Universitat de Lleida

DEGREE CURRICULUM

MASTER'S THESIS

Coordination: LLOVERA TOMAS, MARTA

Academic year 2020-21

MASTER'S THESIS 2020-21

Subject's general information

Subject name	MASTER'S THESIS
Code	14708
Semester	UNDEFINED
Typology	

Degree	Course	Character	Modality
Master's Degree in Biomedical Research	1	COMPULSORY	Attendance-based

Course number of credits (ECTS)	28
Type of activity, credits, and groups	

Activity type	TFM
Number of credits	28
Number of groups	1

Coordination	LLOVERA TOMAS, MARTA
Department	BASIC MEDICAL SCIENCES
Important information on data processing	Consult this link for more information.
Language	Catalan, Spanish or English

MASTER'S THESIS 2020-21

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MASTER'S THESIS 2020-21

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Learning objectives

- To know the rules to apply the scientific method and the dynamics of working in a research laboratory.
- To learn the techniques necessary to perform experimental work.
- Understanding the importance of planning and organizing the work and the rigor in the presentation of results.
- Understanding the importance of teamwork and cooperation among researchers.
- Being able to formulate goals for work, plan the work, conduct experiments, presented the results and draw conclusions.
- Being able to discuss and defend publicly the results of the research project undertaken in the Masters.

Competences

Specific Competences

1. Being able to plan and carry out experiments independently and seek the necessary information.
2. Being able to properly use laboratory apparatus and software tools for data processing, statistical analysis and presentation of results as graphs, tables, diagrams and image composition.
3. Being able to interact and collaborate with other members of the research team, contributing their knowledge and ideas.

General Competences

1. Knowing how to choose and apply different methodologies to analyze molecular biochemistry, cellular, genetic and phenotypic for the diagnosis and study of disease.
2. Knowing how to plan and execute a research project. following the scientific method and appropriate technology with a high degree of initiative and commitment.
3. Capacity for teamwork, leadership and decision making.
4. Critical and creative thinking skills to their own work and that of other researchers.
5. Ability to prepare, process and interpret the results rigorously and applying appropriate technologies
6. Learn oriented research in areas of interest and translational medical (diagnosis and therapy)
7. Being able to present scientific reports and scientific papers may be considered for publication in international journals

Basic Skills

1. Possess knowledge and understanding to provide a basis or opportunity to be original in developing and / or applying ideas, often in a research context
2. Applying the knowledge and have the ability to solve problems in new or unfamiliar contexts broader (or multidisciplinary) related to their field of study
3. Being able to integrate knowledge and handle the complexity of formulating judgments based on information that remains incomplete or limited include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments
4. Knowing how to communicate the conclusions, and the knowledge and rationale underpinning the latest specialized and non-specialized audiences in a clear and unambiguous
5. Possessing learning skills to enable them to continue their education in a way that will be largely self-directed or autonomous

Transversal Competences

1. Having a correct oral and written expression
2. Mastering a foreign language
3. Mastering ICT
4. Respect the fundamental rights of equality between men and women for the promotion of human rights and the values ??of a culture of peace and democratic values

Subject contents

The student and the supervisor will design the research project to be developed by the student during the period of the master. Based on a hypothesis they will define the main goals of the project and plannify the experimental work.

The student will join the research group and learn the skills needed to develop his project, perform the experiments, analyze the results and draw conclusions.

At the end of the experimental period, the student will prepare a written report of the work done and he will publicly present his work to a committee composed of three master's professors.

Methodology

The process of teaching and learning will take place through the following activities:

- Tutoring with supervisor
- Preparation of a project
- Practical laboratory work
- Computer user training
- Teamwork
- Individual written work
- Oral communication

Development plan

1. Definition and characteristics of the Master's Thesis

The Master's Thesis (TFM) consists on the execution of an original research project by using all the knowledge and competences acquired during the Master syudies. The TFM may be carried out as part of the habitual research activity of a group therefore the subject can be related to any of the Master's subjects. The TFM will be conducted under the supervision of a master professor or an outside director. In this case the student will have a tutor inside the master.

2. Election of TFM project

The student can choose to perform the TFM in a group of IRBLleida or external, depending on his/her preferences on the investigation subject.

On the website there are available some TFM offers from IRBLleida research groups (www.biotecnologiasalut.udl.cat/ca/ofertes-TFM). However the student should not be limited to those offers, but he/she can contact directly with researchers working on projects of interest.

TFM coordinator will guide and help to find a group those students who are doubtful or not easily find what they seek.

3. Inscription of TFM

Once the student has a project supervisor, he/she must fill-in the application for TFM registration and submit it to the coordinator of the Master (before the first week of February)

4. Performance of experimental work

The student can join the research group from the beginning of the Master, and so he/she can start to learn techniques that will require in their work. From February to June, the student will be devoted full time to complete the realization of the experimental part of the TFM.

With the help of the supervisor, the student must hypothesize, define the objectives and plan the experiments. He/she will learn all research techniques needed, will perform the experiments and finally analyze the results to draw conclusions.

5. TFM memory

The TFM memory must be written on a scientific report format with the following structure:

- Abstract (maximum 500 words)
- Introduction
- Objectives
- Materials and methods
- Results
- Discussion
- Conclusions
- Bibliography

The memory will have a length of **30-50 pages** with font size 12 and spacing of 1.5.

The student will deposit 3 printed copies and bound to the Coordinator of the Master within the deadlines. He also deposit a copy in electronic form in the "Espai compartit" in the Virtual Space of “Treball Final de Màster” (14708).
1st term: before July 25
2nd term: before October 24 (by request).

6. Oral Defense

The oral and public defense will be of **15-20 minutes** and discussion with the evaluation committee will be about **10-15 min**. The total time for the defense of the TFM can not exceed 30 minutes.

Evaluation

Composition of the Evaluation Committee

The committee that will evaluate the TFM will be composed of 3 members. One of them can be an external professor and/or investigator of the master. Two members will be proposed by the Academic Committee of the Master (Evaluator-1 and 2) and the Master’s coordinator will act as evaluator-3. The Academic Committee will decide the evaluator alternates.

Evaluation of the TFM.

The evaluation of the TFM will be done on the basis of the evaluation rubrics stated at the virtual campus of TFM.

The TFM director will grade the execution of the experimental work and the student attitude by filling-in the “Ficha de evaluación del director”.

Each member of the committee will grade the student, considering the written scientific report and the oral defense by filling-in the “Ficha de evaluación del comité”.

The final score will be calculated as the average of the grades from the evaluation committee and the director.

Bibliography

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