SYLLABUS 2025-2026

Mathematics for Business: Orientation Data

MODULE SPECIFICATION

Module Code	2526_SCM_1_EN_012
Campus	Oxford
Department(s)	Supply Chain Management and Digital Management
Level / Semester	Undergraduate Year 1 (U1); Equivalent to FHEQ level 4 Semester 01
Language of Instruction	English
Teaching Method	☒ In-person (face-to-face) ☐ Distance learning (live online) ☐ e-Learning (asynchronous) ☐ Hybrid: _____
Pre-requisite(s)?	Basic mathematical concepts
ECTS *Reminder: 1 ECTS = between 20 and 30hr- student workload*	4
Equivalent FHEQ credits	8
Study Hours	80 hours which comprise of 21 directed learning and 59 independent learning/assessment hours

MODULE DESCRIPTION

Module Aims	This module offers a foundational introduction to essential mathematical concepts and techniques, providing students with the skills required for technical applications. The curriculum is structured to progress from core topics to more complex ideas. It begins with an exploration of functions and their graphical representations before moving on to the concept of derivatives and their practical

	applications. The module is designed to provide a solid mathematical foundation for students across various disciplines.
Teaching Arrangement	Students will apply different business cases to mathematical concepts. In addition, case studies will be presented to highlight the importance of mathematical and technical skills in understanding and analysing business challenges.
Learning Outcomes	By the end of this module, students should be able to: 1. Apply fundamental mathematical concepts to solve basic business problems. 2. Translate practical business scenarios into their appropriate mathematical applications. 3. Analyse business operations using foundational mathematical tools.
Competency Goals* *(Knowledge, expertise and interpersonal skills)*	PGE_U_CG02 - Steer economic performance
Alignment with Programme Learning Goals*	PGE_U_CG02_LO01 - Monitor the company's financial performance and anticipate financial risks

SESSION TOPICS / MODULE SCHEDULE

(Please note, a session/sequence may be more than one scheduled class)

Session 1: The Basics

Content:

- Signed numbers
- Exponents
- Basics of solving equations
- Sigma notation
- Numerical considerations
- Summary of key points

References:

- Bronson, G., Bronson, R. and Kieff, M. (2021) *Mathematics for business*. 7th edn. Dulles, VA: Mercury Learning and Information.

Assignments:

- Exercises

Session 2: Graphs and Linear Equations

Content:

- The Cartesian coordinate system
- Line graphs
- Graphing linear equations
- Properties of straight lines
- Break-even analysis

Last reviewed: 11/09/2025

- Constructing line graphs using Excel
- Summary of key points

References:

- Bronson, G., Bronson, R. and Kieff, M. (2021) *Mathematics for business*. 7th edn. Dulles, VA: Mercury Learning and Information.

Assignments:

- Exercises
- Excel applications
- Case study

Session 3: Functions

Content:

- Concept of a function
- Mathematical functions
- Polynomial functions
- Quadratic functions

References:

- Bronson, G., Bronson, R. and Kieff, M. (2021) *Mathematics for business*. 7th edn. Dulles, VA: Mercury Learning and Information.

Assignments:

- Exercises

Session 4: Functions (cont.)

Content:

- Overview of exponential functions

References:

- Bronson, G., Bronson, R. and Kieff, M. (2021) *Mathematics for business*. 7th edn. Dulles, VA: Mercury Learning and Information.

Assignments:

- Exercises

Session 5: Rates of Change – The Derivative

Content:

- Average rates of change
- Instantaneous rates of change
- Tangent lines and the derivative
- Basic derivatives
- Addition and subtraction rules
- Product and quotient rules
- Additional rules

References:

- Bronson, G., Bronson, R. and Kieff, M. (2021) *Mathematics for business*. 7th edn. Dulles, VA: Mercury Learning and Information.

Assignments:

- Exercises

Session 6: Rates of Change – The Derivative (cont.)

Content:

- Overview of higher-ordered derivatives

References:

- Bronson, G., Bronson, R. and Kieff, M. (2021) *Mathematics for business*. 7th edn. Dulles, VA: Mercury Learning and Information.

Assignments:

- Exercises

KEY TEXTS

1. Bronson, G., Bronson, R. and Kieff, M. (2021) *Mathematics for business*. 7th edn. Dulles, VA: Mercury Learning and Information.

SUPPLEMENTARY TEXTS

1. Jacques, I. (2023) *Mathematics for economics and business*. 10th edn. Pearson.

MODES OF ASSESSMENT

Continuous Assessment (40%)	Written exam
Final Exam (60%)	Closed book written exam

MODULE DESIGN TEAM

- Author: *Samah Jradi / Roya Tat*
- Reviewer: *Paul Griffiths*
- External Reviewer: *TBA*

Last reviewed: 11/09/2025