

Academic Year: (2023 / 2024)

Review date: 10-07-2023

Department assigned to the subject: Business Administration Department

Coordinating teacher: PEÑA SANCHEZ DE RIVERA, JUAN IGNACIO

Type: Electives ECTS Credits : 3.0

Year : 1 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

This course targets any student from the Master in Finance with the aim of obtaining a deeper understanding and knowledge of credit risk models.

The courses of Financial Markets, Fixed Income, Derivatives, Investment and Risk Management should have been completed previously.

The empirical exercises will be done using Excel.

Professors:

Gustavo Peralta Rassi (FRM & PhD). Senior Manager - KPMG

Alejandro Gomar. Assistant Vice President - Manager in Moody's.

OBJECTIVES

This course is designed to train students in managing financial risks with special focus on credit risk and operational risk.

The course starts by introducing the main concepts of credit risk and its background. Then the most important credit risk measurement procedures and models are presented.

Later the course addresses how credit risk is transferred and hedged, and the financial instruments and techniques required to do so. Finally, the course deals with counterparty risk. In addition, the course introduces operational risk from a conceptual perspective and provides examples of its materialization.

DESCRIPTION OF CONTENTS: PROGRAMME

Chapter I: Introduction to credit risk and background

- Introduction to credit risk
- Key components of credit risk and its measurement (PD, EAD, LGD)
- Obligor/transaction credit risk and portfolio perspective
- Regulatory framework: capital requirements and credit risk provision

Chapter II: Credit risk methodologies and tools

- Scoring and rating models
- Measuring PD and its related quantities.
 - Annual PD, Cumulative PD and Marginal PD
 - Migration Matrix
 - Statistical-Based approach vs Structural approach to default
- Portfolio Credit Risk and Credit VaR

Chapter III: Credit risk transferring

- Credit risk derivatives - CDS
- Securitization

Chapter IV: Counterparty credit risk

- Definition
- CVA, DVA and FVA
- Wrong-Way risk

LEARNING ACTIVITIES AND METHODOLOGY

The Professor will present the main theoretical concepts using Power Point presentations. These concepts will be illustrated by case studies and exercises.

For each topic, the students will have to solve exercises in order to learn the main concepts. Additionally, the students will work in teams to solve 2 practical cases.

For each case, the students must present a report using a structure similar to an academic paper. The empirical exercises will be solved using Excel.

ASSESSMENT SYSTEM

- Practical case 1 - 15%
- Practical case 2 - 15%
- Mid-term Exam - 10%
- Final Exam - 60% with a minimum passing grade of 4

Students that do not meet the minimum passing grade in the final exam should retake the subject
In the retaken exams the same rules will be applied for the grading.

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

BASIC BIBLIOGRAPHY

- Allan Malz Financial Risk Management: Models, History, and Institutions, John Wiley & Sons, , 2011
- Bessis, Joel Risk management in banking, John Wiley & Sons, 2011
- Crouhy, Michel, Galai Dan and Mark Robert The Essentials of Risk Management, Mc Graw Hill, Second Edition, 2014
- Giacomo De Laurentis, Renato Maino, and Luca Molteni Developing, Validating and Using Internal Ratings: Methodologies and Case Studies, West Sussex, UK: John Wiley & Sons, 2010
- John Hull Options, Futures, and Other Derivatives, Pearson Prentice Hall, 2011
- Jon Gregory The xVA Challenge: Counterparty Credit Risk, Funding, Collateral, and Capital, 4th Edition , West Sussex, UK: John Wiley & Sons, , 2020