

**COURSE DATA****DATA SUBJECT****Code:** 43781**Name:** Portfolio management**Cycle:** Master's Degree**ECTS Credits:** 3**Academic year:** 2026-27**STUDY (S)**

Degree	Center	Acad. year	Period
2171 - Master's Degree in Actuarial and Financial Sciences	Facultat d'Economia	1	Second quarter

**SUBJECT-MATTER**

Degree	Subject-matter	Character
2171 - Master's Degree in Actuarial and Financial Sciences	Finance and introduction to insurance	COMPULSORY

**COORDINATION**

BADAL VALERO ELENA

**SUMMARY**

The subject "Finance and Introduction to Insurance" is located in the second semester of the first year and is taken after the study of two previous subjects. One of them is dedicated to laying the technical and methodological foundations on which most of the subsequent developments will be based, and the other is designed to place the student in the scenario in which their professional activity will be carried out.

After studying the subjects in the first semester, students must have developed the skills and competences that provide them with the mathematical and statistical foundations, and are therefore in a position to tackle one of the specific areas of the Master's course in the second semester: Finance, in which Catering Management is located.

The aim of the course is to provide students with knowledge of the theoretical foundations of asset valuation models, their main results in terms of risk measurement and valuation and their applications in the field of portfolio management assessment.

The course is complemented by another subject taught within the same subject, Equity Models.



## PREVIOUS KNOWLEDGE

### RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

### OTHER REQUIREMENTS

In order to adequately learn the contents of this course, the student must know the typical contents of Financial Economics and microeconomics that are usually taught in social sciences studies, as well as have basic skills in the use of the Excel spreadsheet.

No enrolment restrictions have been specified with other subjects in the curriculum.

## COMPETENCES / LEARNING OUTCOMES

### 2171 - Master's Degree in Actuarial and Financial Sciences

Alcanzar sólidos fundamentos para la toma de decisiones financieras: asignación de recursos en el tiempo bajo incertidumbre, estructura y funcionamiento de los mercados financieros, valoración de activos y selección de carteras.

Saber tomar decisiones relacionadas con los riesgos evaluables económicamente.

Ser capaces de construir modelos adecuados al entorno económico empresarial a partir de las posibilidades que ofrecen las modernas tecnologías de la información y de la computación.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should demonstrate self-directed learning skills for continued academic growth.

## DESCRIPTION OF CONTENTS

### 1. Utility theory and the choice under uncertainty

The basic concepts of utility theory, the expected utility theorem, measures of risk aversion and the concept of risk premium will be studied.

This topic introduces the time-state preference model as a general valuation model where uncertainty is



## 2. State Preference Theory and de The asset fundamental equation

reflected in the possible future states of nature. The concepts of complete market, Arrow-Debreu asset are introduced and the fundamental valuation equation is determined based on the non-existence of arbitrage possibilities.

## 3. Mean-Variance Portfolio Theory

The topic contains the basic concepts of risky financial asset selection in the context of mean-variance, develops and solves the Markowitz portfolio selection problem and introduces the VAR as an alternative risk measure to variance.

## 4. Asset pricing under market equilibrium.

The fundamentals of asset valuation in equilibrium, the CAPM model, its main criticisms and extensions are studied. We also study multi-betas equilibrium valuation models

## 5. Factorial models and arbitrage pricing theory

Statistical models for generating single- and multi-factor returns, the concept of factor portfolio

## 6. Evaluation of Potfolio performance

The main measures of portfolio management based on return and risk, the concept of synchronization in portfolio management and possible measures are introduced. Some of the measures based on fund composition are also discussed.

### WORKLOAD

#### PRESENCIAL ACTIVITIES

Activity	Hours
Theory	15,00
Classroom practices	15,00
<b>Total hours</b>	<b>30,00</b>

#### NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	2,00
Individual or group project	8,00
Independent study and work	21,00



Preparation of lessons	5,00
Preparation for assessment activities	5,00
Resolution of case studies	4,00
<b>Total hours</b>	<b>45,00</b>

## TEACHING METHODOLOGY

During the course the contents of the program will be worked simultaneously with the theoretical and practical ones.

The theoretical classes will be taught with the lecture methodology, in which the professor will detail the fundamental aspects of each topic and will explain the most relevant concepts, facilitating the study of the same through the bibliography indicated, to which the student will have to go to complete and deepen in the subject, and the material prepared for this purpose.

The practical classes will consist of the consideration of questions and exercises of applied character and that have been previously raised in the theoretical classes, having the student to participate actively in the development of the activity discussing the solution, and using the suitable computer techniques for its resolution.

In addition to these face-to-face activities, the student must perform other activities oriented to learning in an autonomous way, such as individual study, preparation of evaluation activities, or individual or group work. For the successful completion of these activities, tutoring, either individually or in groups, is a particularly important teaching resource as it allows the teacher to know the level of progress of the group, and the student a personalized guidance in their training program. Consequently, throughout the formative period of the course, the use of this teaching resource is recommended and encouraged throughout the course.

The virtual classroom, <https://aulavirtual.uv.es> facilitates the development of these methodologies, since it contains all the teaching material and allows for fluid contact between teacher and student.

## EVALUATION

The evaluation will be based on:

A) A written exam consisting of both theoretical questions and problems or exercises.

B) Continuous assessment which will be based on some or all of the following points:  
Class attendance and participation.



- Attendance at lectures related to the topics of study.subjects of study.
- Periodic follow-up tests.
- Activities carried out during the training period:exercises, problems, cases.
- Individual and/or team work.

The written exam will account for 70%-80% of the final mark and the continuous assessment for 30%20%. In any case, in order to pass the course a minimum mark of 5 out of 10 will be required and in the written exam a minimum mark of 5 out of 10 must also be obtained. In the case of failing the written exam the maximum mark that can be obtained will be 4.5.

The written examination may consist of a single test or several tests taken during the training period.

In order for the proposed activities and assignments to be assessed, they must be handed in on the date and in the manner stipulated for each of them.

The same assessment criteria shall be used for the second call as for the first call.

## REFERENCES

- Copeland, T.E., Weston, J.F., & Shastri, K.(2013). Financial Theory and Corporate Policy (4th ed., Pearson NewInternational Edition). Pearson Education.
- Elton, E.J., Gruber, M.J., Brown, S.J., & Goetzmann, W.N.(2014). Modern Portfolio Theory and Investment Analysis (9th ed.). John Wiley & Sons.
- Hillier, D., Grinblatt, M., & Titman, S.(2023). Financial Markets & Corporate Strategy: European Edition (3rd ed.). McGraw-Hill.
- Marín, M., & Rubio, G.(2001). Financial Economics. Antoni Bosch Editor.
- Cuthbertson, K., & Nitzsche, D.(2004). Quantitative Financial Economics: Stocks, Bonds and Foreign Exchange(2nd ed.). John Wiley & Sons.
- Danthine, J.P., & Donaldson, J.B.(2005). Intermediate Financial Theory. Elsevier.
- Haugen, R.A.(2001). Modern Investment Theory. Prentice Hall.
- Sharpe, W.F., Alexander, G.J., & Bailey, J.V. (1998). Investments (6th ed.). Prentice Hall.