

66118 - Master's Dissertation

Syllabus Information

Academic year: 2023/24

Subject: 66118 - Master's Dissertation

Faculty / School: 100 - Facultad de Ciencias

Degree: 539 - Master's in Nanostructured Materials for Nanotechnology Applications

ECTS: 14.0

Year: 1

Semester: Annual

Subject type: Master Final Project

Module:

1. General information

The end of Master's project allows students to gain a very high level of specialisation in the topic area chosen and, generally speaking, acquire fundamental abilities for when they join the job market or do their doctoral theses or research contracts.

This refers to their ability to self-teach; to face different and unknown problems, intelligently applying a method and protocols that allow for them to be solved; interaction with other researchers to increase their ability to work in a team; develop leadership skills; take decisions, increase their ability to communicate their ideas and results via the creation of projects, reports, articles, posters, etc.

These approaches and objectives are aligned with the achievement of SDG 9. Industry, innovation and infrastructures of the Agenda 2030. More specifically, they will create action to enhance research, foster innovation and upgrade industrial technologies.

2. Learning results

Through this highly specialised module, the students will be able to apply their knowledge of the topic to be developed into a project, gaining abilities that will be of service in their immediate professional future.

- Assess the true difficulties that come with the practical pursuit of an idea or concept.
- Face unexpected problems with the right methods.
- Apply theoretical knowledge to the interpretation and review of experimental results.
- Abilities for independent study and autonomous learning required to undertake the research or professional activity in the near future.
- Skills at oral and written communication, circulating the results and interaction with colleagues and professionals from other disciplines.
- General abilities for good professional practice.

3. Syllabus

The aim of the *Dissertation* is to enable students to apply and develop a range of skills and competences acquired throughout the Degree. Students are expected to show their competence in planning, writing and defending a piece of research on a topic. This process is mainly based on the student's autonomous work but his/her progress will be supervised by a supervisor in tutorials throughout the academic year.

The project will be directed by doctors with a large experience in the supervision of doctoral theses and research projects. The students will have access to the next-gen laboratories of the departments and research institutes of the University of Zaragoza. There will also be free access to the UZ library which has powerful databases, specialised books and subscriptions to numerous scientific journals.

Each student will choose a topic for his/her dissertation from one of those offered within the academic course. Examples of proposed Final Master Thesis for the year 2022-23 can be found in:

<https://inma.unizar-csic.es/en/training/nanomat-master/>

4. Academic activities

This is a 14 ECTS course that offer to the students highly personalised tutoring which: i) favours an increase in the student's autonomous work, ii) encourages students to give their own ideas and to participate in all stages of the project (planning,

undertaking experiments, interpretation of results and circulation).

The student is expected to attend an induction section in which guidelines for initial dissertation preparation will be provided. To prepare the dissertation draft, the student is expected to engage in autonomous work (use of the library, reviewing the literature, writing the draft of the dissertation and revising the draft).

Additionally, the student can set up regular appointments for office hour consultation. Tutorials will allow students to solve questions, discuss unclear ideas or doubts related to the dissertation. It is advisable to come with clear and specific questions. Frequent open discussions with the tutors and other colleagues working in the research groups that the student has joined will also take place.

5. Assessment system

The student will present a written report with a maximum of 30 pages (excluding cover page, index, abstract in english & spanish, list of acronyms and references) in Times New Roman 12, spacing 1.5, with the possibility of including limitless appendices with figures, tables, etc. that brings together the project undertaken.

The master thesis will be defended publicly before three lecturers from the Master's. The defence will include not only the presentation of the starting hypothesis, development of the project and the conclusions, but also an intense debate with the tribunal on the validity and out reach of the results obtained - in which all relevant scientific aspects of the project undertaken will be discussed.

The viva will last a maximum of 20 minutes, followed by the debate lasting a maximum of 20 minutes. A score of between 1 and 10 will be given for the scientific quality of the writte-up (50%), oral presentation (30%), and defence (20%), which will take into account the tutors report about the student's work.