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

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UCEAP Official Title ANALYTICAL AND COMPUTATIONAL MECHANICS (LEVEL 2)

UCEAP Transcript Title ANALYTICL&COMP MECH

UCEAP Quarter Units 6.00

UCEAP Semester Units

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 Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department Natural Sciences

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