



PERSONA CIENCIA EMPRESA  
UNIVERSITAT RAMON LLULL

## COURSE: FINAL DEGREE PROJECT

**SUBJECT MATTER:** Final Degree Project

**MODULE:** Final Degree Project

**PROGRAM:** Degree in Chemical Engineering

Page 1 of 6

### GENERAL CHARACTERISTICS

**Type:**  Basic Formation,  Compulsory,  Elective

Final Degree Project,  Internship

**Duration:** 330 h

**Semester/s:** 8

**Number of ECTS credits:** 12

**Language/s:** Spanish, Catalan, English

### DESCRIPTION

#### SHORT DESCRIPTION AND JUSTIFICATION

The Final Degree Project (TFG) consists of the realization, presentation and defense of a project by the future graduate. The individual work to be developed must be previously defined as a project and must include elements of research or innovative industrial application, representing an approach to professional practice.

The TFG will develop in future graduates the capacity to understand knowledge and apply advanced technologies and tools in their area to achieve the established objectives.

The Project will preferably be of a multidisciplinary nature, within the field of Chemical Engineering, in which the competences acquired in the degree courses are synthesized and integrated.

In addition, it will allow the student to progress in the ability to communicate effectively both orally and in writing, to work as a team, to incorporate contemporary aspects related to the exercise of their profession and to recognize the need for continuous training for their proper professional development.

The TFG will be conducted under the direction of a professor of the degree, incorporating the student to a research team of the professor-director. The director of the TFG may also be an IQS professor with the authorization of the grade coordinator. With the same academic guarantees, and always under the tutorship of a professor of the degree, the TFG may be carried out in other institutions, such as other national or foreign universities, public or private research centers and companies. The TFG will culminate in the writing of a report and its presentation and defense before an academic tribunal.



PERSONA CIÈNCIA EMPRESA  
UNIVERSITAT RAMON LLULL

## **COURSE: FINAL DEGREE PROJECT**

**SUBJECT MATTER:** Final Degree Project

**MODULE:** Final Degree Project

**PROGRAM:** Degree in Chemical Engineering

Page 2 of 6

### **COMPETENCES**

- Be able to understand advanced knowledge of Chemical Engineering (**CB1, E4**).
- Be able to use systems, components or processes to achieve the requirements established in the activity to be carried out in the field of Chemical Engineering. (**CB2, E6**).
- Be able to use new chemical engineering techniques and tools. (**E9**).
- Be able to design processes and experiments to achieve the requirements established in the activity to be carried out in the practice of the different fields of Chemical Engineering. (**E10**).
- That students are able to convey information, ideas, problems and solutions to both specialized and non-specialized audiences. (**CB4**).
- Be able to work in a team. (**T1**).
- Be able to incorporate contemporary aspects related to the exercise of their profession. (**T5**).
- That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy. (**CB5**).
- Ability to develop an original exercise, carried out individually, and present it and defend it before an academic tribunal, consisting of a project in the field of specific technologies of Industrial Engineering of a professional nature, which synthesizes and integrates the competences acquired in the learning. (**TFG1**)



## **COURSE: FINAL DEGREE PROJECT**

**SUBJECT MATTER:** Final Degree Project

**MODULE:** Final Degree Project

**PROGRAM:** Degree in Chemical Engineering

### **PREREQUISITES**

To begin the TFG the student must have passed 80% of the contents of the degree (192 credits).

For the presentation of the TFG the student must have passed all the other subjects of the degree (228 ECTS) and have achieved the level B2 (CEF) of English.

### **CONTENTS**

The TFG consists of three parts:

1. Individual work by the student.
  - a. The work will be carried out, under the direction of a professor of the degree, within a research team of the center itself or other institutions or companies with which there is an agreement that includes this activity.
  - b. The work to be carried out must be previously defined as a project in which the subject to be studied, its relevance, the objectives set and the methodology to be used are detailed.
  - c. The work must include elements of research or innovation or the application of technology, and it is not usually acceptable to carry out only bibliographical compilations.
2. Drafting of a report on the work carried out.
  - a. The work done will be reflected in a written report that will be supervised by the same professor director of the TFG.
  - b. The format of the Report will be the usual one of a scientific work. At the beginning of the Report, a summary of the project will be attached in Catalan, Spanish and English, whatever the language in which it is written.
3. Presentation and defense of the project before a tribunal designated for this purpose.
  - a. The student will present the work in public session before a tribunal appointed by the Dean. The duration of the oral presentation and defense of the project will be about 20 minutes, a period that includes the questions and clarifications that may be formulated by the tribunal.
  - b. The tribunal will ordinarily be composed of three professors of the degree, although a specialist from other university centers or from the company may also participate.



