Module Specification

Model Building in Economics 1

Version: 2023-24, v2.0, 24 Mar 2023

Contents

Part 1: Information

Module title: Model Building in Economics 1

Module code: UMEDHK-15-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Business & Law

Department: FBL Dept of Accounting Economics & Finance

Partner institutions: None

Delivery locations: Not in use for Modules

Field: Economics

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module introduces the student to the use of mathematics in economics. The main focus of the module will be to relate mathematical theory to economic theory.

Outline syllabus: The module will typically cover topics such as:
Basic algebra

Total Differentiation – rules and application to economic theory

Partial Differentiation – rules and application to economic theory

Curve sketching

Maxima and Minima

Logarithms and rules of Logarithms

Solving unconstrained optimisation problems

Solving constrained optimisation problems

Integration and functional forms related to economic theory

Part 3: Teaching and learning methods

Teaching and learning methods: Module delivery will be based on 3 hours of contact time with staff that a student can expect in a week. This will comprise a 1 hour lecture and a 2-hour seminar.

The weighting towards seminars will allow students a clearer idea as to where their strengths and weaknesses lie with respect to the mathematical techniques they will be learning and how they relate to economic theory. Lectures will introduce and develop important mathematical techniques required to build standard economic models with seminars helping to re-enforce these techniques through practical examples. The 2-hour seminars will allow time for class discussions and for staff and students to feedback to each other. There is also scope for applications and problem solving on case materials.

In addition staff will be available during the semester during their office hours (2 hours a week) for face to face meetings. Some time may also be allocated to personal tutor sessions.

Queries and extended discussions with staff can also be approached virtually through e-mail.

Blackboard – This module is supported by Blackboard, where students will be able to find all necessary module documentation, including guidance on Further Reading within the module handbook/outline. Direct links to information resources will also be provided from within Blackboard

TEL - The module will make use of appropriate online materials, notably the Mathematics for Economics: enhancing Teaching and Learning (METAL) material available from the Economics Network. This resource has online tutorials as well as videos relating mathematics to real economic problems.

Scheduled learning includes lectures and seminars with the latter including practical classes and workshops.

Independent learning includes hours engaged with essential reading and assignment preparation and completion. These sessions constitute an average time per level. Scheduled sessions may vary slightly depending on the module choices you make.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Show a clear understanding of which mathematical techniques are needed to solve equilibrium problems.

MO2 Use integration to calculate areas beneath a variety of different economic curves and functional forms.

MO3 Demonstrate the importance of maxima and minima in the building of economic models.

MO4 Explain in words the economic implications of building mathematical models.

MO5 Understand simple first order differential and difference equations and be able to apply their knowledge to simple problems in economic dynamics.

MO6 Understand elementary matrix algebra in a form suitable for application to econometrics and optimization.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/umedhk-15-1.html

Part 4: Assessment

Assessment strategy: The assessments provide students with an opportunity to use their mathematical skills to solve a number of different economic questions. There will be an emphasis on technical understanding and appropriateness of method used. Throughout the module students will be made aware by frequent signposting and formative feedback on problem solving examples, that they need to explain what their solutions/answers mean in an economic context. The nature of the material being covered lends itself to using many different real life examples.

The Assessment:

Assessment Task 1 : Online test - DEWIS -90mins. Students have two attempts at a multiple choice question test over a set time period. Questions will be randomly generated and the best of the two tests will be counted.

Assessment Task 2 : A Problem Set exercise - analysis of a problem set to answer specific questions - completed over a two week window .

Assessment Task 3: 2,000 word assignment that focusses on mathematical problem solving and economic interpretation.

Assessment components:

Online Assignment (First Sit)
Description: Written assignment
Weighting: 30 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO4, MO5, MO6

Examination (Online) (First Sit)
Description: DEWIS Test (online in BB with 2 attempts over a set period)
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO3, MO6

Online Assignment (First Sit)
Description: Problem Set analysis - 500 word equivalent exercise
Weighting: 30 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO6

Online Assignment (Resit)
Description: Written assignment
Weighting: 30 %
Final assessment: Yes
Group work: No

Learning outcomes tested: MO1, MO2, MO4, MO5, MO6

Examination (Online) (Resit)
Description: Written examination - 2000 word equivalent conducted in a 24 hour window.
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO6

Online Assignment (Resit)
Description: Problem Set Exercise.
Weighting: 30 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO6

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Economics [Frenchay] BSc (Hons) 2023-24

Economics {Foundation} [Frenchay] BSc (Hons) 2022-23

Economics {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2022-23

Economics {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2022-23