LONDON'S GLOBAL UNIVERSITY

Biochemical Engineering

Heat and Mass Transfer in Bioprocesses (BENG0015)

Description

The aim of this course is to provide students with an introduction to heat and mass transport phenomena required to design bioprocesses. Focus is on the development of a physical understanding of the underlying 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:

- Understand the key design features that determine the heat transfer capability of a fermenter
- Evaluate the consequences of process changes on the performance of fermenter sterilisation and cooling
- Apply heat transfer principles to design a spray drier for the rapid drying of heat-labile proteins
- Define conditions for successful operation of a freeze drying process
- Understand the principles of dispersion and mass transfer within a packed bed chromatography systems
- Understand the fundamentals of distillation and mass transfer

Key information

Year	2018/19
Credit value	15 (150 study hours)
Delivery	UG L5, Campus-based
Reading List	View on UCL website
Tutor	Dr Farlan Veraitch
Term	Term 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

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Year	2018/19
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Term	Term 2
Timetable	View on UCL website

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