

**COURSE DATA****Data Subject**

Code	34946
Name	Degree final project (EEI)
Cycle	Grade
ECTS Credits	12.0
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. Period year
1404 - Degree in Industrial Electronic Engineering	School of Engineering	4 Annual

Subject-matter

Degree	Subject-matter	Character
1404 - Degree in Industrial Electronic Engineering	20 - Degree Final project in EIE	End Labour Studies

Coordination

Name	Department
MARTOS TORRES, JULIO	242 - Electronic Engineering

SUMMARY

The Final Project is an original exercise performed individually and present and defend in front of a university tribunal, consisting of a project in the field of industrial electronics engineering, professional in nature which synthesize and integrate the skills acquired in the education program.

The Final Project is proposed as a factor enabling the students to increase their skills, with their personal work done under the guidance of a supervisor, comprehensively covering the skills acquired during their studies.

The type of project to be developed can be very variable, but always within the guidelines set by the objectives and tasks set for the Graduated degree. In any case, we can say that the ultimate aim is to apply the skills acquired during the studies to the activity of industrial electronics engineering.



The organization and evaluation of the Final Project (TFG) is regulated by the Reglamet de Treball Fi de Grau, approved by the Council of Government of the University of Valencia (<http://www.uv.es/=sgeneral/Reglamentacio/Doc/Estudis/C61.pdf>) and instructions developed by the Escola Tècnica Superior d'Enginyeria of the University of Valencia ETSE-UV (<http://www.uv.es/uvweb/ingenieria/en/estudios-grado/grados/trabajo-fin-grado/informacion-general-1285885225985.html>).

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

The completion of the Final Project require to have passed 180 ECTS curriculum, among which necessarily include all matters scheduled in the first two years of the degree and the subject Projects.

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

1404 - Degree in Industrial Electronic Engineering

- CG1 - Ability to write, sign and develop industrial engineering projects in the field of industrial electronics, aimed at the construction, refurbishment, repair, conservation, demolition, manufacture, installation, assembly and operation of structures, mechanical equipment, energy facilities, electrical and electronic installations, industrial installations and plants, and manufacturing and automation processes, in accordance with the knowledge acquired using a specified industrial electronic technology.
- CG2 - Ability to manage the activities involved in the engineering projects described in the previous heading.
- CG3 - Knowledge of basic and technological subjects that allows students to learn new methods and theories and provides them with versatility to adapt to new situations.
- CG4 - Ability to solve problems with initiative, decision-making skills, creativity and critical reasoning and to communicate and transmit knowledge, abilities and skills in the field of industrial engineering (with specific industrial electronics technology).
- CG5 - Knowledge to carry out measurements, calculations, assessments, appraisals, surveys, studies, reports, work plans and analogous work.
- CG6 - Ability to deal with specifications, regulations and mandatory standards.
- CG7 - Ability to analyse and assess the social and environmental impact of technical solutions.
- CG8 - Ability to apply the principles and methods of quality control.



- CG9 - Ability to organise and plan work in companies and in other institutions and organisations.
- CG10 - Ability to work in a multilingual and multidisciplinary environment.
- CG11 - Knowledge, understanding and ability to apply the necessary legislation for practising professionally as a qualified industrial engineer.
- CTFG1 - Ability to produce an original project in the field of industrial electronics to be completed individually and presented and defended before a university panel. The project must focus on professional practice and synthesise and integrate the skills previously acquired in the degree.

LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

This subject allows to obtain the following learning results, which are related to the competences that appear in the Verification Report of the Title (http://www.uv.es/graus/qualitat/MV/1404_MV.pdf):

- Design components, products and services in accordance with standards and specifications (CG3, CG5, CG6, CG8) .
- Design processes, equipment and facilities in accordance with standards and specifications (CG1, CG5, CG6, CG8).
- Apply environmental aspects in the design and operation of processes, equipment and facilities (CG7) .
- Analyze processes, equipment and facilities, assess their adequacy and propose alternatives (CG4).
- Write and develop projects in the field of Industrial Electronics Engineering (CG1, CTFG1).
- Calculate process and project costs (CG5).
- Understand the ethical and professional responsibilities and be aware of the impact of engineering solutions in the social and environmental context (CG11).
- Be able to communicate effectively in the relevant professional vocabulary and language in meetings, presentations and written documentation (CG10).
- Be able to work in their field teams or multidisciplinary working (CG9).
- Possess ability to manage information and the use of Information Technology and Communications (CG4).
- Possess organizational skills and planning, particularly in the field of business (CG2, CG9).
- Possess critical thinking skills, creativity and decision-making (CG4).
- Be able to gather and interpret information and make judgments on social, scientific, technological or ethical issues (CG1, CG11).
- Possess learning skills to continue and update their training throughout working life with a high degree of autonomy (CG3).



