COURSE DATA

DATA SUBJECT

Code: 36512
Name: Productive Business Investment Analytics
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1332 - Degree in Business Intelligence and Analytics	Facultat d'Economia	2	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1332 - Degree in Business Intelligence and Analytics	Finanzas	COMPULSORY

COORDINATION

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SUMMARY

The subject P*roductive Investment Analysis of a Company* is taught in the second course, second semester, of the *Degree in Business Intelligence and Analytics (BIA)*. It is part of the Finance Module and covers the essential financial knowledge that any manager/analyst needs to work as a professional in the context of a company or organization.

The aim is to support the training of professionals who are involved in data analysis technologies and their application to company management when facing the challenges posed by the new Digital Economy.

This subject is based on the valuation of productive projects that enable the company to generate wealth and, therefore, maximize its market value. This requires innovation within the business, taking into account a limited availability of both economic and financial resources. Therefore, identifying the different techniques that help to correctly identify and valuate new investment opportunities is crucial, always within the framework of a Digital Environment (Big Data, Artificial Intelligence, etc.). Special attention is paid to the development of competencies, knowledge and skills related to business management.

¿We can define the company from the point of view of economic phenomenology as a succession in time of investment and financing projects¿ (Suárez, 2005; p. 28). In both types of financial decisions, the

objective to be achieved, as indicated above, is to maximize the market value of the company.

The course *Productive Investment Analysis of a Company* deals with the analysis and evaluation of investment projects in capital goods. For this, the basic instruments of investment valuation are studied in the contexts of certainty and uncertainty. In addition, and considering the economic, financial and technical restrictions that may arise within companies, the feasibility of undertaking different projects at the same time is analysed, with attention to these restrictions through mathematical linear programming.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

The required prior knowledge is general in nature and linked to the areas of Mathematics, Statistics, Financial Accounting, etc.

COMPETENCES / LEARNING OUTCOMES

1332 - Degree in Business Intelligence and Analytics

Acquire basic training that can be used to learn new methods and technologies and to adapt to new situations in academic and professional areas.

Be able to analyse and search for information from diverse sources.

Be able to apply analytical and mathematical methods for the analysis of economic and business problems.

Be able to learn autonomously.

Be able to produce models, calculations and reports, and to plan tasks in the specific field of business intelligence and analytics.

Be able to solve problems and to communicate and spread knowledge, skills and abilities, taking account of the ethical, egalitarian and professional responsibility of the activity of business intelligence and analytics.

Be able to use ICT, both in academia and in professional practice.

Be able to work in a team demonstrating commitment to quality, ethics, equality and social responsibility.

Demonstrate skills for analysis and synthesis.

Extract internal and external information and use it to estimate the parameters that define productive investments.

Know and know how to properly use the appropriate quantitative and qualitative methods to reason analytically, evaluate results and predict economic and financial magnitudes.

Make decisions under certainty and uncertainty.

Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.

Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.

Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.

Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.

DESCRIPTION OF CONTENTS

1. FINANCIAL MATHEMATICS APPLIED TO FINANCE

1. Financial capital.
2. Capitalization and discount: economic significance.
3. Effect of inflation on valuation: nominal interest rate and real interest rate.
4. Financial income and its valuation.

2. FINANCIAL MANAGEMENT OF THE COMPANY

1. The financial function in the company: nature and scope.
   1.1. The company as a system
   1.2. The financial function of the company
2. Economic and financial structure of the company: financial balance.
   2.1. Economic and financial structure.
   2.2. Internal cycles of the company.
   2.3. Financial balance of the company
   2.4. Working capital.
3. Objective of the Financial Management of the company.
4. Finance in the Context of Sustainability.
   4.1. Sustainable Development and the SDGs.

