# uc3m Universidad Carlos III de Madrid

Quantitative methods and financial mathematics. Homogeneization course

Academic Year: (2020 / 2021)

Review date: 10-07-2020

Department assigned to the subject:

Coordinating teacher: TOLDRA SIMATS, ANNA Type: Compulsory ECTS Credits : 2.0

Type: compulsory Lord credits . 2

Year : 1 Semester : 1

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

This is an introductory course. As such, there is no prerequisite to take this course.

#### OBJECTIVES

After this course students should be able to:

Objective 1: Understand the idea of the time value of money.

Objective 2: Learn techniques to discount cash flows.

Objective 3: Develop the knowledge required to use Financial Mathematics for the decision-making process inside the firm.

#### DESCRIPTION OF CONTENTS: PROGRAMME

- 1. Present value.
- 2. Annual equivalent rate.
- 3. Credit market instruments.
- 4. Secondary markets and rates of return.
- 5. Yield to maturity.
- 6. Loans: French method.
- 7. Increasing coupons.

#### LEARNING ACTIVITIES AND METHODOLOGY

LEARNING ACTIVITIES Theory recitations (12 hours). Practical classes (8 hours). Individual work performed by the student (20 hours).

TEACHING METHODOLOGY

-Theory classes. -Practical classes.

-Homework.

## ASSESSMENT SYSTEM

Final Exam: 60%. Homework: 30%. Class participation: 10%.

% end-of-term-examination:	60
% of continuous assessment (assigments, laboratory, practicals):	40

#### BASIC BIBLIOGRAPHY

- J. Berk and P. DeMarzo Corporate Finance, Pearson, 3rd Ed
- M. Grinblatt and S. Titman Financial Markets and Corporate Strategy, McGraw-Hill, 2nd Ed
- R.A. Brealey , S.C. Myers and F. Allen Principles of Corporate Finance, McGraw-Hill, 11th edition