1. **Title of the module**

Mathematics for 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 4

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)**

This module will be taught in the third trimester of the first academic year, April to July.

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

Basic mathematics ability will be at the level sufficient to pass the initial Apprenticeship Maths screening test.

Co-requisite modules:

Applied Statistical Analysis for Economics

Working With Economic Data on Digital Platforms

Principles of Microeconomics

Principles of Macroeconomics

Economic Policy Analysis

Microeconomic Analysis

This module is a pre-requisite for:

Macroeconomic Analysis

Applied Econometrics

Economic Policy Analysis and Evaluation

International Economics

Modern Economic History

Economic Debates

Economic Growth

Public Economics

Economics Dissertation

Economics Technical Assessment

Competency Based Interview

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

Economics BSc (Professional Economist) (Hons)

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
   1. Understand and use a range of mathematical techniques relevant to economics
   2. Present solutions to mathematical problems
   3. Understand how mathematics is used in economics
   4. Handle abstract concepts and consider them mathematically
   5. Model economic behaviour mathematically
2. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
   1. Demonstrate numeracy and quantitative skills
   2. Demonstrate problem solving skills
   3. Apply mathematical methods to analyse economic problems and issues
   4. Communicate economic and mathematical arguments clearly
   5. Plan work and study independently
3. **A synopsis of the curriculum**

The module introduces students to a basic understanding of mathematics necessary for intermediate and advanced level modules (levels 5 and 6) taken in Stages 2 and 3. The module assumes a good GCSE level of understanding of mathematics. It is compulsory for this Economics BSc programme.

The module considers the following topics: linear equations, quadratic equations, multivariable functions; matrix algebra; differentiation; techniques of optimisation; constrained optimisation; non-linear functions and matrices. These topics cover the important uses of mathematics in economics and are developed within a clear, contextual framework derived from first principles. Each topic is applied to a range of economic phenomena and problems and linked explicitly to the core Stage 1 economics module.

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

* Renshaw, G. (2016), Maths for Economics (4th ed.), Oxford University Press.

1. **Learning and teaching methods**

Directed learning time 100 hours

Private study time 50 hours

Total study hours: 150

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

In Class Test 1 (50 Minutes) (20%)

In Class Test 2 (50 minutes) (20%)

Exam (2 hours) (60%)

13.2 Reassessment methods

If the overall module mark is a fail, reassessments in failed assessments are taken again in the following trimester, in order to achieve the overall pass mark of 40%.

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* | *9.5* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| Lecture | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  |
| Seminar | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| In Class Test 1 | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| In Class Test 2 | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Exam | **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, employer premises and London/Leeds.

1. **Internationalisation**

The module provides students with mathematical analytical skills to abstract, simplify, and explain economic theory and behaviour in the context of real world issues. It develops a range of analytical skills and techniques that are globally transferrable.

**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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