4.2. Sustainable Finance.
4.3. Instruments for Sustainability.
4.4. Redefining the Objective of Financial Management.

3. THE DECISION TO INVEST

1. Productive investment concept.
2. Financial characteristics that define an investment. Investment classification.
   2.1. Fundamental elements.
   2.2. Time scheme of investment projects.
   2.3. Investment classification.
3. Estimate of Net Cash Flows (NCF)
   3.1. Definition of the NCF vs. Benefits.
   3.2. Corporation Tax: Free Cash Flow Concept.
   3.3. NCF estimation methods.
4. Elements that influence the incremental NCF.

4. THE NET PRESENT VALUE (NPV)

1. Financial markets and adjustment to patterns of investment and consumption guidelines.
   2.1. Financial markets: introduction and hypothesis.
   2.2. Valuation in the absence of financial markets.
   2.3. Valuation in the presence of financial markets.
2. Existence of productive investment opportunities and increased investor wealth: Fisher's theorem.
3. The Net Present Value (NPV).
   3.1. NPV: Definition
   3.2. NPV: Decision rule.
   3.3. Reinvestment of intermediate NCFs.
4. The opportunity cost: initial considerations.

5. OTHER VALUATION CRITERIA

1. Internal rate of return (IRR).
   1.1. IRR: Definition.
   1.2. IRR: Decision rule.
   1.3. IRR: Disadvantages and inconsistencies.
2. Other valuation criteria.
   2.1. The Recovery Period (Pay-Back).

2.2. The Profitability Index.
3. Management of simple investment projects.
3.1. Simple projects: Valuation
3.2. Simple projects: hierarchal ordering.
3.3. Discrepancies in hierarchical ordering: Fisher's rate.

6. PRODUCTIVE INVESTMENTS WITH LIMITED RESOURCES

1. The problem of limitation of financial resources.
2. Mathematical programming.
2.1. The Lorie-Savage-Weingatner model.
2.2. Other possible restrictions on investment programming.
3. The dual program of the Lorie-Savage-Weingatner model.

7. SELECTION OF PRODUCTIVE INVESTMENTS IN AN ENVIRONMENT OF UNCERTAINTY

1. Risk-adjusted discount rate.
1.1. Introduction of risk.
1.2. Estimation of the risk-adjusted discount rate.
2. Sensitivity analysis. Break-even ananlysis
3. Monte Carlo simulation.
4. Sequential decisions.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	30,00
Computer classroom practice	30,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00
Independent study and work	87,00

Preparation of lessons	0,00
Preparation for assessment activities	3,00
Resolution of case studies	0,00
Total hours	**90,00**

TEACHING METHODOLOGY

- The theory classes consist of the presentation of the topics of the curriculum. The participation of the student will be valued in terms of their critical contribution and their ability to debate.
- The practical classes consist of solving exercises and analysing business reality. A collection of case studies will be used, some of which will form part of the student's personal work.

EVALUATION

- **Continuous assessment**: is based on the participation and degree of involvement of the student in the teaching-learning process, taking into account regular attendance at planned face-to-face activities (resolution of practical cases, handing in of exercises, and other evaluable tests, etc.).

The purpose and nature of these continuous assessment tests is to promote and evaluate the work and progressive and continuous learning of the student throughout the course, as specified in article 6 point 3 of the Evaluation and Qualification Regulations of the*Universitat de València* for undergraduate and master degrees, which states: ¿Continuous evaluation is one of the basic criteria of course programming, and must be understood as a tool of the teaching-learning process that informs the student of their progress and evaluates ¿¿it¿ . Given the final nature of these continuous assessment tests, they will not be recoverable in resit exams.

This part will make up **20%** of the final grade (not recoverable in second call).

- **Final exam**: consists of a set of test-type questions and/or several open-ended questions, in which theory and practical assessment will be combined.

This part will make up **80%** of the final grade.

- The **FINAL GRADE** will be the sum of the two previous parts, as long as at least 5 points out of 10 has been achieved in the final exam.

The rating system will be expressed by a numerical rating in accordance with the provisions of article 5 of the R.D. 1125/2003, of September 5, which establishes the European credit system and the qualification system for official university degrees valid in the national territory.

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