

COURSE DETAIL

THERMAL ENGINEERING

Country

Spain

Host Institution

Carlos III University of Madrid

Program(s)

Carlos III University of Madrid

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mechanical Engineering

UCEAP Course Number

103

UCEAP Course Suffix**UCEAP Official Title**

THERMAL ENGINEERING

UCEAP Transcript Title

THERMAL ENGINEERING

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

This course offers an introduction to thermodynamics and heat transfer. Topics include: mass energy and entropy balance for closed and open systems; equipment under steady state-- nozzles, diffusers, pumps, compressors, turbines, hope and closed heat exchangers, and valves; Carnot cycle; Rankine cycle; Brayton cycle; internal combustion engines; inverse Carnot cycle; introduction to heat transfer-- Fourier's law, Newton's law, Stefan-Boltzmann's law; one-dimensional steady state conduction with and without heat generation; transient conduction; fins-- formulation and performance analysis.

Prerequisites: Calculus I, Calculus II, Physics I

Language(s) of Instruction

Host Institution Course Number

14193,14022

Host Institution Course Title

THERMAL ENGINEERING

Host Institution Campus

Leganés

Host Institution Faculty

Escuela Politécnica Superior

Host Institution Degree

Grado en Ingeniería Mecánica

Host Institution Department

Departamento de Ingeniería Térmica y Fluidos

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