

Degree	Type	Year
2500897 Chemical Engineering	FB	2

## Contact

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## Teachers

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## Teaching groups languages

You can view this information at the [end](#) of this document.

## Prerequisites

Basic knowledge of calculus, algebra and functions.

## Objectives and Contextualisation

The course aims to provide a series of knowledge in relation to the conceptual framework of the company and the economic system in which it operates, as well as the analysis and approach of microeconomic and management techniques and models, making special emphasis on those areas linked to technology-based companies. It will seek to provide a theoretical-practical vision that students can relate to current challenges and situations in the academic and sectoral field of their studies

## Competences

Chemical Engineering

- Analyse and apply the basic principles of organisation and planning to companies and other organisations or institutions
- Analyse the economic feasibility of an industrial chemical engineering project.
- Communication
- Develop personal work habits.
- Develop thinking habits.
- Observe ethics and professionalism.
- Participate in the organisation and planning of companies.

- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Work in a team.

## Learning Outcomes

1. Apply the basic principles of company organisation and management.
2. Communicate efficiently, orally and in writing, knowledge, results and skills, both professionally and to non-expert audiences.
3. Contribute to society's welfare and to sustainable development.
4. Describe and analyse the economic environment of a company in its institutional and legal framework.
5. Develop independent learning strategies.
6. Develop scientific thinking.
7. Identify the monetary flows involved in the process industry.
8. Identify, manage and resolve conflicts.
9. Manage available time and resources. Work in an organised manner.
10. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
11. Work cooperatively.

## Content

A. Economic context and productive structure

A.1. Economic concepts and the role of the company

A.2. Perfect competition: profit maximisation and cost minimisation

A.3. Imperfect competition: monopoly, oligopoly (competition in quantities and prices) and monopolistic competition

B. Key concepts of investments and financing

B.1. Investment concepts, basic financial instruments, investment selection (VAN, IRR)

B.2. Investment, depreciation and cash flows

B.3. The sources of financing in the company and the cost of capital

C. Technology-based business projects

C.1. Key concepts of innovative technology-based projects

C.2. Specific financing for technology-based projects

C.3. Intellectual and industrial protection

D. Creation of companies

D.1. Strategic process and business model

D.2. The development of the business plan

D.3. Intrapreneurship or corporate entrepreneurship

## Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Applied sessions	15	0.6	1, 5, 7, 9, 10, 11
Seminars	5	0.2	1, 2, 4, 5, 8, 10
Theory	30	1.2	1, 4, 6, 7, 9, 10
Type: Supervised			
Office hours	6	0.24	1, 5, 6, 9, 10
Type: Autonomous			
Individual work	55.5	2.22	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Studying for exams	30	1.2	1, 2, 4, 5, 7, 8, 9, 10, 11

The theory lectures are focused on presenting the key contents of the topics contained in this teaching guide, presenting the theoretical vision, but at the same time seeking to identify its practical application. Practice sessions are intended for discussion and problem solving. Finally, the seminars are intended for the presentation and discussion of practical cases.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Assessment

### Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Applied activities to be solved and submitted	40	3	0.12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Exams	50	3	0.12	1, 4, 5, 6, 7, 9, 10
Written discussion on the seminars	10	2.5	0.1	1, 2, 4, 5, 6, 8, 9, 10, 11

**Exams:** There will be a single final exam, which will cover 100% of the course content. A minimum grade of 3 out of 10 is required to average with the rest of the assessment activities. If this grade is not achieved (and if the requirements mentioned below are met), it will be necessary to take the makeup exam. The weight of the exam will be 50% of the final course grade.

**Completion and submission of practical activities:** Throughout the course, it will be necessary to submit exercises and/or other types of practical activities, which may be (at the discretion of the teaching team) individual or group-based. The weight of these activities as a whole will be 40% of the final course grade.

Participation and discussion in seminars: Participation and written discussion in seminars will have a weight of 10% of the final course grade. In the case that a student, through this continuous assessment system, obtains a grade equal to or greater than 5, but does not achieve the minimum grade of 3 in the exam, and does not take the makeup exam, the final grade obtained will be 4.5 (and this will be recorded as such).

Retake exam: Students who have not passed the course through continuous assessment (but have obtained a minimum of 2.5 out of 10 as a final grade) will have one last test consisting of a retake exam covering the entire course. The grade obtained in this makeup exam will account for 100% of the final course grade (the other assessment activities will not be counted).

Each student must compulsorily attend the assessment test scheduled for their group. Following the current regulations, assessment tests will not be rescheduled except in one of the exceptional cases contemplated by the same regulations (this does not include exams from other institutions, previously scheduled doctor visits, trips, etc.).

Students in their second (or later) enrolment can opt for a synthesis test (single assessment) by requesting it from the course contact professor within 1 month from the start of the semester.

Without prejudice to other disciplinary measures that may be deemed appropriate, and in accordance with current academic regulations, irregularities committed by a student that could lead to a variation in the grade will be graded with a zero (0). For example, plagiarizing, copying, allowing copying, etc., in an assessment activity, will result in that activity being failed with a zero (0). Assessment activities graded in this manner and by this procedure will not be recoverable. If it is necessary to pass any of these assessment activities to pass the course, the course will be directly failed, without the opportunity to recover it in the same academic year.

The dates of continuous assessment and submissions will be published on the Moodle Classroom and may be subject to rescheduling due to adaptation to possible incidents. The change in the dates of activities within the business days of the academic calendar will not give the right to rescheduling (except as provided by the regulations). These changes will always be communicated on the Moodle Classroom as it is understood to be the usual platform for information exchange between teachers and students.

## **Bibliography**

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## Software

No specialised software required.

## Language list

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	211	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	212	Catalan	second semester	morning-mixed
(SEM) Seminars	211	Catalan	second semester	morning-mixed
(SEM) Seminars	212	Catalan	second semester	morning-mixed
(TE) Theory	21	Catalan	second semester	morning-mixed