# uc3m Universidad Carlos III de Madrid

## Master's Thesis

Academic Year: (2023 / 2024) Review date: 09-02-2024

Department assigned to the subject: Business Administration Department

Coordinating teacher: MORENO MUÑOZ, JESUS DAVID

Type: Master Final Project ECTS Credits: 6.0

Year: 1 Semester: 2

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Every mandatory courses from the 1st, 2nd and 3rd term should be taken.

#### **OBJECTIVES**

The student will achieve the ability to work with technical and complex problems in Finance, and look for a solution in the Academic references. He or she will learn how to apply the scientific methods for different business and financial problems.

Students will learn how to organize and write and technical or academic report, and how to present and defend it from a group of professionals or experts.

Students will learn how to find the answer for a new and specific problem according to academic publications. In addition, the student will improve his (her) capacity to criticize and propose improvements in methodology or in the hypothesis. Students will also develop his (her) skills in summarizing, analyzing and planning, as they must do a summarize of several academic papers about a specific topic.

## **DESCRIPTION OF CONTENTS: PROGRAMME**

Students must do an individual project to demonstrate his (her) knowledge and skills learned during the master. Each student must do a survey of a research topic about a new and relevant research question in Finance. This survey must have between 22-32 pages, including all (references, tables, appendix). They must demonstrate that they really have a good knowledge of that topic, the methodologies employed, and the results.

Students will be able to focus in questions as:

- Mutual Funds and Performance Evaluation
- Trading constraints and effects on Financial Markets
- New Techniques on Portfolio Management
- Microstructure topcis (Liquidity measures)
- High Frequency Trading (HFT)
- Risk Management
- Trading Strategies using Genetic Algorithms
- Initial Public Offerings
- Bankruptcy prediction (analysis of methodologies)
- Fixed income valuation under an intensity based setting
- Conflicts of interest with a firm
- GARCH models for volatility forecasting
- Venture capital
- Law and Finance topics
- Activist Investors

#### LEARNING ACTIVITIES AND METHODOLOGY

## PROCEDURE TO SELECT A TOPIC:

Students will be sent in due time (last week of the third term) a document with several proposals of topics: a table with the available topics, a short introduction and the respective tutors. Students will have a maximum of a week to choose and rank 5 topics in which he/she would like to do the project, filling out the corresponding document.

Given that only 2 students can be working in the topic or research question, the priority in the assignments will be based on the average grade of the first two terms of the Master in Finance. During the first week of the fourth term, the master will public the list of students and allocated topics.

## GUIDE PROVIDED BY THE TUTOR:

The tutor will provide the topic and 4 or 5 significant references to help the student to understand the research topic and the main research done around that literature.

Each student should read those papers and have a first meeting with the tutor to plan the project and present his ideas (it could be by email if it is agreed).

Each student might have another meeting with the tutor to show his/her progress and to solve some questions (methodology, databases, etc.).

Finally, the students will send a final version to the tutor to be checked, so they can receive some comments or improvements suggestions. There will not be more meetings or contacts with the tutor. After that comments, the student must incorporate them and present the EMP.

#### EMP DEPOSIT:

During the week after the fourth term exams, student will have to completely terminate the EMP and deliver the final version to the Postgraduate Office in Puerta de Toledo. This is the final version that will be evaluated by the tutor and Academic Committee in the Defense.

## EMP PUBLIC DEFENSE:

Students must do a public presentation of his (her) project. Students must prepare a presentation in Power Point and present it in a maximum of 20 minutes (the time for each presentation must be between 15-20 minutes). Students have to present the objective of that research topic, the main papers and the results, demonstrating that he/she really knows and understands that literature. The Evaluation Committee will be composed of two professors. After that the presentation, the Committee has 10-15 minutes to ask any question related with the project.

# ASSESSMENT SYSTEM

The Final grade of the EMP will be: 40% supervisor (tutor) of EMP, 60% Academic Committee in the Defense. Students are required to obtain an average of 50% to pass the course. This is also subject to securing a minimum of 30% in each of the two mentioned sections.

Tutors evaluate the students' work and the EMP according to writing, presentation, linking papers and ideas, and the ability to understand (and explain in his/her own words) techniques and results.

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