

Master's Dissertation

Code: 42939
ECTS Credits: 9

Degree	Type	Year	Semester
4313775 Applied Microbiology	OB	0	2

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

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Teachers

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Jesús Aranda Rodríguez

Use of Languages

Principal working language: catalan (cat)

Prerequisites

Have completed a minimum of 30 ECTS corresponding to the modules of the first semester of the Master's in Applied Microbiology.

Objectives and Contextualisation

Preparation and public defense of a Master's Final Project (TFM) on a subject related to microbiology where the student will integrate the knowledge, skills and competences acquired in the master's degree.

Competences

- Communicate and justify conclusions clearly and unambiguously to both specialist and non-specialist audiences.
- Conceive, design and propose research projects and write review articles in the field of microbiology.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
- Use and manage bibliographic information and computer resources related to microbiology and related sciences.
- Use scientific terminology to account for research results and present these orally and in writing.

Learning Outcomes

1. Communicate and justify conclusions clearly and unambiguously to both specialist and non-specialist audiences.
2. Complete all the stages of the master's dissertation.
3. Design the corresponding methodology.
4. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
5. Put forward a detailed proposal for the master's dissertation.
6. Summarise and critically discuss advances in the field of applied microbiology.
7. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
8. Use and manage bibliographic information and computer resources related to microbiology and related sciences.
9. Use scientific terminology to account for research results and present these orally and in writing.

Content

The TFM is an autonomous work that aims to integrate the knowledge, abilities and competences acquired in the master's degree.

The student can choose between two types of TFM, a proposal for a research project or a scientific review article.

1) Proposal for a research project

It will consist in the elaboration of a written basic or applied research project with a structure similar to that of the R + D + i projects. It will contemplate the following sections:

- A) Title and author
- B) Key words
- C) Summary / Abstract
- D) Introduction and state-of-the-art
- E) Formulation of the problem and reasons that justify the relevance of the proposed research
- F) Hypothesis and General objectives and specific objectives
- G) Research methodology and approaches to achieve the objectives (work plan)
- H) Project timeline and deliverables (chronogram)
- I) Expected results impact and relevance
- J) SPECIFIC CONDITIONS FOR THE EXECUTION OF CERTAIN PROJECTS (ethics and biosafety)
- K) Budget
- L) Bibliography

2) Scientific review article

It will consist in the elaboration of a scientific article that will have the following objectives: i) update the knowledge about a topic of interest in the microbiological field, ii) discuss the most relevant advances made in the subject and iii) discuss the future prospects for progress. It will contemplate the following sections:

- A) Title and author
- B) Summary / Abstract
- C) Introduction
- D) State of the art
- E) Conclusions and future perspectives
- F) Bibliography
- G) Annexe (optional) Methodology

Written report of the TFM

The memory of the TFM will have a maximum extension of 10,000 words. It will consist of the aforementioned sections and may be written in Spanish, Catalan or English.

Public defense of the TFM

The student will present their TFM before an evaluation board and the members of the court will be able to discuss with the student the aspects that they deem appropriate. The defense will be public and can be done in Catalan, Spanish or English.

*These will be the contents unless the restrictions imposed by the health authorities force a prioritization or reduction of them.

Methodology

The TFM is an autonomous work that will be carried out under the supervision of a tutor. The final objective will be the preparation of a TFM Report and the public defense of the TFM. To achieve this objective, the students will be based on personal study, reading articles or reports and using all those resources, technologies, methodologies and knowledge acquired in the course of the master's degree studies from the theoretical modules as from the practical modules.

Each student will be assigned a tutor, chosen from the UAB faculty who participates in the master's degree. The tutor will guide the students in a personalized way in the realization of the TFM. The students will agree with their respective tutors on the theme and typology of the TFM as well as a calendar of four meetings that will have the following objectives:

- First meeting, contact and discussion on the typology and possible topics by TFM
- Second, elaboration of a TFM scheme
- Third, monitoring the evolution of the TFM
- Fourth, discussion of the draft of the TFM

**The proposed teaching methodology may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.*

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Supervised			
Tutorial sessions	20.5	0.82	2, 3, 5
Type: Autonomous			

Personal study, reading articles, books or other resources of interest	100	4	7, 8
Preparation of the oral presentation of the TFM	20	0.8	2, 1, 6, 9
Writing of Master's Thesis	80	3.2	2, 3, 5, 4, 6, 9

Assessment

For the evaluation of the TFM, students must present a written report of the work and defend it in front of a committee. The written memory will be evaluated by the tutor of the TFM and will represent 50% of the final grade. The other 50% corresponds to the defense of work. If any of these requirements is not fulfilled, then the final grade will be "No evaluable".

The evaluation committee will consist of three professors from the Master of Applied Microbiology. This faculty will be appointed by the Coordination Committee of the Master.

Plagiarism implies the automatic suspension of the TFM module.

**Student's assessment may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.*

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Evaluation of the written report	50%	4	0.16	2, 3, 5, 4, 6, 7, 8, 9
Oral Presentation of Masther Thesis	50%	0.5	0.02	2, 4, 1, 6, 9

Bibliography

The student will use the specialized scientific bibliography (papers, books, reports, etc.) and specific for each project.