

Master's Degree Dissertation

Code: 44417
ECTS Credits: 15

Degree	Type	Year	Semester
4314939 Advanced Nanoscience and Nanotechnology	OB	0	2

Contact

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Teaching groups languages

You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Prerequisites

Those required to study a master.

Objectives and Contextualisation

The objective is to approach students to research in terms of knowing the scientific context, the state of the art, the organization and planification, and, ultimately, the realization of it. The writing of a thesis at the end of the stay and an oral defense in front of a specialized jury are mandatory tasks.

Competences

- Analyse research results to obtain new products or processes, assessing their industrial and commercial viability with a view to transferring them to society
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Continue the learning process, to a large extent autonomously
- Design, plan and carry out a research project in nanoscience and nanotechnology.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Show expertise in using scientific terminology and explaining research results in the context of scientific production, in order to understand and interact effectively with other professionals.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.

Learning Outcomes

1. Analyse research results to obtain new products or processes, assessing their industrial and commercial viability with a view to transferring them to society.
2. Apply concepts and theories appropriately to prepare a research paper on a topic related to nanoscience and nanotechnology.
3. Carry out a research project.
4. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
5. Continue the learning process, to a large extent autonomously
6. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
7. Interpret experimental findings from a research project related to nanoscience and nanotechnology and reach reasoned conclusions.
8. Set and prioritise objectives, resources and processes to carry out a successful research project.
9. Show expertise in using scientific terminology and explaining research results in the context of scientific production, in order to understand and interact effectively with other professionals.
10. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
11. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
12. Write a scientific paper and present and defend it before an audience.

Content

Each Master Thesis research project has its specific contents in nanoscience and nanotechnology.

Methodology

The specific methodology will be determined by the type of work, that might be theoretical, experimental or a combination of both.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
The own activities of each Final Master's Project	375	15	1, 2, 8, 9, 12, 3, 7, 6, 10, 4, 5, 11

Assessment

The evaluation will be carried out through a written thesis (50-60% of the total mark) and an oral defense in front of a jury (40-50% of the total mark). The members of the jury will qualify both the written thesis and the oral presentation.

The written report must include the following sections:

- Cover that includes the title, author (name and surnames and ID), name of the tutor, department and institution where the work was carried out...
- Abstract (250 words maximum)
- Introduction (including the state of the art), motivation and objectives
- Experimental details (materials and methods)*
- Results and discussion*
- Conclusions
- References
- Annexes

*These sections can be combined in one case: experimental methodology, results and discussion

The use of figures and tables is highly recommended.

The maximum number of pages (not including annexes) is 35 (accepted fonts: Times, Arial or Calibri; font size of 11 or 12, maximum line spacing of 1.5 and margins no less than 2 cm)

The oral defense will consist of a 20 minute presentation and a maximum 30 minute question session by the members of the jury. Slides can be used and it is recommended to spend approximately one minute per slide. Avoid overloading the slides with text.

The coordinator will establish deadlines, close to the evaluation period (normally 1st week of July and 1st week of September), to present the written thesis. Later, already in the evaluation period, the coordinator will schedule the day and time for the oral presentation and inform each student. The jury will consist of threemembers.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Oral defense	40-50 %	0	0	1, 2, 8, 9, 12, 3, 7, 6, 10, 4, 5, 11
Thesis	50-60 %	0	0	1, 2, 8, 9, 12, 3, 7, 6, 10, 4, 5, 11

Bibliography

No assigned bibliography.

Software

No software assigned.