Master Thesis

Academic Year: (2021 / 2022)   **Review date: 12/05/2020 09:58:17**

Department assigned to the subject: Systems Engineering and Automation Department

Coordinating teacher: SERRANO YAÑEZ-MINGOT, PABLO

Type: Master Final Project ECTS Credits : 6.0

Year : 1 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

The public defense of the Master Thesis (TFM, Trabajo Fin de Máster) will occur when the student has passed all the subjects of the master, within the period established for this purpose in the current academic calendar for postgraduate studies and according to the regulations set by the University and by the Postgraduate School.

OBJECTIVES

BASIC COMPETENCES

CB6   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 knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study

CB8   That students are able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments

CB9   That students know how to communicate their conclusions and the knowledge and ultimate reasons that sustain them to specialized and non-specialized audiences in a clear and unambiguous way

CB10   That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous

GENERAL COMPETENCES

CG2   Ability to model, identify basic requirements and analyze various processes.

CG3   Capacity to develop basic distributed applications for the transport, storage and management of information.

CG4   Knowledge and understanding of the management principles applicable to productive and service environments.

CG5 Capacity for basic analysis of the requirements for information management and treatment of large volumes of data.

CG6   Capacity to adapt to changes in requirements associated with new products, new specifications and environments.

CG7   Be able to generate new ideas (creativity) and to anticipate change.

SPECIFIC COMPETENCES

CE12   Ability to complete a Final Master's Project and write a report that must include, at least, some objectives, a study of the state of the art, a theoretical and / or experimental development, some conclusions and a bibliography.

CE13   Capacity for the organization of ideas, synthesis and presentation of them in a defense of the Master's Thesis in a court

LEARNING RESULTS

With the development of the Final Master's Project the student will acquire the ability to:
- Apply the techniques presented in the different Subjects of the Master related to Connected Industry 4.0 to a specific problem.
- Obtain from the data applicable results to improve the activity of an industrial process by applying the concepts seen in the Master.
- Present your results and conclusions in a clear and effective way.
- Apply the knowledge and skills acquired throughout the Master.

DESCRIPTION OF CONTENTS: PROGRAMME

The Master's Thesis is organized around the a practical case of implementation of Connected Industry 4.0.

Possible areas in which to carry out this work are presented to the students, and guidance and follow-up are provided.

Among the tasks are considered the following:

- Presentation of work topics
- Compilation and analysis of information related to the Master's Thesis
- Development of Master's Thesis
- Preparation of the Final Document and DefenBse of the Master's Thesis

LEARNING ACTIVITIES AND METHODOLOGY

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AF5   Tutorials (10 hours)
AF7   Personal work of the student (140 hours)

ASSESSMENT SYSTEM

Master's Thesis will be evaluated by a specific committee, in agreement with the procedures and requirements stated by the University, within the periods yearly specified in the academic schedule

Format act of defense :

The student must prepare a report of the work done that will be delivered to the members of a chosen committee for the purpose of evaluation.

The presentation and defense of the TFM is performed in the presence of the evaluation committee.

The student will give a presentation lasting no longer than 30 minutes, after which the committee may ask the student all the questions needed for the evaluation of the work.

The committee, after consulting the tutor of the project if required, will proceed to the qualification, which shall inform the student after the deliberation, sending a copy of the qualification certificate to the corresponding administrative services at UC3M .

The committee is specifically selected for each student according to tutor proposal, and to the rules established in the regulations approved by the UC3M.

Students will perform the presentation and defense in English.

The University uses the Turnitin Feedback Studio program within the Aula Global for the delivery of student work. This program compares the originality of the work delivered by each student with millions of electronic resources and detects those parts of the text that are copied and pasted. If the student has correctly made the appointment and the bibliographic reference of the documents he uses as a source, Turnitin will not mark it as plagiarism.

% end-of-term-examination: 100