COURSE DATA

DATA SUBJECT

Code: 43816
Name: Management of wastewater treatment plants
Cycle: Master's Degree
ECTS Credits: 3
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
2250 - Master's Degree in Environmental Engineering	Escola Tècnica Superior d'Enginyeria	2	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
2250 - Master's Degree in Environmental Engineering	Gestión de estaciones depuradoras de aguas residuales	ELECTIVES

COORDINATION

MARTI ORTEGA NURIA

SUMMARY

This subject is taught by technicians of the Public Entity of Wastewater Sanitation of the Valencian Community-EPSAR, Ibredrola S.A., Confederación Hidrográfica del Júcar, Global Omnium and CICLAGUA.

The subject \\"Management of wastewater treatment plants\\" is an optional subject of 3 credits that is taught in the first semester of the second year of the Master. This subject belongs to the intensification of Specialist in Management of EDARs and it is intended that the student acquires the knowledge and skills necessary to carry out the exploitation and execution of a WWTP. The subject has a practical nature since it studies the basic aspects related to the operation of a WWTP.

The subject of \\"Management of sewage treatment plants\\" complements and extends the knowledge acquired in the subjects related to wastewater treatment.

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PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

Relationship with other subjects of the same degree:
There are no specified enrollment restrictions with other subjects of the currículum.

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There are no specified enrollment restrictions with other subjects of the currículum.

COMPETENCES / LEARNING OUTCOMES

2250 - Master's Degree in Environmental Engineering

Develop environmental solutions under the principles of circular economy and the sustainable development goals.

Interpret and apply national and international environmental legislation and adapt environmental solutions to these regulations.

Learn and apply new knowledge, using appropriate learning strategies.

Manage and operate treatment and/or purification systems in the field of environmental engineering

Recognise the ethical and professional responsibilities of environmental engineering and make informed judgements considering the impact of engineering solutions in global, economic, environmental and social contexts.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

Students should demonstrate self-directed learning skills for continued academic growth.

Students should possess and understand foundational knowledge that enables original thinking and research in the field.

Work in a team effectively and with leadership, in a collaborative and inclusive environment, setting goals, planning tasks and meeting objectives.

DESCRIPTION OF CONTENTS

1. Treatment and control of discomfort. Noises Smells. Correction of environmental impact.

2. Energetic aspects. Rates and market. Cogeneration.

3. Control of submarine emissaries.

4. Control of the operation of a WWTP, fundamental aspects. Action in emergency situations and plant stops.

5. Administrative aspects. Operating costs. Financing and contracting. Warehouse and stock management. Basic accounting. Quality, ISO 9000.

6. Preparation of preventive-corrective maintenance plans. Application to basic equipment of a WWTP, pumps, band filters, centrifuges.

7. Civil works. General aspects related to construction management. Interferences

8. Security and health. Prevention of occupational hazards. Protection equipment.

9. Relations with the administrations involved in the execution and operation of WWTPs.

10. Water Reuse

11. Sludge management: conditioning, treatment, dehydration, drying, incineration and composting

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	20,00
Seminar	5,00
Classroom practices	5,00
Total hours	**30,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	15,00
Independent study and work	20,00
Preparation of lessons	5,00
Preparation for assessment activities	5,00
Resolution of case studies	0,00
Total hours	**45,00**

TEACHING METHODOLOGY

The training activities will be developed according to the following distribution:

• Theoretical activities.

Description: In the theoretical classes the topics will be developed providing a global and integrating vision, analyzing in greater detail the key aspects and of greater complexity, promoting, at all times, the participation of the student.

• Practical activities.

Description: They complement the theoretical activities in order to apply the basic concepts and expand them with the knowledge and experience that they acquire during the realization of the proposed works. They include the following types of face-to-face activities:

- Classes of problems and questions in the classroom

- Discussion sessions and problem solving and exercises previously worked by the students

• Student's personal work.

Description: Realization (outside the classroom) of monographic works and issues or problems, as well as the preparation of classes. This task will be carried out individually and tries to promote autonomous work.

• Work in small groups.

Description: Realization, by small groups of students (2-4) of work, issues or problems outside the classroom. This task complements the individual work and fosters the capacity for integration in work groups.

The e-learning platform (Virtual Classroom of the Universitat de València and / or PoliformaT of the Polytechnic University of Valencia) will be used as a communication support with the students. Through it you will have access to the didactic material used in class, as well as the problems and exercises to solve.

EVALUATION

The evaluation of the subject will be carried out through practical work in which they have to apply the knowledge acquired to a WWTP. To pass the subject it will be necessary to obtain a 50 out of 100. The weight of the work will be 90% of the final grade.

A minimum attendance of 80% will be mandatory to pass the subject in the first call. Continuous evaluation based on attendance and participation in class will have a weight of 10% in the final grade.

In any case, the evaluation system will be governed by the provisions of the Regulations for Assessment and Qualification of the University of Valencia for Degree and master's degrees (http://links.uv.es/7S40pjF).

Copying or plagiarism of any activity that is part of the evaluation will result in the impossibility of passing the course, and the student will then be subject to the appropriate disciplinary procedures indicated in the ACTION PROTOCOL FOR FRAUDULENT PRACTICES AT THE UNIVERSITY OF VALENCIA (ACGUV 123/2020).

REFERENCES