

## Course guide

### 320009 - EGEM - Economics and Business Administration

**Last modified:** 11/04/2025

**Unit in charge:** Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
**Teaching unit:** 732 - OE - Department of Management.

**Degree:** BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Compulsory subject).  
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Compulsory subject).  
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Compulsory subject).  
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Compulsory subject).  
BACHELOR'S DEGREE IN TEXTILE TECHNOLOGY AND DESIGN ENGINEERING (Syllabus 2009). (Compulsory subject).  
BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2010). (Compulsory subject).

**Academic year:** 2025    **ECTS Credits:** 6.0    **Languages:** Catalan, Spanish

#### LECTURER

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**Coordinating lecturer:** ROSA MARIA VIDAL TUSAL

**Others:** Borrell Matas, Marc  
Casabona Fina, Ramon  
Espot Piñol, Carme  
Garcia Pascual, Juan Carlos  
Rodríguez Donaire, Silvia  
Tornos Carreras, Javier  
Trullas Casasayas, Irene

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

CE06-INDUS. Adequate knowledge of the concept of a company, institutional and legal framework of the company. Organization and management of companies. (Basic training module)

**Transversal:**

CT01 N1. Entrepreneurship and innovation - Level 1. Showing enterprise, acquiring basic knowledge about organizations and becoming familiar with the tools and techniques for generating ideas and managing organizations that make it possible to solve known problems and create opportunities.

CT01 N2. Entrepreneurship and innovation - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.

**Basic:**

CB1. That students have demonstrated possession and understanding of knowledge in a field of study that is based on general secondary education, and is typically found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study.

CB3. That students have the ability to gather and interpret relevant data (typically within their field of study) to make judgments that include reflection on socially, scientifically, or ethically relevant issues.

CB2. That students can apply their knowledge to their work or vocation in a professional manner and possess the competencies typically demonstrated through the development and defense of arguments and problem-solving within their field of study.

## TEACHING METHODOLOGY

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- Face-to-face lecture sessions.
- Face-to-face practical work sessions.
- Independent learning and exercises.
- Preparation and completion of group activities subject to assessment.

In the face-to-face lecture sessions, the lecturer will introduce the basic theory, concepts, methods and results for the subject and use examples to facilitate students' understanding.

There are three types of face-to-face practical work sessions:

Type A: The lecturer will provide students with guidelines for analysing information and solving problems by applying methods, concepts and theoretical results.

Type B: Presentation of group work by students.

Type C: Test sessions.

Students must work and study on their own so that they are able to assimilate concepts and solve the set exercises.

Students will work in groups, the size of which is to be determined. Each group will present their results during class sessions. They will use the media that will best facilitate their classmates' understanding of the topic they are presenting.

All those students who fail, want to improve their mark or cannot attend the partial exam, they will have the opportunity to be examined the same day of the final exam. If due to the circumstances it is not viable to do it the same day of the final exam, the teacher responsible for the subject will propose, via the platform Atenea, that the mentioned recovery exam will be carried out another day, in class schedule.

The new mark of the recovery exam will substitute the previous one, unless it is lower.

## LEARNING OBJECTIVES OF THE SUBJECT

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The subject is divided into two parts. In the first part, the aim is to teach students the principles and basic fundamentals of the economy. They will become familiar with the mechanisms underlying different economic models and the implications for, and influence on, business administration. In the second part, in which the student already knows the rules of the economic environment, the objective is focused on business management and administration. Students will learn about the concepts underpinning the company, its structure, dynamic activities, purpose and the role of the entrepreneur. Topics dealt with include commerce, productive activity, business and financial management, human resource management, the management subsystem in which business governance is studied, taking into account different approaches and perspectives.

## STUDY LOAD

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Type	Hours	Percentage
Hours medium group	15,0	10.00
Self study	90,0	60.00
Hours large group	45,0	30.00

**Total learning time:** 150 h

## CONTENTS

### TOPIC 1: ECONOMICS: CONCEPTS AND PROBLEMS

**Description:**

- 1.1. The concept of economics.
- 1.2. Scarcity, choice and opportunity cost.
- 1.3. Factors and production.
- 1.4. Consumption, savings and wealth.
- 1.5. The choices available in a society.
- 1.6. The functioning of the market.
- 1.7. The intervention of the state in the economy and market failures.
- 1.8. Demand, supply and market equilibrium.