## COURSE: FINAL DEGREE PROJECT

**SUBJECT MATTER:** Final Degree Project

**MODULE:** Final Degree Project

**PROGRAM:** Degree in Chemical Engineering

### METHODOLOGY

#### LEARNING ACTIVITIES

Learning activities	Hours	ECTS Credits	Competences
Seminars	12	0,4	CB1,E4, CB4, T1, T5, CB5, TFG1
Practical & Lab Work	223	8.2	CB1, E4, CB2, E6, E9, E10, T1, CB5, TFG1
Presentations	12	0,4	CB4, TFG1
Personal study	80	2,9	CB1, E4, E9, CB5, TFG1
Assessment Tasks (Exams, Continuous Assessment...)	3	0,1	CB1, E4, CB4, TFG1
<b>TOTAL</b>	<b>330</b>	<b>12</b>	

#### TEACHING METHODOLOGY

The TFG consists of carrying out a small research work of the future graduate in a scientific or industrial environment and for a short period of time.

The director of the TFG, is responsible for supervising and assigning the tasks that the student must perform in the research group.

Each research group specifically plans the development of the different training activities to be carried out by the students.



## COURSE: FINAL DEGREE PROJECT

**SUBJECT MATTER:** Final Degree Project

**MODULE:** Final Degree Project

**PROGRAM:** Degree in Chemical Engineering

Page 5 of 6

### ASSESSMENT

#### ASSESSMENT METHODS

Assessment Methods	Weight	Competences
Exposure of the TFG to an academic tribunal	30%	CB1, E4, CB4, TFG1
Reports and presentations	30%	CB2, E6, E9, E10, CB4, TFG1
Lab or Field Work	30%	CB1, E4, CB2, E6, E9, E10, T1, TFG1
Participation	10%	CB4, T1, T5, CB5, TFG1

#### LEARNING OUTCOMES

- The main result of the TFG is the acquisition by the student of the ability to understand advanced knowledge (**CB1, E4**) and use both systems, components or processes (**CB2, E6**), as well as new techniques and tools (**E9**) of Chemical Engineering.
- Likewise, the student, through constant and daily work, will be able to design more suitable processes and experiments in each case (**E10**), awakening his creativity and allowing the incorporation of contemporary aspects (**T5**), as well as the need for permanent training (**CB5**).
- During the TFG, the student will work as a team (**T1**), developing the ability to communicate effectively with peers and with the director of the TFG to present their results and propose new ways of solving the problems raised (**CB4**).
- The student will present and defend before a university tribunal, a project in the field of Chemical Engineering of a professional nature, which synthesizes and integrates the skills acquired in the teachings. (**TFG1**)

#### QUALIFICATION

The director of the TFG will deliver to the Deanery, before the date fixed by the Dean, prior to the defense of the TFG before the academic tribunal, a report on the student. The report will contain information relating to:

- 1) The scientific-technical competences reached by the student (E4, E6, E9 and E10),
- 2) Creativity, ability to communicate in writing and to work in a team, understanding of the future and the need for continuous training. (CB4, T1, T5 and CB5),
- 3) Student performance and behavior.

At the time of public defense, the court will assess the E4, E6, E9 and E10 competencies as well as the ability to express oneself both in writing and in public CB4.



PERSONA CIÈNCIA EMPRESA  
UNIVERSITAT RAMON LLULL

## **COURSE: FINAL DEGREE PROJECT**

**SUBJECT MATTER:** Final Degree Project

**MODULE:** Final Degree Project

**PROGRAM:** Degree in Chemical Engineering

Page 6 of 6

### **ASSESSMENT OF THE COMPETENCES**

The grade for competences T1, T5 and CB5 corresponds to the rating given by the director of the TFG.

The score of the CB4, E4, E6, E9, E10 and TFG1 competences corresponds to the average of the ratings given by the director of the TFG and the qualification tribunal of the TFG.

### **BIBLIOGRAPHY**

- Each work will have its own specific bibliography.

### **DOCUMENT HISTORY**

#### **PREVIOUS REVISIONS**

October 21, 2016. Dr. José Javier Molins

December 17, 2015. Dr. José Javier Molins

January 9, 2015. Dr. José Javier Molins

June 5, 2014. Dra. Rosa Nomen

March 16, 2012. Dra. Rosa Nomen

#### **CURRENT REVISION**

March 25, 2019, Dr. José Javier Molins