

## Master's Degree Dissertation

Code: 44537  
ECTS Credits: 15

**2024/2025**

Degree	Type	Year
4314939 Advanced Nanoscience and Nanotechnology	OB	0

### Contact

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### Teaching groups languages

You can view this information at the [end](#) of this document.

### Prerequisites

Those required to enroll in a master.

### Objectives and Contextualisation

The objective is to carry out research in a research group or in a company which carries out research or R&D.

### 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 has its specific contents in nanoscience and nanotechnology.

## Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
The specific ones of the corresponding Master Thesis	375	15	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

The specific methodology will be determined by the research, 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.

## Assessment

### Continuous Assessment Activities

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

The evaluation will be carried out through writing a Master 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 (if needed, more sections can be included and/or the proposed modified):

- Cover that includes the title, author (name & surnames and NIU), name of the supervisor, department and institution where the Master Thesis was carried out, etc.
- Abstract (250 words maximum)
- Introduction (including the state of the art and motivation)
- 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 references nor annexes) is 50.

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.

The coordinator will establish the deadline, close to the evaluation period (normally 1<sup>st</sup> week of July and 1<sup>st</sup> week of September), to hand in the written thesis, and schedule the day and time for the oral presentation, which will be held onsite. The jury will consist of three members.

## **Bibliography**

No bibliography is assigned.

## **Software**

No software is assigned.

## **Language list**

Information on the teaching languages can be checked on the CONTENTS section of the guide.