COURSE DATA

DATA SUBJECT

Code: 46993
Name: Master's Thesis
Cycle: Master's Degree
ECTS Credits: 30
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2278 - Master in Advanced Materials	Facultat de Química	1	Indefinite (Individuals)

SUBJECT-MATTER

Degree	Subject-matter	Character
2278 - Master in Advanced Materials	Trabajo Fin de Máster - Sin Mención Dual	MASTER THESIS PROJECT

COORDINATION

CORONADO MIRALLES EUGENIO

SUMMARY

This module consists of the development of an introductory work to the investigation and defense of the Final Master's Thesis (TFM).

The Final Master's Theses are a key point for assimilating and putting into practice the knowledge acquired in the master's. They will be carried out throughout the academic year and individually and will be tutored by a professor from one of the universities participating in the master's degree, mostly from the university where the students are enrolled, regardless of whether it is done in another institution or in external companies.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

Previous knowledge of chemistry, physics or materials science as taught in the degrees indicated in the recommended entry profile to the master's degree is required.

COMPETENCES / LEARNING OUTCOMES

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Capacity for learning, responsibility and decision-making: Act autonomously in learning, make informed decisions in different contexts, issue judgements based on experimentation and analysis and transfer knowledge to new situations.

Communication: Be able to communicate effectively, both orally and in writing, adapting to the characteristics of the situation and audience.

Creative and entrepreneurial skills: Propose creative and innovative solutions to complex situations or problems within the field of knowledge to respond to diverse professional and social needs.

Critically analyse, evaluate and synthesise new ideas to solve problems in complex or unfamiliar environments within broader contexts in the different areas of impact and application of materials.

Critical thinking, ethical commitment and professional responsibility: Demonstrate critical and self-critical reasoning in the field of the degree, considering aspects such as professional ethics, moral value and the social implications of the different

Emotional intelligence: Understand and regulate one's own emotions and those of others to interact and participate effectively and constructively in social and professional life.

Gender perspective: Know and understand, within the area of the degree, inequalities based on sex and gender in society; integrate different needs and preferences based on sex and gender into the design of solutions and problem-solving.

Have the knowledge and skills necessary to pursue future doctoral studies in the field of materials.

Relate the type of advanced material to the best methods of production, manufacturing and processing of the final device.

Social commitment and sustainability: Contribute to the design, development and implementation of solutions that respond to social demands, considering the Sustainable Development Goals as a reference.

Students from one area of knowledge (e.g. physics) should be capable of communicating and interacting scientifically with peers from other areas of knowledge (e.g. chemistry) in the analysis and resolution of common problems.

Teamwork and leadership: Collaborate effectively in work teams, taking on responsibilities and leadership roles and contributing to collective improvement and development.

DESCRIPTION OF CONTENTS

The Final Master's thesis is organized around any topic that involves advanced materials, either practically or theoretically. It must be an original exercise carried out individually and defended before a university board.

The CCA of each university will be in charge of assigning to each student the subject of their TFM among those proposed by the university professors or doctors from external institutions or companies taking into account the preferences of all of them.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at supplementary activities	0,00
Monitoring and tutoring of the master's thesis	50,00
Presentation and defence of the master's thesis	1,00
Total hours	**51,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Independent preparation of the master's thesis	400,00
Preparation of the master's thesis project	299,00
Total hours	**699,00**

TEACHING METHODOLOGY

The training activities that the students will carry out are laboratory work, bibliographic review and the design of experiments, preparation of the report and presentation of the work, tutorials with the TFM tutor and, finally, presentation and defense of the work.

When the TFM is carried out in an institution or company, it must designate an external tutor who will collaborate, together with the academic tutor designated by the CCA based on the subject, in defining the content of the TFM and its development.

EVALUATION

The Final Master's Thesis will be evaluated by a panel composed of three doctors with experience in the field of advanced materials. As far as possible, at least one of them will be affiliated with an institution other than the one where the evaluated students are enrolled, preferably another university participating in this master's degree.

The evaluation of the Final Master's Thesis will be based on the report, the report prepared by the tutor, the oral presentation and the public defense of the work.

In the evaluation process, criteria such as scientific and technical rigor, the originality and relevance of the **work** presented, as well as the student's capacity for analysis and synthesis will be considered. Likewise, the clarity, coherence and structure of both the written memory and the

oral presentation will be assessed. During the **presentation and oral defense**, the student's ability to communicate ideas clearly, confidently and convincingly, as well as his mastery of the subject, will be evaluated. In addition, the ability to answer questions, argue and defend the work before the court in a grounded and rigorous way will be taken into account.

The evaluation of the Final Master's Thesis (TFM) will be comparable to the evaluation of a doctoral thesis, in which the evaluation panel has the autonomy and responsibility to establish the appropriate evaluation criteria, attending in any case to the aspects previously indicated. The evaluation by the court of the memory, the presentation and the defense will be comprehensive and joint, considering the complementarity of these elements to determine the overall quality of the work.

REFERENCES