. Linear Regression with One Regressor

S&W, chs. 4-5 including appendices; WG, chs. 2-5

Weeks 5-7. Linear Regression with Multiple Regressors

S&W, chs. 6-8 including appendices; WG, chs. 2-6.

Weeks 8-10. Non-linear Regression Functions

S&W, ch. 10; WG, chs. 8, 12.5.1, 13.2.1-2, 24.5

An introductory appendix for matrix algebra can be found in WG.