

SERIES TEMPORALES (2017-18)

DATOS GENERALES

Código 41239

Créditos ECTS 5

Departamentos y áreas

Departamento	Área	Dpt. Resp.	Dpt. Acta
FUNDAMENTOS DEL ANÁLISIS ECONÓMICO	FUNDAMENTOS DEL ANALISIS ECONOMICO	SÍ	SÍ

Estudios en que se imparte

MÁSTER UNIVERSITARIO EN ECONOMÍA CUANTITATIVA

Contexto de la asignatura

ESTA ASIGNATURA SE IMPARTE EN INGLÉS. LA INFORMACIÓN CONTENIDA EN ESTA GUÍA ESTÁ EN INGLÉS.

This is an optional course on Time Series Analysis in the second year of the Master in Quantitative Economics.

OBJETIVOS

Objetivos específicos aportados por el profesorado (2017-18)

This course builds on an earlier course in univariate time series and has the following objectives:

1. To introduce the students to the main developments in time series econometrics which have assumed considerable importance in the last two decades.
2. To provide the students with an understanding of the relevant concepts which are fundamental to an understanding of time series econometrics.
3. To examine, in detail, the statistical models that are in use and the techniques and methods that are used in their analysis and to note their strengths and limitations.
4. To consolidate the knowledge gained by solving simple problems
5. To provide the student with an ability to critically assess the many applications of time series econometrics to problems in economics

CONTENIDOS

Contenidos teóricos y prácticos (2017-18)

1. UNIVARIATE TIME SERIES

Brief review of ARMA models. Maximum likelihood estimation of ARMA Models.

2. MULTIVARIATE TIME SERIES

Vector Autoregressions. Estimation. The Impulse Response Function. Weak exogeneity. Granger causality. Vector autoregressions and structural econometric models.

3. GENERALISED METHOD OF MOMENTS

Estimation by GMM. Asymptotic distribution of GMM estimators. Instrumental variable estimation.

4. NON-STATIONARITY

Properties of estimators and tests in non-stationary models. Non-stationary time series. Spurious regressions. Integrated processes. Trend and difference stationarity. Testing for unit roots.

5. COINTEGRATION AND ERROR CORRECTION MODELS

Testing for cointegration. Estimating the cointegrating vector. Hypothesis Testing. Cointegration and its implications.

6. COINTEGRATION IN SYSTEMS OF EQUATIONS

Estimating cointegrating vectors in systems. Inference about the cointegration space. Asymptotic distributions of estimators of cointegrating vectors.

7. TIME SERIES MODELS OF HETEROSCEDASTICITY

ARCH and GARCH Models. Maximum likelihood estimation. Testing for ARCH and GARCH models. Further extensions.

REFERENCES

The most comprehensive textbook in the field is J.D Hamilton (1994). Time Series Analysis, Princeton University Press. Despite being over eleven years old this is still the best book for our course. It will also be important for the follow up course in Semester 2. Numerous references will be made to this text but the more technical material will be avoided at this stage.

EVALUACIÓN

Instrumentos y criterios de Evaluación 2017-18

Problem Sets: 50%. Final Exam: 50%. Those students with a final grade below 5 will have a second opportunity in the corresponding exam period, but the grade corresponding to problem sets will be kept.

Tipo	Criterio	Descripción	Ponderación
EXAMEN FINAL	EXAMEN FINAL	Examen sobre todo el contenido del curso	50
ACTIVIDADES DE EVALUACIÓN DURANTE EL SEMESTRE	ENTREGA DE PROBLEMAS	Resolución de algunos de los problemas contenidos en las Hojas de Problemas	50