

Biochemical Engineering

Modelling and Analysis II (BENG0017)

Description

The aim of this course is to enable students: (a) to recognize the connections between mathematics and engineering and how mathematical ideas are embedded in engineering problems; (b) to represent real-world systems and design problems from engineering in a mathematical framework. The module builds on the knowledge and skills gained in Modelling and Analysis I.

Upon completion of the course, a student should be able to:

- Identify and draw upon a range of advanced mathematical concepts, including Analytical and Numerical solution of (systems of) ODEs, Linear Algebra, Matrices and Eigenvectors/Values, Statistics and Partial Differential Equations (PDEs)
- Analyse specific problems and identify the appropriate mathematics to realise a solution
- Employ appropriate computer programming and modelling techniques and statistical analysis to efficiently solve and evaluate the performance of engineering systems
- Relate the behaviour of the output of mathematical models to the underlying physical or conceptual models of interest
- Carry out engineering problem solving both collaboratively in a team and independently
- Present and interpret mathematical results in effective and appropriate ways to varied audiences, including non-mathematical engineering audiences.

Key information

Year	2019/20
Credit value	15 (150 study hours)
Delivery	UG L5, Campus-based
Reading List	View on UCL website
Tutor	Dr Alexandros Kyparissidis
Term	Terms 1 and 2
Timetable	View on UCL website

Assessment



- Written examination (main exam period): 80%
- Coursework: 20%

Find out more

For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk