COURSE DETAIL

MATHEMATICAL MODELLING

Country
United Kingdom - England

Host Institution
Exeter College, University of Oxford

Program(s)
Summer in Oxford, Exeter College

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Mathematics

UCEAP Course Number
128

UCEAP Course Suffix
S

UCEAP Official Title
MATHEMATICAL MODELLING

UCEAP Transcript Title
MATH MODELLING

UCEAP Quarter Units
6.00

UCEAP Semester Units

4.00

Course Description

This course introduces the key principles of mathematical modelling, which then are explored through several real-world examples in disease modelling, environmental planning, and population dynamics. The techniques of calculus are essential, although core concepts such as differential equations are revisited. Students also touch on the mathematical models used in data science, particularly the techniques of principal component analysis and clustering, both essential tools in machine learning models.

Language(s) of Instruction
English

Host Institution Course Number

Host Institution Course Title
MATHEMATICAL MODELING

Host Institution Course Details
https://www.exeter.ox.ac.uk/file/2025/02/Mathematical-Modelling-1-2.pdf

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed
2025-2026

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