1. **Title of the module**

ECON5850 (EC585) Mathematical Economics

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 or Spring

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

Prerequisites:

ECON3040 Principles of Economics

ECON3050 Mathematics for Economics, (60% threshold) *or*

ECON3060 Mathematics for Economics, (60% threshold)

ECON3090 Statistics for Economics

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

This is an elective module for all Single and Joint Honours Degree courses in Economics.

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

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

8.1 Demonstrate the ability to work with abstract mathematical concepts

8.2 Understand the mathematical aspects of economic modelling techniques

8.3 Formulate and solve problems in economics using a range of mathematical techniques

8.4 Identify the range of more advanced mathematical modelling used in economics

8.5 Use optimization methodologies and matrix algebra

1. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**

9.1 Analyse the logic of economic arguments

9.2 Critically evaluate economic models

9.3 Communicate economic arguments quantitatively

9.4 Demonstrate critical thinking and higher level quantitative skills

1. **A synopsis of the curriculum**

Matrix Algebra and Multiple Equation Systems

Optimisation Theory

Duality

Dynamic Models

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

Renshaw, G. (2016) Maths for Economics, 4th edition, OUP.

Chiang, A.C. & Wainwright, K. (2005) Fundamental Methods of Mathematical Economics, 4th edition, McGraw-Hill.

1. **Learning and teaching methods**

Total contact hours: 39

Private study hours: 111

Total study hours: 150

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

Moodle Quiz (10%)

Moodle Quiz (10%)

Examination, 2 hours (80%)

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)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *8.5* | *9.1* | *9.2* | *9.3* | *9.4* |  |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| Lecture | **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** |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| Moodle Quiz | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  |
| Moodle Quiz | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  |
| Examination | **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**

Mathematics is a global language. The module develops skills and techniques that are globally transferrable.

**DIVISIONAL USE ONLY**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 09/01/2019 | Major | September 2019 | 9, 12 | No |
| 11/02/21 | Minor | September 2020 | 13,14 | No |