

## Chemical Engineering

## Natural Gas Processing (CENG0034)

## Description

## Aims:

The aim of this module is to equip the students with a broad understanding of the unit operations (reactors, separations, pumping, cooling/heating, etc.) that are part of a chemical plant. The students will also understand the costing of a chemical plant, as well as the impact of managing both the construction of a plant and its operation. The students will learn how to design a chemical process, which will become essential should they decide to attain accreditation from professional bodies such as IChemE. Some elements of financing will be included, as they will prepare the students for subsequent courses in this MSc.

## Learning Outcomes:

Upon successful completion of this module the students will be able to:

- formulate the typical composition of natural gas;
- appraise the unit operations needed to render the raw material into a commodity;
- quantify the finances regarding the plant;
- evaluate and explain possible complications in the design of the process;
- defend the limitations and trade-offs when a plant is commissioned;
- appraise the uncertainties and the risks connected with a vast capital investment;
- design a chemical process plant using commercial software

## Synopsis:

This module has the goal of providing an overview on the chemical processes typically implemented to transform the natural gas extracted from the ground into a valuable commodity. The module includes elements of project management, economics analysis, optimization, process control, and the description of a few unit operations that are

## Key information

Year	2020/21
Credit value	15 (150 study hours)
Delivery	PGT L7, Campus-based
Reading List	<a href="#">View on UCL website</a>
Tutor	<a href="#">Prof Alberto Striolo</a>
Term	Term 1
Timetable	<a href="#">View on UCL website</a>

## Assessment



■	Written examination (departmentally managed): 50.0%
■	Coursework: 30.0%
■	Coursework: 20.0%

## Find out more

For more information about the department, programmes, relevant open days and to browse other modules, visit [ucl.ac.uk](https://ucl.ac.uk)

essential for the implementation of natural gas processing plants.

The module will consider:

- Natural Gas Fundamentals
- Basic Concepts of Natural Gas Processing
- Gas Plant Project Management
- Natural Gas Treating (Dehydration and Denitrification)
- Natural Gas Compression and Plant Automation
- Design of a Natural Gas Processing Plant
- Maximizing Profitability of Gas Plant Assets
- Gas Processing Operations

The course also includes a tutorial on process design using chemical process design software packages such as Aspen Plus.



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