

Degree	Type	Year
Chemical Engineering	OT	4

Contact

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Teachers

(External) JORDI MALLA NUALART

Teaching groups languages

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

Prerequisites

No requirements are needed.

Objectives and Contextualisation

The overall objective of the course is to familiarize students with the day-to-day running of an operations department of a chemical company.

Production systems from different sectors of the chemical industry will be analyzed to study the supply chain from different operational strategies.

In addition, the student will be provided with a 360 vision to facilitate their incorporation into any position of an operations department.

Competences

- Apply quality principles and methods.
- Apply the techniques for analysing and synthesising systems to process and product the engineering.
- Develop personal work habits.
- Objectively compare and select different technical options for chemical processes.
- Work in a team.

Learning Outcomes

1. Apply knowledge to the preparation of related documentation, organised by work processes and procedures.
2. Create models of the dynamic behaviour of compound systems for a variety of operations.
3. Describe the different work methodologies in relation to quality management systems.
4. Display a clear vision of engineering as a profession, encompassing both the tasks intrinsic to it and its responsibility to society.
5. Show understanding of the integration of quality management in improved production.
6. Show understanding of the structure of a quality management system and its implantation in process engineering.
7. Specify the different technical options in production processes for the main inorganic and organic products, in the different sectors of industrial chemistry.
8. Work autonomously.
9. Work cooperatively.

Content

1. Introduction to industrial organization and operation
2. Methodologies and quality in a productive system
3. Sales forecast and production needs
4. Operations, materials and resources planning
5. Operations in productive systems
6. Optimization and economic control
7. Industry 5.0

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Problems solving	15	0.6	1, 5, 6, 3, 2, 7, 9, 8
Seminars	5	0.2	7, 9, 8
Theoretical	27	1.08	1, 5, 6, 4, 3, 2, 7, 9, 8
Type: Autonomous			
Self-employed	90	3.6	1, 5, 6, 4, 3, 2, 7, 9, 8

Directed activities:

Theoretical classes: Agile theory and explanation of applied concepts.

Problem classes: Resolution of cases and situations typical of an operations director. Debate on strategic alternatives to real situations.

Seminars: Visit to a company in the chemical sector to analyze the supply chain. Displacement to companies in the region.

Autonomous activities:

Individual study. Preparation of diagrams and summaries.

Autonomous problem-solving work.

Use of prediction and planning software.

Search for documentation and bibliography: Consult the bibliographic and documentary collections essential for the course.

The need for computer in the classes will be required for the management of information and resolution of activities in classes. AI will be allowed to be used and we will work to understand what uses and practices AI brings benefits to companies.

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

Continuous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Retaken exam	85%	3	0.12	1, 5, 6, 4, 3, 2, 7, 8
Seminar: Visit a Chemical Company	15%	4	0.16	1, 5, 6, 4, 3, 2, 7, 9, 8
Test 1	40%	3	0.12	1, 5, 6, 4, 3, 2, 7, 8
Test 2	45%	3	0.12	1, 5, 6, 4, 3, 2, 7, 8

Continuous evaluation:

1st partial test (PP1) : 40% grade.

2nd partial test (PP2): 45% mark.

Practical work (TR): 15% grade

The second evaluation test will be cumulative, that is, it will be possible to enter material that has been evaluated in the first partial. The practical work will be visited by a chemical company in groups of 3 to 5 students to analyze its supply chain. It will be necessary to pass the evaluable tests with a grade higher than 4.

Final recovery test:

There will be a final test (PF) of recovery, for those students who have not passed the continuous evaluation (grade ' 5).

The final test will include an evaluation of the entire subject, and it will not be possible to recover only the partial tests not passed.

The final grade will be obtained from 85% of the recovery test and 15% of the work (TR).

General aspects:

Without prejudice to other disciplinary measures deemed appropriate, they will be rated with a zero irregularities committed by the student that may lead to a variation in the grade of an evaluation act. Therefore, copying, plagiarism, deceit, letting copy, etc. in any of the evaluation activities will imply

suspend it with a zero.

The exam review date will be made public at the time of publishing the grades through the virtual teaching platform. In this context, claims may be made on the note of the activity, which will be evaluated by the teaching staff responsible for the subject. If the student is not present for this review, it is not You will review this activity later.

Honor plates. Granting an honors enrollment qualification is the decision of the teaching staff responsible for the subject. UAB regulations indicate that MHs can only be granted to students who have obtained a final grade equal to or greater than 9.00. It can be awarded up to 5% of MH of the total number of students enrolled.

A student will be considered non-evaluable (NA) if he/she has not taken the partial tests or the final exam.

Repeating students will perform the same teaching content as the rest of the group.

This subject does not provide for the single assessment system.

Bibliography

"Manual de dirección de operaciones" F.J. Miranda et al. Thomson-Paraninfo. Madrid (2005) (84-9732-258-4)

"Dirección de la Producción. Decisiones Tácticas" Heizer J. Render B.. 6^a ed. Prentice Hall, Madrid (2001). (84-205-3036-0)

"Lean Management: La gestión competitiva por excelencia" Lluís Cuatrecasas. 7^a ed. ProfitEditorial, Barcelona (2015). (84-9699-815-0)

"Lean Manufacturing: Herramientas para producir mejor" Manual Rajadell Carreras. 2^a ed. Diaz de Santos, Madrid (2001). (84-9052-361-2)

"Dirección de producción y de Operaciones: Decisiones Estratégicas" Jay Heizer 11^a ed. Pearson Education, Madrid (2015). (84-9035-287-8)

Software

Office package.

Simulation and prediction software.

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

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