

Degree programme	Type	Course
Research and Innovation in Computer based Science and Engineering	TFE	1

Contact lecturer

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Prerequisites

None.

Group languages

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

Objectives

The final master's thesis is a subject that allows the student to deepen the study of a topic of his interest by carrying out research work in a public or private center. This work is articulated in accordance with the principles of a scientific work and must deal with topics in which the research groups linked to the master's degree work and that are capable of applying advanced knowledge acquired in the context of the master's degree. The objective of the final master's thesis is to prepare students for future research work, that is, a doctoral thesis or an R + D + i project in a company or administration.

Learning outcomes

- CA21 (Apply research methodology, techniques and specific resources to research and produce innovative results based on advanced computing systems.) Apply research methodology, techniques and specific resources to research and produce innovative results based on advanced computing systems.
- CA22 (Generate questions and hypotheses in the face of new research challenges and demonstrate originality in the way they approach and solve problems using advanced computational techniques.) Generate questions and hypotheses in the face of new research challenges and demonstrate originality in the way they approach and solve problems using advanced computational techniques.
- KA28 (Identify stereotypes and gender roles that appear in supervised work.) Identify stereotypes and gender roles that appear in supervised work.
- SA39 (Propose solutions related to the application of advanced computing methods to specific problems within the framework of a working group.) Propose solutions related to the application of advanced computing methods to specific problems within the framework of a working group.
- SA40 (Know how to communicate the results of their work and the knowledge and ultimate reasons that sustain them to specialised and non-specialised audiences in a clear and unambiguous way.) Know how to communicate the results of their work and the knowledge and ultimate reasons that sustain them to specialised and non-specialised audiences in a clear and unambiguous way.
- SA41 (Plan the different activities related to the resolution of a task entrusted to them within a work group, making an appropriate management of time and resources.) Plan the different activities related to the resolution of a task entrusted to them within a work group, making an appropriate management of time and resources.
- SA42 (Select suitable information sources from scientific literature using the appropriate channels, then

integrate this information using synthesis and debate skills and analysing any viable alternatives.)
 Select suitable information sources from scientific literature using the appropriate channels, then
 integrate this information using synthesis and debate skills and analysing any viable alternatives.

- SA43 (Produce a publishable document in accordance with the End-of-Master's dissertation regulations using specific knowledge.) Produce a publishable document in accordance with the End-of-Master's dissertation regulations using specific knowledge.

Contents

There are not theoretical contents for this module.

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Elaboration of the master thesis document	290	11.6	
Regular meetings with the supervisor	10	0.4	

The student must carry out an original work addressing a series of objectives related to a specific problem, taking into account the background, the current state of knowledge and the initial assumptions or hypotheses. From there, the student must propose a solution applying the computational techniques and methods that he considers appropriate in accordance with the strategy and work plan that he has designed under the supervision of an academic tutor, who will also advise during the different phases of carrying out the work.

The follow-up of the student's work will be carried out through periodic supervision meetings with her tutor where the progress of the work will be evaluated following the indicators established in a system of rubrics.

In this course, the use of Artificial Intelligence (AI) technologies is permitted as an integral part of the assignment development, provided that the final result reflects a significant contribution from the student in personal analysis and reflection. The student must clearly identify which parts were generated using this technology, specify the tools used, and include a critical reflection on how they influenced the process and final outcome of the assignment. Lack of transparency in the use of AI will be considered a breach of academic honesty and may result in a penalty on the assignment grade or greater sanctions in serious cases.

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
Master thesis document	45%	0	0	CA21, CA22, KA28, SA39, SA40, SA41, SA42, SA43
Oral defense of master thesis	25%	0	0	SA40
Report of academic tutor	30%	0	0	CA21, CA22, SA39, SA40, SA41, SA42, SA43

For the evaluation of the master's thesis, the student must:

- Submit a written report of the research work carried out.
- Carry out a public defense of this report in front of an Evaluation Committee.

The qualification criteria will be based on the proposal of the members of the Evaluation Committee (70%) on the quality of the written report, its presentation and oral discussion, and on the evaluation of the report presented by the director and / or work tutor (30%).

The academic tutor's evaluation of the master's thesis must take into consideration the following: initiative, responsibility, ability to interpret the results, and any other criteria that he deems pertinent.

The Evaluation Committee will be made up of three members, including professors with PhDs from the UAB departments participating in the master's degree and external experts (PhDs or with proven experience in R&D work).

The Commission will evaluate for the memory the appropriate use of language, content and academic originality, and the conciseness and ability to analyze and interpret the results of the investigation. For the oral defense, it will evaluate the student's communicative ability and conciseness, the quality of the presentation and the ability to answer the questions asked by the Evaluation Committee.

The dates to deliver the report and make the public defense will be indicated at the beginning of the course based on the academic calendar set by the School of Engineering.

Bibliography

There are no specific references.

Software

There is no specific software.

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	Unknown	Undefined	morning-mixed