29923 - Fluid Technics

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	435 - Bachelor's Degree in Chemical Engineering
ECTS	6.0
Year	3
Semester	First semester
Subject Type	Compulsory
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning process for this subject is based on the following activities:

- Lectures, in which the teacher explains the main principles and proposes application examples involving numerical calculations as a means to consolidate the concepts. The involvement of the students in these activities will be fostered by means of open discussion in the classroom on some of the concepts and their practical implications and promoting their participation in the processes of reasoning and solution strategies for the proposed exercises.

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- Autonomous work, aimed at studying the theoretical concepts and applying them to solve practical exercises. Given the nature of this subject, the development of strategies for the application of the concepts in the solution of exercises is an essential component of the learning process. With this purpose, the students will be provided with a complete collection of exercises, including their respective solutions, and the teacher will help to guide the work of the student by proposing selected problems for the different parts of the subject.
- Tutoring hours. The hours allocated by the teacher for individualised assistance also provide excellent opportunities to clarify any doubt on theoretical concepts or problem solving procedures.

5.2.Learning tasks

- Lectures
- Problem solving sessions
- Proposal of questions and practical cases to be solved individually or in small groups, as a means to consolidate the theoretical concepts and to promote critical thinking

5.3.Syllabus

- Introduction to pipe flow and pumping systems
- Energy conservation in fluid systems
- Pressure losses
- Fundamentals of turbomachinery
- Turbomachines: Pumps and fans
- Positive displacement pumps
- Analysis of incompressible liquid and gas pipe flow and pumping systems
- Regulation of pipe flow and pumping systems

5.4.Course planning and calendar

Classroom lectures and problem solving sessions are organised according to the schedule defined by the EINA for the academic year. The hours in which the teacher will be available for individual tutoring will be specified at the beginning of the term.

5.5.Bibliography and recommended resources

BB	Mataix, Claudio. Turbomáquinas hidráulicas : turbinas hidráulicas, bombas, ventiladores / Claudio Mataix . - 2ª ed. rev. y corr. / Por Antonio Arenas ; con la colaboración de Eva Arenas y Alexis Cantizano Madrid : Universidad Pontificia de Comillas 2009
BB	Viedma Robles, Antonio. Teoría de máquinas hidráulicas / Antonio Viedma Robles, Blas Zamora Parra Murcia : Universidad, Servicio de Publicaciones, 1997
BB	White, Frank M.. Mecánica de fluidos / Frank M. White ; [equipo de traducción, Concepción Paz Penín, Antonio Eirís Barca, Eduardo Suárez Porto ; revisor técnico, Concepción Paz Penín] . - 6ª ed. Aravaca (Madrid) : McGraw-Hill/Interamericana, D. L. 2008