COURSE DETAIL

ANALYTICAL AND COMPUTATIONAL MECHANICS (LEVEL 2)

Country
United Kingdom - England

Host Institution
University College London

Program(s)
Summer at University College London

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Computer Science

UCEAP Course Number
133

UCEAP Course Suffix
S

UCEAP Official Title
ANALYTICAL AND COMPUTATIONAL MECHANICS (LEVEL 2)

UCEAP Transcript Title
ANALYTICL&COMP MECH

UCEAP Quarter Units
6.00

UCEAP Semester Units

4.00

Course Description

This course cover three important ideas in classical physics – Newton’s Laws of Motion, Newton’s Law of Gravitation and the Wave Equation. After considering analytical solutions to each, students look at computational solutions using the Python programming language (no background in coding is necessary) and touch on ideas such as dynamical systems and chaos. Students also look at solutions in different coordinate systems which give rise to familiar ideas such as Kepler’s laws of planetary motion and the inverse square law but from a first principles approach.

Language(s) of Instruction
English

Host Institution Course Number
ISSU0131

Host Institution Course Title
ANALYTICAL AND COMPUTATIONAL MECHANICS (LEVEL 2)

Host Institution Course Details
https://www.ucl.ac.uk/prospective-students/summer-school/modules/analytical-and...

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Natural Sciences

Course Last Reviewed

2025-2026

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