

COURSE DETAIL

THERMODYNAMICS I

Country

United Kingdom - England

Host Institution

University of London, Queen Mary

Program(s)

University of London, Queen Mary

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Engineering

UCEAP Course Number

121

UCEAP Course Suffix**UCEAP Official Title**

THERMODYNAMICS I

UCEAP Transcript Title

THERMODYNAMICS I

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course covers the fundamental principles of general non-equilibrium thermodynamics. It examines applications of single-constituent fluids, and provides background for all applications in engineering. Students learn what is meant by the terms thermodynamic system; state; property; equilibria; first and second laws of thermodynamics; formal definitions energy, entropy, temperature, work and heat interactions; extensive property; intensive property; simple fluid system; internal energy; entropy; temperature and pressure of a simple fluid system; static; stagnation; and total properties. The course explores ideal and perfect gases and derives expressions for their internal energy, enthalpy, entropy, and specific heat capacities. Students use tables of thermodynamic properties and perform simple calculations on the performance of energy conversion devices and simple thermodynamic cycles. They gain an understanding of the requirement of equality of temperature, pressure and specific Gibbs function for equilibrium between phases of a pure (single constituent) fluid.

Language(s) of Instruction

English

Host Institution Course Number

DEN107

Host Institution Course Title

THERMODYNAMICS I

Host Institution Course Details

Host Institution Campus

Queen Mary

Host Institution Faculty

Host Institution Degree

Host Institution Department

Engineering and Materials Science

Course Last Reviewed

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