

Degree programme	Type	Course
Cytogenetics and Reproductive Biology	TFE	1

Contact lecturer

Name : Ester Anton Martorell

Email : ester.anton@uab.cat

Prerequisites

The prerequisites for enrolling in the Master's Degree Final Project module are the same as the admission requirements for the Official Master's Degree in Cytogenetics and Reproductive Biology.

A sufficient level of English is recommended, as most of the reference literature is published in this language. This requirement is necessary to adequately carry out the different stages of the work, including the preparation of the introduction, the definition of the hypothesis and objectives, the selection of appropriate methodologies, and the analysis and interpretation of results in relation to the existing scientific literature.

Objectives

The main objective of the Master's Thesis is for students to acquire and apply, in an integrated manner, the knowledge and competences associated with the scientific method. To this end, they must prepare, present, and publicly defend a project based on the results obtained during their placement in the host research group or institution. This process should demonstrate their ability to integrate the knowledge, skills, and competences defined in the academic programme.

Learning outcomes

- CA25 (Demonstrate ethical responsibility, gender perspective and respect for fundamental rights and duties, diversity and democratic values when presenting experimental procedures and analysing data for the master's dissertation.) Demonstrate ethical responsibility, gender perspective and respect for fundamental rights and duties, diversity and democratic values when presenting experimental procedures and analysing data for the master's dissertation.
- CA26 (Integrate knowledge and skills to develop and defend the master's dissertation (TFM).) Integrate knowledge and skills to develop and defend the master's dissertation (TFM).
- KA31 (Identify the appropriate cellular and molecular foundations to test a working hypothesis in the context of cytogenetics and reproductive biology.) Identify the appropriate cellular and molecular foundations to test a working hypothesis in the context of cytogenetics and reproductive biology.
- KA32 (Describe the socio-economic, environmental and cultural progress brought by research, innovation and technological development based on the work carried out in the field of cytogenetics and reproductive biology in the context of the master's dissertation (TFM).) Describe the socio-economic, environmental and cultural progress brought by research, innovation and technological development based on the work carried out in the field of cytogenetics and reproductive biology in the context of the master's dissertation (TFM).
- KA33 (Critically assess the relevant scientific literature, identifying the theoretical and methodological

foundations that contextualise the research topic developed in the master's dissertation (TFM).
Critically assess the relevant scientific literature, identifying the theoretical and methodological foundations that contextualise the research topic developed in the master's dissertation (TFM).

- SA35 (Critically analyse the results obtained during the practical activities of the Research Methodology subject within the framework of the master's degree, with the aim of interpreting them rigorously and drawing well-supported conclusions that contribute to scientific knowledge in the field of study.) Critically analyse the results obtained during the practical activities of the Research Methodology subject within the framework of the master's degree, with the aim of interpreting them rigorously and drawing well-supported conclusions that contribute to scientific knowledge in the field of study.
- SA36 (Prepare an original research work, using their own well-supported content, which develops the methodology used and the results obtained during the practical development of the subject Research Methodology within the framework of the master's degree.) Prepare an original research work, using their own well-supported content, which develops the methodology used and the results obtained during the practical development of the subject Research Methodology within the framework of the master's degree.
- SA37 (Demonstrate suitable communication skills for an expert audience in the writing and written presentation of the master's dissertation (TFM), as well as in its oral defence.) Demonstrate suitable communication skills for an expert audience in the writing and written presentation of the master's dissertation (TFM), as well as in its oral defence.

Contents

Students will develop an R&D project in a research laboratory or in a company related to their chosen specialization. The content of the project will be defined jointly with the Master's Thesis supervisor.

Based on the work carried out, students are required to prepare a written dissertation and an oral presentation, both of which must meet the following requirements:

1. WRITTEN MEMORY

1.1- General aspects:

Style: It must be written in a scientific register, employing an impersonal and direct style.

Extinction: The maximum length must be 15 pages (excluding the title page, table of contents, abstract, bibliography, list of acronyms and abbreviations, and any annexes). The font used should be 'Times New Roman' size 12 or 'Arial' size 11, with a line spacing of 1.5 and default margins ('Normal') in Microsoft Word (i.e., top and bottom: 2.5 cm; left and right: 3 cm)

Language: The report may be written in Catalan, Spanish or English.

Submission: The written report must be submitted electronically before the date established by the module coordination for the corresponding academic year. The submission will be made in electronic format (PDF) through the virtual campus of the subject. The file sent must be named after the two surnames of the author of the presentation (Example: AntonMartorell.pdf).

1.2- Sections:

Cover page: It must contain the following information: work title, name and affiliation of the students, chosen specialty, academic year. Name and affiliation of the tutor of the centre/director of the work (and tutor of the UAB if applicable). Date. Signature of the student. Signature of the tutor/principal.

Table of Contents: It must be paginated.

Abstract: It must consist of a paragraph, not exceeding 250 words, summarizing the work conducted, the most relevant background, the methods employed, the results obtained, and the key conclusions.

Introduction and/or Literature Review: The state of the art will be reviewed in sufficient detail to effectively introduce the objectives of the work to the faculty members in the field of Cell Biology.

Hypothesis and Objectives of the Study: A working hypothesis will be proposed, and the objectives will be clearly outlined in a concise, precise, and unambiguous manner.

