1. **Title of the module**

ECON5810 (EC581) Introduction to Time-Series Econometrics

1. **School or partner institution which will be responsible for management of the module**

School of Economics

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 5

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn and Spring

1. **Prerequisite and co-requisite modules**

**Prerequisite:** ECON3040 Principles of Economics or equivalent

ECON3050/ECON3060 Mathematics for Economics Mode A or B,

ECON3090 Statistics for Economics, or equivalent

**Co-requisite:** ECON5800 Introduction to Econometrics

1. **The programmes of study to which the module contributes**

This module is compulsory for all Single Honours degree programmes in Economics and is available as optional (elective) module for joint Honours Programmes in Economics.

The module is **NOT** available to students across other degree programmes in the University

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
   1. Identify and abstract the properties of time-series data and relevant data sources
   2. Demonstrate knowledge and understanding of statistical, graphical and numerical data analyses
   3. Apply time-series econometrics to economic data using specialist econometric software
   4. Interpret and analyse empirical results obtained from the application of time-series econometrics to economic data
   5. Perform data transformations and diagnostic tests relevant to the analysis of time-series data.
2. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
   1. Retrieve and analyse economic data and information from a variety of sources
   2. Address economic problems quantitatively and undertake empirical modelling of economic behaviour using statistical software
   3. Utilise and interpret empirical models to support their understanding of economics
   4. Write and present economic ideas in a coherent and structured manner
   5. Plan work and study independently
3. **A synopsis of the curriculum**

The module provides an analytical introduction to time-series econometrics and the challenges that present themselves with the analysis of time-series economic data. Traditional econometric techniques such as Ordinary Least Squares (OLS) are poorly suited to the estimation of economic models or data which exhibit non-stationary processes. This module provides an introduction to econometric methods that are suitable for stationary and non-stationary time-series analyses.

The module is both analytical and practitioner based providing students with the knowledge, understanding, application and interpretation of time-series techniques using specialist econometric software. The module equips students with the analytical tools to carry out advanced time-series econometrics work at a later stage of their degree programme.

The topics considered in the module include:

* Stationary and non-stationary data; trend- and difference-stationary processes, stationary autoregressive models, multivariate stationary models, spurious regression, cointegration, ADF tests, forecasting.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

The main text for the module is:

• J Wooldridge (2016), Introductory Econometrics: A Modern Approach, 6th ed, Cengage

Other examples are

• C Dougherty (2011), Introduction to Econometrics, 4th ed, Oxford University Press

• D Gujarati and D Porter (2010), Essentials of Econometrics, 4th ed, McGraw-Hill

• G Maddala and K Lahiri (2009), Introduction to Econometrics, 4th ed, Wiley

• M Verbeek (2012), A Guide to Modern Econometrics, 4nd ed, Wiley

1. **Learning and teaching methods**

Total contact hours: 30 hours

Private study hours: 120

Total study hours: 150

1. **Assessment methods**
   1. Main assessment methods

In Course Test 1 (45 minutes) (15%)

In Course Test 2 (45 minutes) (15%)

Examination, 2 hours (70%)

13.2 Reassessment methods

Reassessment Instrument: 100% exam

1. ***Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)***

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| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *8.5* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| Lecture | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  |  |
| Terminal Class | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** |
| Seminar | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** | **x** | **x** |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| 2 x ICT | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Examination | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

The module provides students with the analytical and practical skills necessary to undertake empirical evaluation of (economic) data. It is a module based on methodology and as such transcends criteria pertaining to national frontiers and/or culture. In practice, data sources will have an international dimension.

**FACULTIES SUPPORT OFFICE USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

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| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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Revised FSO Jan 2018