Financial Derivatives

Academic Year: (2022 / 2023) **Review date: 14-06-2021**

Department assigned to the subject: Business Administration Department

Coordinating teacher: BALBAS DE LA CORTE, ALEJANDRO

Type: Electives ECTS Credits : 6.0

Year : Semester :

OBJECTIVES

The course will provide the students with knowledge about advanced topics in derivative markets, with special focus on dynamic pricing models.
At the end of this course the student must be able to:
- Price and hedge equity derivatives in a dynamic framework.
- Distinguish between complete and incomplete dynamic models

- Deal with dynamic interest rate models.
- Price and hedge interest rate and currency derivatives.
- Price and hedge credit derivatives.

- Deal with commodity derivatives.
- Analyze global portfolios containing derivatives.

Finally:
- Collaboration with other students will be stimulated, so as to deal with complex practical problems.
- Discussions and critic analyses will be provoked.
- Empirical tests will be encouraged.

DESCRIPTION OF CONTENTS: PROGRAMME

FIRST PART: Binomial model, Black and Scholes model, volatility smile, Greeks.
SECOND PART: Interest rate models, interest rate derivatives.
THIRD PART: Credit risk models, commodities.

LEARNING ACTIVITIES AND METHODOLOGY

Methodology will include:
(1) Lectures, in order to present the main ideas of every topic.
(2) The use of the computer.
(3) Numerical exercises.
(4) More complicated practical situations that will be analyzed by teams of three/four students.

ASSESSMENT SYSTEM

- The weight of several sets of exercises, to be solved at home, will be 20%.
- Projects developed by teams of three/four students will have the weight 20%.
- The weight of the final exam will be 60%.

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

BASIC BIBLIOGRAPHY

- Hull Options, futures and other derivatives, Pearson.