Course guide
820135 - TFGEE - Bachelor's Thesis

Last modified: 04/06/2026

Unit in charge: Barcelona East School of Engineering
Teaching unit: 709 - DEE - Department of Electrical Engineering.

Degree: BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Project subject).

Academic year: 2026 **ECTS Credits:** 24.0 **Languages:** Catalan, Spanish, English

LECTURER

Coordinating lecturer: Velasco Quesada, Guillermo

Others:

PRIOR SKILLS

It is convenient to have passed all the compulsory subjects of the curriculum.

REQUIREMENTS

The Bachelor project will be carried out, as a general rule, in the last semester of the degree. The Project should be enrolled in the last semester of the degree, when the student has a maximum of 36 ECTS to be completed. Registering the Project is a prerequisite for enrollment.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CEELE-TFG. (ENG) Exercici original a realitzar individualment i presentar i defensar davant un tribunal universitari, consistent en un projecte dins l'àmbit de les tecnologies específiques de l'enginyeria industrial de naturalesa professional en el que es sintetitzin i integrin les competències adquirides als ensenyaments.

Transversal:
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.
01 EIN N3. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.
02 SCS N3. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.
04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
06 URI N3. EFFECTIVE USE OF INFORMATI0N RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.
07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

Student activities leaded by the professor.
Reading teaching material, texts and articles related to the contents of the subject.
Student’s autonomous work

LEARNING OBJECTIVES OF THE SUBJECT

To use tools and techniques for the engineering project management including planning, development and execution. To know and implement rules and specifications. â□©To write text with correct structure to the communication objectives.
To introduce the assessment to the audience following the correct strategies and resources. â□©To identify the need and type of communication register, the surrounding and services within the knowledge field and context.
To develop and implement projects from the original guidelines transmitted by the professor within the aspects written before. â□©To have a proactive attitude that generate new opportunities within a commercial perspective. â□©To be able to evaluate the economic cost (budget) of the different tasks in the project.
To be able to analyse and evaluate the social and environmental impact.

STUDY LOAD

Type	Hours	Percentage
Guided activities	76,0	12.67
Self study	524,0	87.33

Total learning time: 600 h

CONTENTS

title english

Description:
Preliminary Project, final Project and viablity. Phases and concepts

Full-or-part-time: 55h
Guided activities: 25h
Self study : 30h

title english

Description:
content english

Full-or-part-time: 55h
Guided activities: 25h
Self study : 30h

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content english

Full-or-part-time: 55h
Guided activities: 25h
Self study : 30h

title english

Description:
content english

Full-or-part-time: 55h
Guided activities: 25h
Self study : 30h

title english

Description:
content english

Full-or-part-time: 125h
Guided activities: 25h
Self study : 100h

title english

Description:
content english

Full-or-part-time: 45h
Guided activities: 15h
Self study : 30h

title english

Description:
content english

Full-or-part-time: 100h
Self study : 100h

title english

Description:
content english

Full-or-part-time: 106h
Self study : 106h

title english

Description:
content english

Full-or-part-time: 4h
Guided activities: 4h

GRADING SYSTEM

Any academic fraud, plagiarism or use or possession of unauthorised means in an assessment activity leads to a mark of zero (0) for the affected test or assignment. Furthermore, in accordance with the University's regulations, if disciplinary proceedings are initiated the subject is recorded as "Pending Assessment" until a decision is reached. These incidents are managed in accordance with the **Action Framework for Academic Integrity in Assessment at the UPC**.

Evaluation from the presentation of a preliminary draft and a public presentation of the work before an assigned university commission. The commission will be take into account:
- Individual work
- Written and oral presentation related to the contents of the subject
- Written and oral presentation of the project before the commission that will assess the acquired competences knowledges and abilities.

EXAMINATION RULES.

In order to be able to present the work before the assigned commission, the final revision and authorization by the professor director of the final report is necessary.
The work must be presented according to the normalization established by the School. For this purpose, the student will find all the information and templates on the website of the School.