**Specific objectives:**

For students to:

- Acquire some basic knowledge of what economics is and what problems it entails.
- Have a good command of the concepts of scarcity, choice and opportunity cost.
- Understand the concept of production and its limitations in a society.
- Understand the mechanisms by which the market functions, in addition to market failures.
- Manipulate supply and demand functions and the main variables that influence them.
- Understand the various cases of market imbalance.

**Full-or-part-time:** 10h

Theory classes: 3h

Practical classes: 1h

Self study : 6h

### TOPIC 2: CONSUMER BEHAVIOUR AND DEMAND

**Description:**

- 2.1. Constraints on consumers.
- 2.2. Budgets and budget constraints.
- 2.3. Consumer preferences and indifference curves.
- 2.4. Consumer choice and the constraints that influence it.

**Specific objectives:**

For students to:

- Understand the principles that govern the behaviour of economic agents and the constraints that limit this behaviour.
- Understand the concept of a budget set and its relationship to changes in prices and income.
- Understand the principles of consumer preference and consumer choice as the maximisation of equilibrium.
- Be able to separate the income and substitution effects of a price change.

**Related activities:**

Test on concepts covered.

**Full-or-part-time:** 10h

Theory classes: 3h

Practical classes: 1h

Self study : 6h

### TOPIC 3: THE COMPANY AS A UNIT OF PRODUCTION. THE PERFECTLY COMPETITIVE MARKET

**Description:**

- 3.1. Production and analysis of production in the short and long term.
- 3.2. Productivity, costs and the relationship between the two.
- 3.3. The revenue and profit of a company.
- 3.4. Markets, according to their characteristics.
- 3.5. The revenue of a competitive company.
- 3.6. The amount produced in perfect competition in the short and long term.
- 3.7. A company's profit: extraordinary, normal or loss.

**Specific objectives:**

For students to:

- Understand the concept of rationality in decision-making by companies.
- Understand the concepts of short and long term in the theory of production.
- Distinguish between technical efficiency and economic efficiency.
- Relate the concepts of production and costs.
- Distinguish between the concepts of economic profit and accounting profit.
- Understand the characteristics of perfectly competitive markets and the process of maximising profit.
- Understand the long-term balance of a competitive market and the dynamics that exist until this balance is achieved.

**Related activities:**

Test on concepts covered.

**Full-or-part-time:** 10h

Theory classes: 3h

Practical classes: 1h

Self study : 6h

### TOPIC 4: NON-COMPETITIVE MARKETS

**Description:**

- 4.1. Monopolies. Profit maximisation and equilibrium.
- 4.2. Comparison of monopoly to perfect competition.
- 4.3. Reasons for the existence of monopolies: barriers to entry and natural monopolies.
- 4.4. Monopolistic competition.
- 4.5. Oligopolies: characteristics and models

**Specific objectives:**

For students to:

- Clearly distinguish between perfectly competitive markets and non-competitive markets.
- Understand the equilibrium of a monopolist and compare the result with the equilibrium of an equivalent perfectly competitive market.
- Outline the benefits of competitive and non-competitive markets from the perspective of social welfare.
- Understand the basic characteristics of oligopolistic markets.

**Related activities:**

Test on concepts covered.

**Full-or-part-time:** 10h

Theory classes: 3h

Practical classes: 1h

Self study : 6h

## TOPIC 5: MARKETS OF PRODUCTION FACTORS

### Description:

- 5.1. Market of production factors vs. market of goods.
- 5.2. The hiring of labour in perfect competition.
- 5.3. Supply and demand in the labour market.
- 5.4. Equilibrium in a labour market.
- 5.5. Unemployment.

### Specific objectives:

For students to:

- Understand the market of production factors and how it differs from the market of goods.
- Understand demand decisions by competitive companies in the process of maximising profit.
- Understand the characteristics that make the labour market different from other markets.
- Understand why labour markets always have some unemployment.

### Related activities:

Test on concepts covered.

**Full-or-part-time:** 5h

Theory classes: 1h 30m

Practical classes: 0h 30m

Self study : 3h

## TOPIC 6: MACROECONOMIC CONCEPTS AND VARIABLES

### Description:

- 6.1. Gross domestic product and economic activity.
- 6.2. Relative magnitudes as factors that drive unemployment.
- 6.3. Consumer price index.
- 6.4. Inflation rate.
- 6.5. Balance of payments.
- 6.6. Economic growth.

### Specific objectives:

For students to:

- Understand the main macroeconomic relative magnitudes concerning production and level of unemployment.
- Understand the meaning of the general price level and its growth rate, better known as the inflation rate.
- Understand the balance of payments as a document that provides information on a country's foreign transactions.