Material and Methods: The materials used will be presented, and the methodology will be described in detail, particularly if it is innovative. Where applicable, the criteria for analysis and the statistical methods employed will be clearly outlined.

Results and Discussion: These sections may be presented together or separately. The results will be displayed using tables and/or graphs. The interpretation of the results from a biological or clinical perspective will be considered favorably, depending on the context of the study. The discussion will adopt a more flexible structure and, when appropriate, will include a comparison of the obtained results with those of previous studies, highlight the novel contributions of the work, discuss its implications, and propose potential directions for future research.

Conclusions: The conclusions of the work should be directly derived from the results obtained. They must be numbered and concise, with a preference for no more than five conclusions. The presentation of numerical data in this section should be kept to a minimum.

Bibliography: It must include, in a consistent and standardized format, all bibliographic references cited in the report, which should be properly acknowledged within the text.

List of acronyms and abbreviations: Both abbreviations and acronyms used at work must be correctly defined in a specific section.

Annex: This section may include additional pertinent information and must not exceed a maximum of 3 pages.

2- ORAL PRESENTATION

Content: The defense of the Master's Thesis must accurately reflect the content of the written report presented.

Duration: The presentation must not exceed 10 minutes in duration. This oral presentation will be conducted in person and will be public, following the calendar and schedule to be published on the virtual campus of the course. Following the presentation, all members of the evaluation committee will have the opportunity to ask questions to discuss the most pertinent aspects of the work. The discussion with the evaluation committee should not exceed 10 minutes. Additionally, if there are faculty members from the Master's program present, they will also have the opportunity to ask questions regarding the work.

Language: The oral presentation may be conducted in Catalan, Spanish, or English.

Format: The first slide of the presentation must include: The name of the student, the name and affiliation of the tutor/director of the work, the date of the presentation, and the chosen specialty.

Delivery: The file to be used during the oral presentation must be submitted via the course's virtual campus (in .pptx or .pdf format) a few days prior to the scheduled date for the first oral presentation. This date will be determined by the Module coordinator for each academic year. The submitted file should be named using the two surnames of the student (example: AntonMartorell. ppt).

It is strongly recommended that all students of the Master's program attend the oral presentations of their peers' Master's Thesis projects.

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Introduction to the generation, analysis and communication of scientific results, and to the critical discussion of results	10	0.4	SA35, SA36
Literature search and review on the topic of study	15	0.6	KA33, SA35
Introduction to literature search and review on the topic of study	5	0.2	KA33, SA35
Introduction to laboratory experimental activities related to the topic of study	20	0.8	KA31, SA35
Laboratory experimental activities related to the topic of study	35	1.4	KA31, SA35
Generation, analysis and critical discussion of results in relation to the existing literature	65	2.6	SA35, SA36

The methodology of the Master's Thesis is based on continuous supervision of students throughout the academic year. At the beginning of each academic year, the programme coordination will assign each student a thesis supervisor, according to the chosen specialization.

Supervisors may include research or technical staff from collaborating centres or companies with an active agreement with the UAB, as well as academic and research staff involved in the Official Master's in Cytogenetics and Reproductive Biology, related departments, or associated research centres. In cases involving external supervisors, an additional academic supervisor from the UAB will also be assigned.

Supervisors are responsible for guiding and monitoring the student's work in order to facilitate the attainment of the intended competences through individualized supervision.

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	Weight	Hours	ECTS	Learning outcomes
Written report on the work conducted	30%	0	0	CA25, KA31, KA32, KA33, SA35, SA36
Oral presentation of the results derived from the research work conducted	70%	0	0	CA25, CA26, KA31, KA32, SA35, SA37

The assessment committee will consist of three members of the doctoral teaching staff of the Master's in Cytogenetics and Reproductive Biology and will be responsible for evaluating the Master's Thesis based on the written dissertation and its oral defense.

The written dissertation will account for 30% of the final grade, while the oral presentation and defense will represent the remaining 70%. Appropriate use of English during the presentation and defense may result in an additional bonus of up to 0.5 points in the final grade.

In order to be assessed, students must submit both the written dissertation and the oral presentation within the

established deadline, and must also complete the oral defense in person on the scheduled date. Failure to meet any of these requirements will result in a grade of "Not assessable".

For this course, the use of Artificial Intelligence (AI) technologies is permitted exclusively for support tasks, such as information retrieval or text proofreading. The use of AI for content generation in any assessed activity is not permitted. Students must clearly identify which parts of their reports or presentations have been reviewed using these technologies, specify the tools used, and include a critical reflection on how these tools have influenced both the process and the final outcome of the activity. Failure to disclose the use of AI in this assessed activity will be considered a breach of academic integrity and may result in a partial or total penalty in the grade awarded for the activity.

The detection of any irregularity in the Master's Thesis (including academic misconduct, plagiarism, or inappropriate use of AI tools), whether in the written dissertation or the oral defense, will result in failure of the module as a whole, without prejudice to the initiation of the corresponding disciplinary procedures in accordance with current regulations.

Bibliography

This module does not include a specific bibliography.

Software

No specific software is used in this module.

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TFMm) Treball de fi de màster	1	Catalan/Spanish	second semester	morning-mixed