

## Course guide

### 230480 - TFG EF - Bachelor's Thesis

**Last modified:** 25/05/2023

**Unit in charge:** Barcelona School of Telecommunications Engineering  
**Teaching unit:** 460 - INTE - Institute of Energy Technologies.

**Degree:** BACHELOR'S DEGREE IN ENGINEERING PHYSICS (Syllabus 2011). (Project subject).

**Academic year:** 2023    **ECTS Credits:** 30.0    **Languages:** Catalan, Spanish, English

#### LECTURER

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**Coordinating lecturer:** Joaquim Trullàs

**Others:** Professors del Grau en Enginyeria Física

#### REQUIREMENTS

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The Bachelor's Thesis is done when (almost) all courses of the bachelor's degree has been overcome

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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##### Generical:

09 CSC EF. ABILITY TO CONCEIVE, DESIGN, IMPLEMENT, AND OPERATE COMPLEX PHYSICAL ENGINEERING SYSTEMS.

Ability to conceive, design, implement, and operate complex systems in the fields of micro and nano technology, electronics, advanced materials, photonics, biotechnology, and space and nuclear sciences.

08 CRPE EF. ABILITY TO IDENTIFY, FORMULATE, AND SOLVE PHYSICAL ENGINEERING PROBLEMS. Planning and solving physical engineering problems with initiative, making decisions and with creativity. Developing methods of analysis and problem solving in a systematic and creative way.

##### Transversal:

01 EIN. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.

06 URI. EFFECTIVE USE OF INFORMATION RESOURCES. Managing the acquisition, structure, analysis and display of information from the own field of specialization. Taking a critical stance with regard to the results obtained.

04 COE. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.

07 AAT. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.

#### TEACHING METHODOLOGY

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The Bachelor's Thesis is an individual work on a scientific or technological topic related to engineering physics. It is supervised by a teacher of the degree in Engineering Physics, or by an external graduate and a co-advisor of the degree in Engineering Physics faculty, who has previously made a proposal for work where briefly describes the methodology to be followed and the objectives to be achieved.

At the beginning, the supervisor and the student agree a working plan.

During the development of the work, they meet regularly in order to the student shows his progress and raises his doubts, and the director to advise him.

The Bachelor's Thesis ends with writing a final report and its public presentation to an assessment panel of three teachers.

## LEARNING OBJECTIVES OF THE SUBJECT

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The main objective of the Bachelor's Thesis is to apply the knowledge and methodologies acquired in the four years of study to carry out a full-time work during a semester on one of the many engineering physics fields, as well as writing a scientific-technical report and publicly present the results obtained.

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### Engineering physics field of the Bachelor's Thesis

**Description:**

It depends on the engineering physics field and the specific subject of the Bachelor's Thesis

**Full-or-part-time:** 750h

Guided activities: 750h

## GRADING SYSTEM

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The Bachelor's Thesis is evaluated by a panel of three teachers of the degree in Engineering Physics appointed for this purpose. The final grade is the result of the marks awarded by the (co)advisor of the project and the three teachers of the panel weighted as follows:

- 35% of the mark given by the (co)advisor to all the work done.
- 65% of the average of the marks awarded by the three teachers of the panel to the scientific and technical quality of work shown in the final report and the public presentation.

The presentation is around half-hour oral presentation followed by about 10 minutes to answer the questions of the assessment panel