

Economy and Management

Code: 101903
ECTS Credits: 3

Degree	Type	Year	Semester
2501230 Biomedical Sciences	OT	4	0

Contact

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Use of Languages

Principal working language: spanish (spa)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: Yes

Prerequisites

This is a basic course in Economics and Management. Therefore, there is no prerequisite of previous knowledge.

Objectives and Contextualisation

The main objective of this course is to familiarize students in Biomedical Science with the tools of economic analysis and the world of business, a context where future graduates will develop their professional lives. What determines the existence of firms? How are they organized and provide incentives? How does a monopoly company behave? And a firm under perfect competition? What does value creation mean or how can you choose between different business projects or financing sources ?

The creation of value, as a socially desirable objective of firms, is a key element of the course. Thus, the first chapters emphasize the role of transactions as the main way of creating value. Several chapters are dedicated to define value creation and the relation with other objectives traditionally considered by firms, such as their profits. Later in the course, the creation of value and its management in the different activities of the firm, especially in the topics of production, financial transactions and the internal organization of the firm.

Competences

- Apply knowledge acquired to the planning and implementation of research, development and innovation projects in a biomedical research laboratory, a clinical department laboratory or the biomedical industry.
- Develop critical thinking and reasoning and communicate ideas effectively, both in the mother tongue and in other languages.
- Develop independent learning strategies.
- Generate innovative and competitive proposals for research and professional activities.
- Respect diversity in ideas, people and situations.
- Work as part of a group with members of other professions, understanding their viewpoint and establishing a constructive collaboration.

Learning Outcomes

1. Apply the principles of economic analysis to the production and marketing of biotechnological products.

2. Apply the principles of organisation and management of the different functional areas of a company dealing in biotechnological products.
3. Develop critical thinking and reasoning and communicate ideas effectively, both in the mother tongue and in other languages.
4. Develop independent learning strategies.
5. Display an integrated vision of an R&D&I process, from the discovery of the basic knowledge and the development of applications to market launch, and apply the main concepts of organisation and management to a biotechnological process.
6. Generate innovative and competitive proposals for research and professional activities.
7. Respect diversity in ideas, people and situations.
8. Work as part of a group with members of other professions, understanding their viewpoint and establishing a constructive collaboration.

Content

PART 1: THE NATURE OF THE FIRM AND ITS ORGANIZATION

Topic 1. The Firm

1. The problem of the Organization and the creation of value
2. Example of the tribe
3. Company versus Market
4. Intermediate solutions
5. The entrepreneur

Topic 2. Perfect competition and monopoly

1. Perfect competition solution and the creation of Value
2. Perfect competition conditions
3. Monopoly solution and value
4. Consumer surplus, price discrimination and TDC

Topic 3. Firm Types

1. Firms from a legal perspective: the corporation
2. The responsibility of the partners, firm financing and the losses
3. The creation of value and the legal form
4. New forms of organizations
5. Firm types in the Spanish context

PART II. ACTIVITIES OF THE FIRM

Topic 4. The production activity of the firm

1. The firm as a productive unit
2. The firm as a production function
3. The costs

4. Maximize production, minimize costs
5. The relationship between costs, the volume of activity and the profits
6. Economies of scale, scope and experience
7. Innovation, Value and New Technologies

Topic 5. The investments and the financial activity of the firm

1. The price in financial transactions, interest rates
2. Capitalization and update operations
3. The choice of investments or financing: interest rates
4. The creation of wealth in financial transactions
5. The selection of investments (or financing): NPV
6. The price in operations with more than one time period
7. The compound interest rate and the simple interest rate

PART III. ORGANIZATIONAL DESIGN

Topic 6. Organizational design and the creation of value

1. The relevance of organizational design
2. Market failures and organizational solutions
3. The Agency problem and the problem with Teams
4. Moral Hazard and incentive contracts
5. Adverse selection, self-selection and signals
6. Examples of organizational solutions

Methodology

1) A continuous assessment of the activities suggested during the course. This ongoing evaluation will include a midterm exam (with a weight of 35%), problems sets, and an active participation in class discussions of the cases, small tests, news and exercises with a weight of 20%. Regular attendance and completion of class exercises and activities scheduled during the course are required activities. 2) A final examination (individual assessment and 45% of grade). This exam will have both a practical part (problems) and a theoretical part.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Case discussion and problem solving	3	0.12	3, 7, 8
Individual tutorials at the professor's office	3.5	0.14	2, 1, 5, 3, 6, 7,

Master classes	3.5	0.14	2, 1, 5, 4, 3, 6
Study the course subjects, solving the cases, exercises and questions proposed in the course	14	0.56	2, 1
Type: Autonomous			
Study the course subjects, solving the cases, exercises and questions proposed in the course	48	1.92	2, 1, 4, 3, 6

Assessment

1) A continuous assessment of the activities suggested during the course. This ongoing evaluation will include a midterm exam (with a weight of 30%), problems sets, and an active participation in class discussions of the cases, small tests, news and exercises with a weight of 25%. Regular attendance and completion of class exercises and activities scheduled during the course are required activities. 2) A final examination (individual assessment and 45% of grade). This exam will have both a practical part (problems) and a theoretical part.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exam	45%	2	0.08	2, 1, 5, 3, 6
Exercises	Exercises	0	0	2, 1, 5, 4, 3, 6, 8
General Evaluation (Group Evaluation)	55%	1	0.04	2, 1, 5, 3, 6
Group evaluation	Group evaluation	0	0	2, 1, 5, 3, 6, 7, 8

Bibliography

PINDYCK, Robert y RUBINFELD, Daniel (2013): Microeconomía, 8ª edición, ed. Prentice Hall

SERRA, Antoni (2003): Mercado, contratos y empresa. 2ª edición. Manuals de la UAB, Labor.