30037 - Thermal Generation Systems

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	436 - Bachelor's Degree in Industrial Engineering Technology
ECTS	6.0
Course	4
Period	First semester
Subject Type	Optional
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

5.2.Learning activities

5.3.Program

Introduction
Types of power plants
Conventional
Atmospheric Fluidized bed

30037 - Thermal Generation Systems

Nuclear
Combined Cycles
Pressurized fluidized bed
Integrated Gasification Combined Cycle
Organic Rankine Cycle
Steam generator
Air-gas system
Water-steam system
Auxiliary equipment
Control and regulation of power plants
Biomass and co-firing
Energy analysis of power plants
Environmental analysis of power plants
Analysis of industrial and aircraft gas turbines. Combustion chambers of gas turbines.
Characterization of the passages of rotor blades: ratio between the fluid and passages geometry.
Characterization of stators.
Design of action and reaction blades of axial turbines. Optimum operating conditions.
Blade design of axial compressors. Limiting factors.
Features of radial thermal turbomachinery.
Performance off-design.
Regulation of thermal turbomachinery.

5.4.Planning and scheduling

5.5.Bibliography and recomended resources