

SUBJECT TEACHING GUIDE

G989 - Fluid Mechanics

Degree in Industrial Electronic Engineering and Automatic Control Systems

Academic year 2022-2023

| 1. IDENTIFYING DATA | | | | | |
|----------------------------------|--|------------------|--------------------|------------------|--------------------|
| Degree | Degree in Industrial Electronic Engineering and Automatic Control Systems | | | Type and Year | Compulsory. Year 2 |
| Faculty | School of Industrial Engineering and Telecommunications | | | | |
| Discipline | Subject Area: Thermofluid Mechanics Module in Common with the Industrial Branch | | | | |
| Course unit title and code | G989 - Fluid Mechanics | | | | |
| Number of ECTS credits allocated | 6 | Term | Semester based (2) | | |
| Web | | | | | |
| Language of instruction | Spanish | English Friendly | No | Mode of delivery | Face-to-face |

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|------------------|---|--|--|--|--|
| Department | DPTO. INGENIERIA ELECTRICA Y ENERGETICA | | | | |
| Name of lecturer | SEVERIANO FIDENCIO PEREZ REMESAL | | | | |
| E-mail | severiano.perez@unican.es | | | | |
| Office | E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 3. DESPACHO PROFESOR (S3026) | | | | |
| Other lecturers | JORGE TOMAS CUELI LOPEZ JOSE SALMON GARCIA | | | | |

3.1 LEARNING OUTCOMES

- Students will be able to apply the concepts of fluid mechanics necessary to carry out engineering projects
- It will be able to apply the concepts of fluid mechanics necessary for the design and improvement of hydraulic machinery

4. OBJECTIVES

- Acquiring knowledge of the fundamentals of fluid mechanics to solve technical problems
- Apply the theoretical basis of fluid mechanics to hydraulic machines
- Knows the operating principles, structure and use of hydraulic machines

6. COURSE ORGANIZATION

CONTENTS

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| 1 | <p>Introduction to fluid mechanics</p> <p>hydrostatic</p> <p>Kinematics and Dynamics of fluids</p> <p>Calculation of pipes and channels</p> <p>External flow,</p> <p>Water hammer and cavitation</p> |
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7. ASSESSMENT METHODS AND CRITERIA

| Description | Type | Final Eval. | Reassessn | % |
|--|--------------|-------------|-----------|---------------|
| Classroom assessments | Work | No | Yes | 40,00 |
| Laboratory practices | Others | No | No | 10,00 |
| Examination of practical theoretical contents of the subject | Written exam | Yes | Yes | 50,00 |
| TOTAL | | | | 100,00 |

Observations

Students who renounce continuous assessment can make up the subject in the ordinary and extraordinary exam sessions (theory, problems and laboratory exam).

The remote evaluation of the works, practical laboratory exercises and written tests is foreseen, in the case of a new health alert by COVID-19 making it impossible to carry out the evaluation in person.

No grade earned for subsequent courses is saved.

It is expected that in the event that the health and / or educational authorities do not allow the final exam of the subject in person, this will be done through the Moodle platform. To do this, students must have a computer and internet connection on the day of the exam.

Observations for part-time students

Part-time students who do not attend classes will be assessed for the entire subject in ordinary and extraordinary calls (theory, problems and laboratory exam)

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

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| Mecánica de Fluidos y Máquinas Hidráulicas; Claudio Mataix; Ed. Oxford |
| Ingeniería Fluidomecánica; N. Garcia Tapia; Universidad de Valladolid |
| Mecánica de Fluidos e Hidráulica; R.V. Giles; Ed. McGrawhill |
| Mecánica de Fluidos Aplicada; R. Mott; Ed. Prentice Hall |
| Mecánica de Fluidos; A. Crespo; Ed. Thomson |
| Mecánica de Fluidos; F. White; Ed. McGrawhill |

