# uc3m Universidad Carlos III de Madrid

## Master's Thesis

Academic Year: ( 2020 / 2021 ) Review date: 01-02-2021

Department assigned to the subject:

Coordinating teacher: IBAÑEZ ESPIGA, MARIA BLANCA

Type: Master Final Project ECTS Credits: 15.0

Year: 1 Semester: 0

#### **OBJECTIVES**

The Master Thesis is a scientific work in the scope of telematic engineering. This is often the first time a student faces a significant scientific and research work, since the expected workload is 15ECTS. The students will acquire and strengthen most of the competences of these studies. They will apply the learned tools, methodologies, and knowledge to achieve an original research work under the guidance of a tutor, belonging to the faculty of the University. The student should follow a strictly professional and scientific approach to motivate the problem, working hypothesis, original proposal, validation, and documentation. Among the most important expected learning results, students will be able to:

- Discuss in a public audience about their acquired knowledge, and the conclusions from the work. Students will be able to give their foundational and most convincing reasons to a specialized and non specialized audience in a clear way, without ambiguities.
- Invent, design or create, and get into practical and adopt a research or creation process.
- Ellaborate an exhaustive view of the state of the art within the research in telematic engineering, and provide an analysis of the future perspectives.

### **DESCRIPTION OF CONTENTS: PROGRAMME**

The research work will include the problem statement, a review of the state of the art on the selected topic and the proposed problem, giving a critical view on the existing alternatives, and a clear description of the proposed solution, together with the methodology and strategy followed to solve the problem. The work will be documented following the format of a scientific paper of international conferences or journals.

#### LEARNING ACTIVITIES AND METHODOLOGY

Due to its nature, the Master Thesis will include a single learning continuous activity, that will be developed by the student autonomously under the supervision of the tutor. The activity will start with the research and study of the state of the art, the evaluation of the proposed alternatives, and the usage of tools for solving different problems in telematic engineering (from optimization techniques to different validation techniques: analytic, simulation, implementation and testing, etc.)

#### ASSESSMENT SYSTEM

The assessment will be carried by an appointed commission, that will evaluate both the written article and the public dissertation (see evaluation matrix). The student will have a fixed amount of time to

present the complete work done, including the related works, involved concepts, and the contributions of the work. The dissertation must include the problem statement, a review of the state of the art on the selected topic and the proposed problem, a critical view on the identified state of the art alternatives, and a description of the student's proposed solution, or the proposed strategy to solve the problem.

All the details associated with the evaluation procedures can be found at the end of this page.

In addition you can check:

1. General rules from the University:

http://www.uc3m.es/ss/Satellite/UC3MInstitucional/es/ListadoNormativas/1371206706673/Estudios\_de\_Postgrado

- 2. Specific rules for the Master Thesis in the Telematic Engineering Master Program:
  - http://www.it.uc3m.es/fvalera/mte/TFMframework.pdf
- 3. Word templates for the different forms:
  - · http://www.it.uc3m.es/fvalera/mte/TFMframeworkAnnex.docx

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