



## Biochemical Engineering

## Fluid Flow and Mixing in Bioprocesses (BENG0083)

## Description

To provide students with an introduction to the basic transport phenomena required to analyse and design processes handling labile biological materials. Focus is on the development of a physical understanding of the underlying momentum transport phenomena and upon the ability to apply transport analysis to practical bioprocess-oriented problems. The physical interpretation of the problem will be emphasised via the understanding of the problem's mathematical solution.

Intended learning outcomes

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

- Mathematically analyse and interpret given experimental data analysis of a fluid in a viscometer and provide a physical explanation of the results obtained.
- Design a generic pipe network based on specifications and constraints, verify the assumptions made and quantify the pump requirements.
- Analyse and design a complete chromatography system based on fluid flow specifications.
- Calculate the power input required for agitation in a stirred-tank fermenter under a range of operating conditions.
- Define conditions for the successful scale-up or scale-down of a fermentation process for different biological systems.

## Key information

<b>Year</b>	2018/19
<b>Credit value</b>	15 (150 study hours)
<b>Delivery</b>	UG L4, Campus-based
<b>Reading List</b>	<a href="#">View on UCL website</a>
<b>Tutor</b>	<a href="#">Dr Marco Paulo Cardoso Marques</a>
<b>Term</b>	Term 2
<b>Timetable</b>	<a href="#">View on UCL website</a>

## Assessment



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

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