### Related activities:

Test on concepts covered.

Practical exercise covering Part 1.

**Full-or-part-time:** 15h

Theory classes: 4h 30m

Practical classes: 1h 30m

Self study : 9h

## TOPIC 7: COMPANIES

### Description:

- 7.1. Companies and entrepreneurs. Concepts and basics.
- 7.2. The activity of a company: system, business and strategy.
- 7.3. The company as an organisation.
- 7.4. Companies on the new global stage.

### Specific objectives:

For students to:

- Understand the concept and function of a company.
- Understand the various types of companies from different perspectives.
- Understand the role of entrepreneurs in economic and social development, as well as their key attributes and essential skills.
- Understand companies from a systems perspective, in which decision-making based on a comprehensive understanding of the system is feasible.
- Understand the importance of strategic planning to manage the uncertainty present in life of a company.
- Understand that a company is not only a system but also an organisation, and that as such it has a particular structure and set of principles.
- Understand and identify the various parts of a company.
- Understand the three aspects that characterise the structure and development of companies on the global stage: knowledge, innovation and values.

### Related activities:

Test on concepts covered.

### Full-or-part-time: 15h

Theory classes: 4h 30m

Practical classes: 1h 30m

Self study : 9h

## TOPIC 8: COMMERCIAL SUBSYSTEM

### Description:

- 8.1. Marketing management in a company.
- 8.2. Product concept.
- 8.3. The nature and importance of price.
- 8.4. Distribution.
- 8.5. Communication.
- 8.6. Marketing plan.

### Specific objectives:

For students to:

- Understand the market-oriented business management approach.
- Understand marketing as an organisational function and a set of processes oriented towards creating, communicating and delivering value to customers.
- Manage customer relationships in a way that benefits the organisation and other stakeholders.
- Understand the main variables and the various approaches to marketing management.
- Understand the concept, structure and process of creating a marketing plan.

### Related activities:

Test on concepts covered.

### Full-or-part-time: 15h

Theory classes: 4h 30m

Practical classes: 1h 30m

Self study : 9h

## TOPIC 9: OPERATIONS SUBSYSTEM

### Description:

- 9.1. Operations management: strategic and tactical decisions.
- 9.2. Important aspects of production: objectives, costs and productivity.
- 9.3. Strategic aspects of the production subsystem.
- 9.4. Production planning and scheduling.

### Specific objectives:

For students to:

- Generally understand the production subsystem. A later subject (Organisation of Operations) will cover all aspects of this topic in depth.
- Understand production as the series of processes, procedures, methods and techniques used by a company to create goods and services.
- Understand and distinguish between the various types of decisions that operations managers must make in order to anticipate the problems that may arise in pursuit of their final objective.

### Related activities:

Test on concepts covered.  
Practical exercise.

### Full-or-part-time: 10h

Theory classes: 3h  
Practical classes: 1h  
Self study : 6h

## TOPIC 10: FINANCIAL SUBSYSTEM

### Description:

- 10.1. The financial function of a company.
- 10.2. Financial equilibrium: balance sheet, working capital, liquidity and solvency.
- 10.3. The performance of a company: profit, profitability and performance.
- 10.4. Elements and operation of a financial system.
- 10.5. Financial markets
- 10.6. The decision to invest.
- 10.7. Fundamental variables of investment.
- 10.8. Selection of investments: static and dynamic methods
- 10.9. Sources of financing for companies.

### Specific objectives:

For students to:

- Understand a company's financial subsystem as representing the human body's circulatory system.
- Understand the principles underpinning a company's finances.
- Understand the financial environment in which a company acts.
- Interpret balance sheets and income statements and use them as tools for decision-making.
- Understand that the life of a company consists of a series of investments aimed at maintaining and increasing the company's productivity and profitability.
- Distinguish between different types of investment and understand the main methods for selecting the investments that are most favourable to a company's objectives.
- Understand the main sources of internal and external financing, as well as other, non-traditional financial instruments.

### Related activities:

Test on concepts covered.  
Practical exercise.

### Full-or-part-time: 20h

Theory classes: 6h  
Practical classes: 2h  
Self study : 12h

## TOPIC 11: HUMAN RESOURCES SUBSYSTEM

### Description:

- 11.1. Human resources management.
- 11.2. Planning personnel needs.
- 11.3. The recruitment and selection process.
- 11.4. Staff training.
- 11.5. Employee remuneration.
- 11.6. Remuneration policies.
- 11.7. Conflict and cooperation in a company.
- 11.8. Negotiation in a company.

