Master's Thesis

Academic Year: (2020 / 2021) **Review date: 30-04-2019**

Department assigned to the subject:

Coordinating teacher: FUENTETAJA PIZAN, RAQUEL

Type: Master Final Project ECTS Credits : 12.0

Year : 1 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

To defend the master's thesis is necessary to have passed all subjects in the curriculum.

OBJECTIVES

Competences acquired by the student:

- Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.
- Ability to apply the acquired knowledge to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.
- Students should be able to integrate knowledge and handle complexity of formulating judgments based on incomplete or limited information including reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
- Ability to communicate their conclusions, knowledge and rationale underpinning to specialist and non-specialist audiences in a clear and unambiguous way.
- Students must possess the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.
- Ability to understand and apply methods and techniques in the field of computer engineering at the financial markets.
- Ability to conceive, design or create, implement and adopt a substantial process of developing and creating software for financial markets.
- Ability to apply the knowledge acquired and to solve problems in new or unfamiliar environments within broader and multidisciplinary contexts, to be able to integrate this knowledge.
- Ability to appropriately and with some originality elaborate written compositions or reasoned arguments and to draft plans or work projects.
- Understand the main concepts related to financial markets.
- Analyze and evaluate main information technologies and communications applied in the financial sector.
- Participate in the development of financial software, from its conception in the initial phases of analysis, to its implantation and integration with other systems.
- Implement algorithms and classical techniques of financial markets following the established standards and procedures.
- Analyze and understand the main tools for managing large amounts of data, its storage, access and review.

Learning outcomes:
- Ability to apply the acquired knowledge and ability to solve problems.
- Ability to integrate knowledge.
- Ability to understand and apply methods and techniques of development in the field of Computer Engineering applied to the financial sector.
- Ability to conceive, design or create, implement and adapt a substantial process of software developing for financial markets.
- Ability to produce a document or technical report.
- Ability to present clearly and unambiguously the results from an engineering development to a specialized or not specialized audience.

DESCRIPTION OF CONTENTS: PROGRAMME

The Master's Thesis consists of the development of a project involving the analysis, design and/or implementation of any of the subjects in the curriculum and its public presentation to committee. The work of the student will include: a review of the state of the art for the problem; a critical analysis of the different alternatives found in the state of the art; and a description and evaluation of the solution developed by the student. The student must write a report describing the work. This report can be written either in English or in Spanish. The student must present the main results of his/her Master's Thesis to a university committee in a public session.

LEARNING ACTIVITIES AND METHODOLOGY

Tutorials: presential and/or remote tutorials. Number Total Hours: 10. Presentiality: 100%
Individual work of the student: individual activities that complement the other activities. Total Hours: 350. Presentiality: 0%

Teaching methodology:
- Critical readings recommended by the supervisor: Newspaper articles, reports, manuals and/or academic papers, to expand and consolidate the student's knowledge.
- Resolution of case studies, problems, etc.
- Preparation of reports individually or in groups.

TFM general regulations:
http://www.uc3m.es/ss/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobheadername1=Content-Disposition&blobheadername2=Cache-Control&blobheadervalue1=attachment%3B+filename%3D%22NORMA_TFM_GENERAL.pdf%22&blobheadervalue2=private&blobkey=id&blobtable=MungoBlobs&blobwhere=1371547511386&ssbinary=true
This máster has also a specific regulation for the TFM (in detailed content)

ASSESSMENT SYSTEM

Presentation and public defense. 100%

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.

BASIC ELECTRONIC RESOURCES

- Biblioteca UC3M . Información útil para elaborar el Trabajo Fin de Máster: http://uc3m.libguides.com/TFM