LONDON'S GLOBAL UNIVERSITY

Chemical Engineering

Thermodynamics (CENG0004)

Description

Aims:

To cover the main principles of classical thermodynamics required by the chemical engineer in order to study the engineering and chemistry required to design and operate processes associated with the chemical industry.

Learning Outcomes:

Upon completion of this module students should:

1.

be able to demonstrate knowledge and understanding of the essential facts, concepts, theories and principles of thermodynamics;

2.have the knowledge to apply appropriate science, engineering and mathematical tools to the analysis of problems arising in thermodynamics;

3.have an understanding of the wider multidisciplinary context of the underlying theory of thermodynamics, including its applications to engineering design and application to real world problems;

Synopsis:

Fundamentals and basic definitions;

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Key information

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

Assessment

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

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thermodynamics;

2.have the knowledge to apply appropriate science, engineering and mathematical tools to the analysis of problems arising in thermodynamics;

3.have an understanding of the wider multidisciplinary context of the underlying theory of thermodynamics, including its applications to engineering design and application to real world problems;

Synopsis:

Fundamentals and basic definitions;

First Law of Thermodynamics;

- Internal energy, enthalpy and heat capacity;

Equations of state;

- Second Law of Thermodynamics;
- Criteria for spontaneous change and equilibrium;

Definition of reversible and irreversible work;

Thermodynamic properties of fluids;

Thermodynamics of compressors and refrigeration systems;

Gas liquefaction and power cycles;

Introduction to phase equilibrium;

Fugacity and activity;

Introduction to solution thermodynamics;