### Specific objectives:

For students to:

- Understand the purpose of personnel management.
- Analyse human resource planning and address the most important aspects of new employees' involvement in the company, in particular their recruitment, selection and integration.
- Understand companies' systems of rewards and disciplinary actions.
- Understand the basis for this system: the assessment of positions and effectiveness.
- Understand the various salary and remuneration systems and their goals, as well as the most important aspects of disciplinary actions.
- Understand the nature of negotiations, including the main characteristics of negotiators that can have an effect on the process.
- Understand key strategic and tactical principles.

### Related activities:

Test on concepts covered.

**Full-or-part-time:** 15h

Theory classes: 4h 30m

Practical classes: 1h 30m

Self study : 9h

## TOPIC 12: ADMINISTRATION SUBSYSTEM

### Description:

- 12.1. Business administration as a process.
- 12.2. The concept of the manager and his/her role in the company.
- 12.3. Taxonomy of managers: behaviour and management styles.
- 12.4. The decision-making process.
- 12.5. Corporate culture and values.

### Specific objectives:

For students to:

- Understand the importance of guiding and directing the decisions and actions that take place in a company.
- Understand that management is an essential and central part of the administrative process.
- Understand the importance of communication in making a company work properly, and be capable of achieving this sort of communication.
- Understand the various organisational structures.
- Understand the importance of establishing a culture and ethics as values to strengthen and characterise a company.

### Related activities:

Test on concepts covered.

Practical exercise.

**Full-or-part-time:** 15h

Theory classes: 4h 30m

Practical classes: 1h 30m

Self study : 9h



## ACTIVITIES

### TEST TO AVALUATE CONCEPTS OF ACHIEVED

**Description:**

At the end of each of the different topics there will be a test (multiple choice test).

**Specific objectives:**

Verify and evaluate the level of knowledge achieved by the student.

**Material:**

Campus ATENEA and material distributed at the time of the test.

**Delivery:**

Evaluated activities

**Full-or-part-time:** 0h 30m

Theory classes: 0h 30m

### PRACTICAL APPLICATION EXERCISE

**Description:**

Exercises of practical application of knowledge. The type of exercise will vary depending on the topic( problem solving, analysis and discussion of a case defending a certain position or proposal or statement of results obtained).

**Specific objectives:**

To apply the knowledge acquired in practical activities.

**Material:**

ATENEA and material distributed at the time of the test

**Delivery:**

Evaluated activities and delivering activities

**Full-or-part-time:** 0h 45m

Theory classes: 0h 45m

## GRADING SYSTEM

Continuous assessment:

- All activities carried out individually or in groups, whether inside or outside the classroom, will be assessed.
- 35% of the final mark is based on the continuous activity conducted inside and outside the classroom.
- 50% of the final mark is based on the examinations held during the first and second assessments.
- The remaining 15% of the final mark will be based on the formal aspect, attendance and participation of the activities performed throughout the year.

## BIBLIOGRAPHY

**Basic:**

- González Domínguez, Francisco José; Ganaza Vargas, Juan D. Principios y fundamentos de gestión de empresas. 2ª ed. Madrid: Pirámide, 2008. ISBN 9788436821871.
- Blanco, Juan Manuel. Economía: teoría y práctica [on line]. 6ª ed. Madrid: McGraw-Hill, 2014 [Consultation: 08/03/2023]. Available on: [https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB\\_BooksVis?cod\\_primaria=1000187&codigo\\_libro=8463](https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=8463). ISBN 9788448192815.
- Castro Abancéns, I.; Rufino Rus, J.I. Creación de empresas para emprendedores. 2ª ed. Madrid: Pirámide, 2015. ISBN 9788436834109.



**Complementary:**

- Brio González, J. Á. del; Junquera Cimadevilla, B.; Fernández Sánchez, E. Iniciación a los negocios para ingenieros: aspectos funcionales. Madrid: Paraninfo, 2008. ISBN 9788497326810.
- Koontz, Harold; Weihrich, Heinz; Cannice, Mark. Administración: una perspectiva global, empresarial y de innovación [on line]. 15ª ed. México: McGraw-Hill, 2017 [Consultation: 09/05/2022]. Available on: [https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB\\_BooksVis?cod\\_primaria=1000187&codigo\\_libro=8101](https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=8101). ISBN 9786071513915.
- Díez de Castro, J. [et al.]. Administración de empresas: dirigir en la sociedad del conocimiento. Madrid: Pirámide, 2002. ISBN 9788436816785.