DESCRIPTION OF CONTENTS

1. Graduation Project Degree in Industrial Electronics Engineering

The contents of the field will be different depending on the specific objectives of the undertaken project. Can be acceptable fields to be treated on the Final Project all those typical in Industrial Electronics Engineering. Specifically can be projected, among others:

- Design and construction of electronic equipment and systems, or electronic parts thereof.
- Installation, maintenance, alteration and repair of electronic machinery or equipment.
- Automation of the production processes.
- The information processing techniques aimed to improve the operation of industrial equipment or processes.
- The efficient generation, transmission, management and use of electrical energy.

WORKLOAD

ACTIVITY	Hours	% To be attended
Graduation project		100
Development of a final project	300,00	0
TOTAL	300,00	

TEACHING METHODOLOGY

The student must develop a work under the supervision of a faculty member involved in this degree. Both the advisor and the student can propose the work. In any case, the advisor will approve the objectives to be achieved in the project and will ensure that the student work is designed to assess the achievement of the skills set out in the objectives of the Industrial Electronics Engineering degree (CG1, CG2, CG3 CG4, CG5, CG6, CG7, CG8, CG9, CG10, CG11, CTFG1).

Student and advisor will be in regular contact. In any case, the advisor must maintain a minimum of two meetings with the student, one to set the objectives of the project and another during the preparation of the final document, to assess the level of fulfillment of the objectives. However, if they consider it appropriate, additional meetings may be conducted to analyze the evolution of the work.

The Bachelor Thesis can be carried out in an institution external to the UVEG. In any case, always under the approval and supervision of a faculty member of the UVEG.

The student will be involved in all the stages of the project. However within large teams is normal a tasks division in which some aspects of a project are carried out by other team members or even other groups. In this case, the student must explain in the final report these matters indicating his direct or indirect participation in the different phases of the work.



EVALUATION

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The Final Year Project should be defended in public session in a court composed of the tutor college student and two faculty members from areas of knowledge related to the degree appointed by the Commission of the FYP of the degree. The student will have 15 minutes to present to the court the work developed, and then the court members will discuss with the student aspects considered relevant for their work. After the defense, the court will constitute the qualifying committee and proceed to qualify the project following the schedule of the Commission of the FYP of the degree. Basically, this scale indicates that the court together, evaluated up to 80% of the student's grade divided into the following aspects:

- Scientific-technical quality (40%) (CG1, CG2, CG3, CG4, CG5, CG6, CG7, CG8, CG9, CG11).
- Quality of documentation (20%) (CG1, CTFG1).
- Presentation and defense (20%) (CG10, CTFG1).

In addition, the tutor shall deliver a specific assessment of the work done by the student to complete 20% of the grade. This report, evaluated between 0 and 10 points, shall contain the following assessments:

- Scientific-technical quality (CG1, CG2, CG3, CG4, CG5, CG6, CG7, CG8, CG9, CG11).
- Learning Outcomes of Engineering Projects (ENAAE) (CG1, CG3, CG4).
- Quality of the documentation (CG1, CTFG1).
- Attitude of the student (CG4, CTFG1).

Moreover, students in mobility programs may make the FYP in the target center. In that case, the project will have to be approved by the exchange coordinator of the degree, by delegation of the Commission of FYP, assigning a UV academic tutor. In case that the student undertake an FYP defense in the target center and can demonstrate the competence of public presentation, the FYP Commission will delegated score recognition the exchange coordinator of the degree. Otherwise, there will be a public defense in UV on the same basis as other students, recognizing the portion corresponding to work and the memory submitted in target center, weighing destination and the corresponding part of the public defense of the UV.

The three members sign a record which shall contain work numerical rating. The evaluation shall follow the Regulations ratings the University of Valencia. At the time of writing this teaching guide, the current regulations are approved by the Governing Council of the UVEG of May 30, 2017

(http://www.uv.es/graus/normatives/2017_108_Reglament_avaluacio_qualificacio.pdf),

adjusted as provided for that purpose by the Royal Decrees 1044/2003 and 1125 / 2003. It basically states that numerical grades are 0-10 with one decimal and to which one must add the corresponding qualitative rating to the following scale:



From 0 to 4.9: "Not passed"

From 5 to 6.9: "Passed"

From 7 to 8.9: "Outstanding "

From 9-10: "Excellent " or "Excellent with Distinction"

