Universitat Autònoma de Barcelona

2020/2021

Degree Project

Code: 102406
ECTS Credits: 15

Degree	Type	Year	Semester
2500897 Chemical Engineering	OB	4	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Prerequisites

According to the regulations on permanence in the official studies of degree and master of the UAB (June 2011 - Agreement 18/2011), to be able to register of subjects of fourth year of degree studies, must have passed as a minimum all first and total credits will be at least two thirds of the total of the credits of the Degree (that is, having passed 160 credits)

The recommendation to be able to complete the final degree project is to have first and second courses all approved and from third course, the subjects: Reactors, Separation units, Heat transmission, Control, instrumentation and automatisms, Equipment design and material resistance, Engineering of process and product, Simulation of chemical processes and Environmetal Engineering.

Have studied or be enrolled in the subject Projects and security

YOU CAN NOT ENROLL TO THIS SUBJECT WITHOUT REQUESTING YOU WITH THE CHIEF ENGINEERING DEPARTMENT COORDINATOR

Objectives and Contextualisation

The objective of the Final Degree Project is the realization of a Chemical Engineering project, that is, analyze, evaluate, design and operate a certain chemical process according to certain requirements, norms, and specifications under the principles of sustainable development All the knowledge acquired in the basic and compulsory subjects carried out throughout the Degree of Chemical Engineering will be applied.

Competences

- Analyse, evaluate, design and operate the systems or processes, equipment and installations used in chemical engineering in accordance with certain requirements, standards and specifications following the principles of sustainable development.
- Apply ones knowledge when performing measurements, calculations, estimations, evaluations, assessments, studies, reports and other similar tasks.

- Communication
- Develop personal attitude.
- Develop personal work habits.
- Develop thinking habits.
- Direct specific projects in the field of chemical engineering.
- Objectively compare and select different technical options for chemical processes.
- Work in a team.

Learning Outcomes

1. Adapt to unforeseen situations.
2. Analyse and evaluate the processes, equipment and installations of chemical engineering using efficient sustainability criteria.
3. Apply and manage time and resources available to a work team in order to satisfactorily undertake a chemical engineering project.
4. Apply economic, efficiency and sustainability criteria to select the different technical alternatives for a process.
5. Apply the knowledge required to perform the calculations required for a chemical engineering project.
6. Apply the knowledge required to produce engineering reports and diagrams required for a chemical engineering project.
7. Assume social, ethical, professional and legal responsibility, if applicable, derived from professional exercise.
8. Communicate efficiently, orally and in writing, knowledge, results and skills, both professionally and to non-expert audiences.
9. Critically evaluate the work done.
10. Design the processes, equipment and systems required to perform an industrial activity in the field of chemical engineering.
11. Develop a capacity for analysis, synthesis and prospection.
12. Develop critical thinking and reasoning
13. Develop curiosity and creativity.
14. Efficiently use ICT for the communication and transmission of ideas and results.
15. Evaluate and correct the safety and environmental risks derived from an industrial activity in the field of chemical engineering.
16. Evaluate the economic feasibility of an industrial activity in the field of chemical engineering.
17. Identify the standards and specifications applicable to the design of equipment and systems.
18. Identify, manage and resolve conflicts.
19. Manage available time and resources. Work in an organised manner.
20. Prevent and solve problems.
21. Work autonomously.
22. Work cooperatively.

Content

The contents of this subject are ALL the main ones of the Chemical Engineering Degree as this subject encompasses all the knowledge acquired throughout the Degree.

Methodology

Two hours of lectures per week will be increased during the semester of the degree project, where basic concepts and techniques to carry out the project will be shown. At the same time, a weekly meeting will be held with the one-hour tutor in which the progress status of the project will be reviewed and the problems arisen.

In order to detect possible cases of a student that does not respond to work expectations, two follow-up surveys will be made in which students who are part of a group who will punish their co-workers will be asked anonymously.
In the case of detecting a student below the level of work required according to the surveys provided by their

peers, a committee headed by the coordinator of the Degree will decide whether this student can continue or not in the project.
The weekly meetings of follow-up between the tutor and the members of the group will be obligatory. If a student is not present in two meetings without justification, a committee headed by the coordinator of the Degree will decide if this student can continue or not in the subject.
The tutoring meetings must be included within the teaching hours of the Enginerring School. On the part of the tutors, it will be tried to have flexibility of schedules within this teaching hours.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	30	1.2	2, 4, 11, 13, 12
Type: Supervised			
Professor inquiries	15	0.6	2, 4, 5, 3, 15, 16, 12, 10, 17, 20
Tutorials	15	0.6	2, 4, 7, 15, 16, 12, 10, 19, 17, 18, 20
Type: Autonomous			
Individual work	150	6	1, 2, 4, 5, 9, 15, 16, 11, 13, 12, 10, 19, 17, 20, 21
Reading books, articles and cases study	15	0.6	2, 4, 15, 16, 11, 10, 17, 21
Search of information	35	1.4	2, 4, 15, 16, 11, 10, 17, 21
Work in group	110	4.4	4, 3, 7, 9, 8, 11, 12, 18, 22

Assessment

- The percentages of the mark are:

    1. 25% memory (the memo note can be weighted by the tutor's personal evaluation, therefore not all members of the group must have the same memo note obligatorily)
    2. 25% oral presentation
    3. 20% theoretical examination proposed by the professor responsible for the subject
    4. 10% tutor personal evaluation
    5. 20% peer review by students. Students will evaluate their peers. This is a good way to prevent people from the group from worrying about the project. This peer review will be carried out after the public presentation.

- Due to the eminently practical nature of this subject, it is an unrecoverable subject.

- A student will be considered non-evaluable if it has not been submitted to the oral defense of the project or has not delivered the report.
- The degree project will be defended through an oral and presentation and evaluated by an academic jury.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Oral presentation of the project plus	50%	2.5	0.1	2, 4, 6, 5, 3, 15, 16, 8, 11, 10, 14, 17

memory				
Peer evaluation by students	20%	0	0	1, 3, 7, 9, 13, 12, 19, 18, 20, 22, 21
Tutor evaluation	10%	0	0	1, 2, 4, 5, 3, 7, 9, 15, 16, 8, 11, 13, 12, 10, 14, 19, 17, 18, 20, 22, 21
Written exam	20%	2.5	0.1	1, 2, 4, 6, 5, 3, 15, 16, 8, 11, 10, 19, 17

Bibliography

The main bibliography of all subjects of the Degree in Chemical Engineering