Advanced Separation Processes (CENG0033)

Description

Aims:
The aim of this module is to extend the students’ knowledge of basic fluid separation processes to more complex systems commonly found in the chemical processing industry. Students will develop:

- a thorough understanding of the underlying chemical & physical phenomena of the processes;
- a working knowledge of methods for design and operation of industrial separation units;
- a working knowledge of simulation tools applicable for the analysis and design; skills to propose energy efficient and sustainable design solutions.

Learning Outcomes:
On completion of this module students should:

- be able to understand the mass and heat transfer phenomena involved in complex fluid separation processes;
- be familiar with the procedures for the design of complex fluid separation equipment in the context of sustainability and sustainable development;
- be able to select an appropriate fluid separation process to meet a required separation performance;
- be able to apply conceptual design methods for simple and complex distillation columns;
- be able to simulate process flowsheets and mass transfer operations with an appropriate level of detail.

Synopsis:
To provide an understanding of the principles of complex fluid separation processes, as well as an ability to suggest energy efficient and sustainable design & operation alternatives thereof, such as:

- Extractive, azeotropic and reactive distillation.

Key information

Year 2019/20
Credit value 15 (150 study hours)
Delivery PGT L7, Campus-based
Reading List View on UCL website
Tutor Prof Eva Sorensen
Term Term 2
Timetable View on UCL website

Assessment

- Written examination (main exam period): 60%
- Coursework: 40%

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)
- Pressure- and temperature-swing absorption (PSA/TSA)
- Multi-component distillation & absorption separations, including column sequencing
- Advanced chromatographic processes (e.g. Simulated Moving Bed)
- Cooling and Evaporative Crystallization
**Chemical Engineering**

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**Disclaimer:** All information correct as of June 2019. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.
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