COURSE DETAIL

COMPUTING AND NUMERICS

Country
United Kingdom - Scotland

Host Institution
University of Edinburgh

Program(s)
University of Edinburgh

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Mathematics

UCEAP Course Number
105

UCEAP Course Suffix

UCEAP Official Title
COMPUTING AND NUMERICS

UCEAP Transcript Title
COMPUTING& NUMERICS

UCEAP Quarter Units
4.00

UCEAP Semester Units
2.70

Course Description

This course introduces numerical methods, which are now an essential component in a diverse range of disciplines. Topics include creation and manipulation of arrays, solutions of linear systems, Gaussian elimination with partial pivoting, numerical differentiation and integration, introductory numerical differential equations, root finding methods, including bisection and fixed-point iteration, Newton's method in one and higher dimensions, and functional minimization in multiple dimensions. Within these topics students are introduced to variables and functions, floating point arithmetic, flow control, container types, plotting, and symbolic expressions.

Language(s) of Instruction
English

Host Institution Course Number
MATH08065

Host Institution Course Title
COMPUTING AND NUMERICS

Host Institution Campus

Host Institution Faculty
School of Mathematics

Host Institution Degree

Host Institution Department

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