Introduction to Biochemical Engineering Processing and Design (BENG0001)

Description
The module provides students with an engineering foundation in the principles of engineering analysis and design. Focus is on the introduction to relationships between material properties and behaviour in (bio)process environment. The cover concepts are key to the understanding of the performance of processes for the manufacture of biologically-based products and for the specification and design of overall process sequences.

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 and 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.
- Characterise the different stages of a fermentation process and execute simple mass and energy balances.
- Perform simple mass balances around key unit operations.
- Analyse the major mechanism of chromatographic separation used at industrial scale.

Key information

Year: 2018/19
Credit value: 15 (150 study hours)
Delivery: UG L4, Campus-based
Reading List: View on UCL website
Tutor: Dr Marco Paulo Cardoso Marques
Term: Term 2
Timetable: View on UCL website

Assessment
- Written examination (main exam period): 60%
- Written examination (departmentally managed): 20%
- Report: 20%

Find out more
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Disclaimer: All information correct as of December 2018. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.