Universidad Zaragoza

Academic Year/course: 2022/23

69167 - Master's Dissertation

Syllabus Information

Academic Year: 2022/23
Subject: 69167 - Master's Dissertation
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 615 - Master's in Robotics, Graphics and Computer Vision/ Robótica, Gráficos y Visión por Computador
ECTS: 30.0
Year: 2
Semester: First semester
Subject Type: Master Final Project
Module:

1. General information

1.1. Aims of the course

The main objective of the degree is to provide the student with the necessary skills for their insertion in the working market. Through the Final Master's Project (Trabajo de Fin de Máster, TFM) the student tests all the knowledge acquired in previous courses and subjects, and acquire the necessary experience and security to move into the real professional environment.

The student will carry out a work of initiation to research or industrial innovation. The result will be reflected in a document in the form of an article or report, written in English, and its defense will consist of the presentation of said work of
the same way that is presented in congresses or forums specialized in the topics of the master. The TFM may be carried
carried out at EINA, at a company associated with the Master's program or at one of the universities with which mobility agreements are established.

In accordance with the commitment of both the University of Zaragoza and EINA to the 2030 Agenda that promotes the
sustainable human development goals, the TFM will explicitly show their contribution / direct relationship with the Sustainable Development and its goals (can be consulted at the link).

1.2. Context and importance of this course in the degree

In this subject the competences acquired by the student in the master are applied, strengthening other skills such as planning activities, work, transmission of knowledge or presentation of results, both oral and written.

1.3. Recommendations to take this course

To have passed all the compulsory subjects of the master.

2. Learning goals

2.1. Competences

Basic competences:

- CB6 ? To possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context.
- CB7 - That students know how to apply the acquired knowledge and ability to solve problems in new or little-known settings within broader (or multidisciplinary) contexts related to their area of ??study.
- CB8 - That students are able to integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on the social and ethical

responsibilities linked to the application of their knowledge and judgments.
- CB9 - That students know how to communicate their conclusions and the latest knowledge and reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.
- CB10 - That students possess the learning skills that allow them to continue studying in a way that will have to be largely self-directed or autonomous.

General competences:

- CG01 ? Acquisition of advanced and demonstrated knowledge, in a context of scientific and technological research or highly specialized, a detailed and well-founded understanding of the theoretical and practical aspects and of the working methodology in the fields of Robotics, Graphics and / or Computer Vision, allowing them to be innovative in a context of research, development and innovation.
- CG02 - Ability to apply and integrate their knowledge, their understanding, their scientific foundation and their problem-solving abilities in new and imprecisely defined environments, including multidisciplinary contexts, as highly specialized researchers and professionals.
- CG03 - Ability to evaluate and select the appropriate scientific theory and the precise methodology of their fields of study to formulate judgments based on incomplete or limited information, including, when necessary and pertinent, considerations on social or ethical responsibility linked to the solution that is proposed in each case.
- CG04 - Ability to predict and control the evolution of complex situations by developing new and innovative work methodologies adapted to the specific scientific / research, technological or professional field, generally multidisciplinary, in which their activity is carried out.
- CG05 - Ability to transmit in English, orally and in writing, in a clear and unambiguous way, to a specialized audience or not, results from scientific and technological research or the most advanced field of innovation, as well as the most relevant foundations on which they are based.
- CG06 ? To have developed sufficient autonomy to participate in research projects and scientific or technological collaborations within their subject area, in interdisciplinary contexts and, where appropriate, with a high component of knowledge transfer.
- CG07 - Ability to take responsibility for your own professional development and specialization in one or more fields of study.
- CG08 ? To possess the aptitudes, skills and method necessary to carry out multidisciplinary research and / or development work in the fields of Robotics, Graphics and / or Computer Vision.
- CG09 - Ability to use the techniques, skills and tools of Engineering necessary for solving problems of the Robotics, Graphics and / or Computer Vision fields.
- CG11 - Ability to manage and use bibliography, documentation, databases, software and hardware specific to the fields of Robotics, Graphics and / or Computer Vision.

Specific competences:

- CE09 - Ability to autonomously carry out a work of initiation to research and / or development in the field of Robotics, Graphics, or Computer Vision, in which the skills acquired in the degree are synthesized and integrated.

2.2. Learning goals

The student must be able to carry out, present and defend a comprehensive engineering project as a demonstration and
synthesis of the skills acquired in the teachings of this master.

2.3. Importance of learning goals

The knowledge, aptitudes and abilities acquired through this subject, together with those of the rest of the master's degree, must allow the student to develop the competencies previously exposed, as well as to approach with guarantees the realization of industrial computer engineering projects or the completion of a doctoral thesis several fields of engineering and sciences.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The result of the TFM will be reflected in a document in the form of an article or report, written in English, and its defense will consist in the presentation of said work in the same way that it is presented in congresses or forums specialized in
topics of the master.

The presentation will take place before a jury, followed by its corresponding debate. The composition of the jury as well
as other aspects associated with the defense of the TFM, they are included in the internal regulations for the management of
degree and master's degree the School of Engineering and Architecture, available on its website.

The assessment by the jury of this exercise will constitute 100% of the final grade.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process is based on the practical application of the skills acquired in the master. To do this, two types of activities will be addressed:

- Development of a project. The project will be oriented to develop the different skills acquired in the master for the development of a solution to a given problem, serving as an integrating element of what has been seen in the different subjects.
- Tutoring by the director / speaker. Follow-up and support of a tutor in order to review and discuss the materials and progress of the TFM.

4.2. Learning tasks

The course consists of 30 ECTS credits that represent an estimated dedication by the student of 750 hours, divided into the following activities:

- A06 - Personalized tutor teacher-student: 15 hours
- A07 - Study: 25 hours
- A08 - Assessment tests: 2 hours
- A09 - Final Master's Project: 708 hours

4.3. Syllabus

The realization of the TFM comprises the following phases:

- Preparation of the proposal.
- Completion of specified work.
- Preparation of the descriptive document of the work carried out.
- Presentation and defense of work done in from of a jury.

4.4. Course planning and calendar

The student will agree with the supervisor the TFM follow-up sessions.

The deposit and defense of the TFM will be made in the timeline established by the School of Engineering and Architecture, and published on its website.

The schedule and delivery dates will be announced well in advance.