

## 29732 - Undergraduate Dissertation

### Syllabus Information

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**Academic Year:** 2019/20

**Subject:** 29732 - Undergraduate Dissertation

**Faculty / School:** 110 - Escuela de Ingeniería y Arquitectura

**Degree:** 434 - Bachelor's Degree in Mechanical Engineering  
107 - Mobility for Degree

**ECTS:** 12.0

**Year:** 4

**Semester:** Second semester

**Subject Type:** End of Grade Dissertation

**Module:** ---

## 1.General information

### 1.1.Aims of the course

One of the objectives of the degree is to provide the student with the necessary skills for their insertion in the labor market. Through the Final Degree Project, the student puts to the test the knowledge and competences acquired in the previous courses and subjects, and acquires the experience and security necessary for their transition to the professional environment.

Normally the student will develop his TFG in a university department, under the direction of a professor, or in collaboration with other institutions and companies, in which case a rapporteur of the Center will supervise the suitability of the work developed as TFG. If it is done with data from a company and no one is listed as director, you must attach the consent of the same by means of a standardized form.

### 1.2.Context and importance of this course in the degree

The Final Degree Project is the subject of the degree where the student puts into practice the skill set, knowledge and skills acquired throughout the degree, so that you can prove that your ability to work is at the level required for its incorporation into the labor market.

Your passing accredits you to obtain the Graduate Degree in Mechanical Engineering, training the student for the exercise of the regulated profession of Industrial Technical Engineering - Industrial Mechanics. (Order CIN / 351/2009, of February 9)

### 1.3.Recommendations to take this course

The student must comply with the requirements established in the regulations of Final Degree Projects (TFG) of the University of Zaragoza and the Center.

In the case of the EINA, its current TFG regulations can be found on the Center's website (<https://eina.unizar.es/trabajos-fin-de-estudios/>) It is recommended that the student download the corresponding PDF, print it and study it carefully.

## 2.Learning goals

### 2.1.Competences

C42: Ability to develop an original exercise to be carried out individually and to present and defend before a court university, consisting of a project in the field of specific technologies of the Industrial Engineering of professional nature in which they synthesize and integrate the competences acquired in the teachings.

### 2.2.Learning goals

1. Is able to develop, present and defend individually an original exercise of a professional nature in the field of Mechanical Engineering as a demonstration and synthesis of the competences acquired in the teachings.
2. Applies acquired skills to the performance of a task autonomously. Identify the need for continuous learning and develop a strategy to carry it out.
3. Plan and use the necessary information for a project or academic work based on a critical reflection about the information resources used.
4. Is able to use the techniques, skills and tools of Mechanical Engineering.
5. Communicates clearly and efficiently in oral and written presentations on complex topics, adapting to the situation, to the type of public and to the objectives of the communication.

### 2.3.Importance of learning goals

The importance of the subject and the relevance of its results is maximum, since it involves the implementation of very diverse skills acquired throughout the courses of the Degree, as well as a proof of maturity and professionalism that the student must have gone gradually reached throughout his college career.

## 3.Assessment (1st and 2nd call)

### 3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

The student must develop a project, prepare a report and make his oral defense before a Tribunal constituted according to the rules and requirements established by the University of Zaragoza and the Center. In the case of the EINA, all the details of its TFG regulations can be found at <https://eina.unizar.es/trabajos-fin-de-estudios/>.

In the Degree in Mechanical Engineering, each course is formalized by a court for each intensification of technical electives and a pair of transversal courts. The Academic Committee will review the proposal and assign the most appropriate court to each TFG.

It is recalled that the TFG is an original exercise to be carried out individually, which will have enough elements of personal creation. If it is done jointly with another student, it must be expressly justified in the proposal, differentiating the work of each of the students in order to make possible the individual evaluation of each one.

The TFG qualification will be carried out analogously to the other subjects (quantitative and qualitative qualification).

It will be the court appointed by the Center that assigns the qualification, following the indications set out in the regulations of TFG cited above; in it the report made by the director (or speaker) will be taken into account.

## 4.Methodology, learning tasks, syllabus and resources

### 4.1.Methodological overview

The student must agree with the Director on the training activities to be developed, which will depend on the proposed topic and the scope of the project. The TFG will deal with some topic related to Mechanical Engineering, of complexity and level of exigency that supposes a workload estimated in 12 ECTS credits.

The TFG will take the form of a project, which will be described in a final report and presented and defended before a university court. In the TFG, a good part of the specific competencies of the degree are synthesized and integrated, being able to have the following modalities:

\* specific academic papers;

\* specific works performed in the laboratory;\* specific works performed as a result of internships in companies or institutions;\* equivalent work carried out as a result of a stay in another university, Spanish or foreign, through an agreement or mobility program

From the point of view of its content and objectives, two types will be distinguished:

\* Type A. Technical project, with standard structure and format, which must contain, at least, the following documents: report, plans, specifications and budget.

\* Type B. With a freer content, which may consist of technical studies, economic studies, studies on quality management, development and application of computer programs, research, etc ..., in the field of titling.

In the Intranet of the EINA, you can consult offers of TFG proposed by teachers of the center. You can also consult professors of specific subjects of the degree by offering TFG in topics of interest for each student or propose original ideas for the realization of a TFG.

### 4.2.Learning tasks

The specific learning activities for each TFG must be agreed with the TFG Director. Course Competencies Informacionales for the TFG - Moodle- ADD: It is an optional tool for consultation and information as support for the realization of TFG. It has a support service or consultancy to answer questions about the course, attended by librarians of the Hypatia Library.

### 4.3.Syllabus

El programa formativo específico debe ser acordado en cada caso con el Director del TFG.

### 4.4.Course planning and calendar

The calendar of academic activities must be agreed in each case with the Director of the TFG.

In the case of the EINA, the different administrative steps to be fulfilled are expressed in its internal regulations of TFG(<https://eina.unizar.es/trabajos-fin-de-estudios/>). Summarizing it briefly, the enrolment must be done (in the usual dates, in a manner analogous to the other subjects) and a proposal of TFG to be presented in the Secretariat for evaluation by the Academic Committee (at any time during the course). It is recommended to do it as soon as possible, but always with a

minimum previous study of the state of the art, scope and methodology to follow, since the deposit of TFG with changes in the title or in the address will not be admitted regarding the approved proposal. At the conclusion of the TFG, the director must fill in a standardized report, which will imply authorization for the deposit and defense of the TFG. It can only be deposited and defended within the deadlines set by the Centre for each course. Between the proposal of the TFG and its deposit must pass a minimum of 2 months. Although within the general schedule, the TFG is framed in the second semester of the fourth year, the student may start before. Information on regulations, deposit instructions, deposit and defense bands, and administrative forms are available at <https://eina.unizar.es/trabajos-fin-de-estudios/>

#### **4.5. Bibliography and recommended resources**