

MODULE DESCRIPTOR

Module Title

Mathematics for Computing

Reference	CM1118	Version	1
Created	January 2023	SCQF Level	SCQF 7
Approved	August 2023	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

This module aims to provide students with a foundation in mathematical concepts relevant in computing, and students will also gain skills in group working and communication.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Identify appropriate uses of mathematical techniques in modelling systems and processes.
- 2 Describe the steps involved in modelling systems and processes.
- 3 Apply analytical and mathematical modelling skills to a range of problems relevant to computing domains.
- 4 Acquire skills in problem solving and effective communication in a variety of settings, relevant to future study, research and in the workplace.

Indicative Module Content

Set theory, functions, sequences, series, coordinates, lines, curves, parametric equations, projectile motion, vectors, matrices.

Module Delivery

This module is delivered throughout the teaching session using a mixture of lectures, tutorials and computer laboratory sessions (where appropriate).

Indicative Student Workload

	Full Time	Part Time
Contact Hours	40	N/A
Non-Contact Hours	110	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type: Coursework Weighting: 100% Outcomes Assessed: 1, 2, 3, 4

Description: A group project to design and implement a solution to a maths-based modelling problem.

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

The module is assessed on a pass/unsuccessful basis. The module grade is based on performance in Component 1.

Module Grade	Minimum Requirements to achieve Module Grade:
Pass	Pass in Component 1
Fail	Fail in Component 1
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None, in addition to course entry requirements.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 VINCE, J., 2020, Foundation mathematics for computer science: a visual approach. Springer.
- 2 ROSEN, K., 2019. Discrete Mathematics and Its Applications (8th ed). McGraw-Hill.
- 3 O'REGAN, G., 2020, Mathematics in Computing (2nd ed). Springer.
- 4 ROSENBERG, A.L. and TRYSTRAM, D., 2020, Understand Mathematics, Understand Computing. Springer.