University of the West of England
BRISTOL

ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	Model Building in Economics I					
Module Code	UMEDHK-15-1		Level	1	Version	1
UWE Credit Rating	15	ECTS Credit Rating	7.5	WBL module?	No	
Owning Faculty	FBL		Field	Economics		
Department	AEF		Module Type	Standard		
Contributes towards	BSc(Hons) Economics					
Pre-requisites	None		Co- requisites	None		
Excluded Combinations	None		Module Entry requirements			
First CAP Approval Date	18 November 2015		Valid from	September 2016		
Revision CAP Approval Date			Revised with effect from			

Review Date	September 2022

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: 1. Show a clear understanding of which mathematical techniques are needed to solve equilibrium problems. (Components A and B) 2. Use integration to calculate areas beneath a variety of different economic curves and functional forms. (Components A and B) 3. Demonstrate the importance of maxima and minima in the building of economic models. (Components A and B) 4. Explain in words the economic implications of building mathematical models. (Components A and B)
Syllabus Outline	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. 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
Contact Hours	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.
Teaching and Learning Methods	• 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 as indicated in the table below. Scheduled sessions may vary slightly depending on the module choices you make.

Key Information Sets Information	**Key Information Set - Module data** *Number of credits for this module*: 15 Hours to be allocated: 150 | Scheduled learning and teaching study hours: 36 | Independent study hours: 114 | Placement study hours: 0 | Allocated Hours: 150  The table below indicates as a percentage the total assessment of the module which constitutes a: **Written Exam**: Unseen written exam **Coursework**: Written assignment Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description: Total assessment of the module: Written exam assessment percentage: 70% Coursework assessment percentage: 30% Practical exam assessment percentage: 0% 100%
Reading Strategy	Students will be directed and expected to undertake essential reading throughout the module. However, depending upon specific topics addressed over the course of the module, students will be expected to undertake additional reading for themselves. A list of indicative textbooks is provided below but students are expected to recognise that these may be starting points only and that they should extend their reading as widely as is necessary to demonstrate a comprehensive knowledge. **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 **UWE Libraries** – Engagement with online resources available through the library will be a core requirement of this module. Students will also be directed towards the University Library online Study Skills resources at http://www1.uwe.ac.uk/students/studysupport/studyskills.aspx for the development of skills appropriate to the level and style of the module There is no essential text for this module; however, we will suggest useful foundational texts to which they could refer. Students will be provided with a wide variety of written, audio and video texts that will be taken from recommended text books, journal articles, national and international newspapers and websites. Journal articles will be available electronically, or in the library. Students will be guided throughout the module as to the appropriate texts. Module guides will also reflect the range of reading to be carried out. Students will be told texts to read from books and from academic papers within the module handbook. Online videos and audio recordings will be recommended too of economists and policy makers.
Indicative Reading List	There is no core text book for this module but reference will be made to:- Alpha.C. Chang (2005), *Fundamental Methods of Mathematical Economics*, 4th Edition, McGraw-Hill International Editions

	Pemberton, M and Rau, N., (2011), *Mathematics for Economists: An Introductory Textbook*, Manchester University Press; 3rd Edition. Renshaw, G (2011) *Maths for Economics*, 3rd edition, Oxford University Press. Jacques, I (2012) *Mathematics for Economics and Business*, 7th edition, Pearson.

Part 3: Assessment	
Assessment Strategy	Both the examination and the piece of coursework will 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: Component A: 2-hour written examination with a mixture of short and long questions. Component B: 2,000 word assignment that focusses on mathematical problem solving and economic interpretation.

Identify final assessment component and element	**Component A**	
% weighting between components A and B (Standard modules only)	**A:** **70%**	**B**: **30%**

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Written Examination	100%
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Written Assignment	100%

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Written Examination	100%
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Written Assignment	100%
If a student is permitted a retake of the module under the University Regulations and Procedures, the assessment will be that indicated by the Module Description at the time that retake commences.	