

## 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**

<b>Year</b>	2018/19
<b>Credit value</b>	15 (150 study hours)
<b>Delivery</b>	UG L5, Campus-based
<b>Reading List</b>	<a href="#">View on UCL website</a>
<b>Tutor</b>	<a href="#">Dr Alexandros Kyparissidis</a>
<b>Term</b>	Terms 1 and 2
<b>Timetable</b>	<a href="#">View on UCL website</a>

**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](http://ucl.ac.uk)