

Academic Year: ( 2023 / 2024 )

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Department assigned to the subject: Electrical Engineering Department

Coordinating teacher: MARTINEZ CRESPO, JORGE

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

It is required to have passed 110 ECTS.

It is recommended to have passed 180 ECTS

## LEARNING OUTCOMES

CB1. Students have demonstrated possession and understanding of knowledge in an area of study that builds on the foundation of general secondary education, and is usually at a level that, while relying on advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.

CB2. Students are able to apply their knowledge to their work or vocation in a professional manner and possess the competences usually demonstrated through the development and defence of arguments and problem solving within their field of study.

CB3. Students have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgements which include reflection on relevant social, scientific or ethical issues.

CB4. Students should be able to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

CB5. Students will have developed the learning skills necessary to undertake further study with a high degree of autonomy.

CG10. Being able to work in a multi-lingual and multidisciplinary environment

CT1. Ability to communicate knowledge orally as well as in writing to a specialized and non-specialized public.

CT2. Ability to establish good interpersonal communication and to work in multidisciplinary and international teams.

CT3. Ability to organize and plan work, making appropriate decisions based on available information, gathering and interpreting relevant data to make sound judgement within the study area.

CT4. Motivation and ability to commit to lifelong autonomous learning to enable graduates to adapt to any new situation.

By the end of this content area, students will be able to have:

RA1.4 awareness of the wider multidisciplinary context of engineering.

RA2.1 the ability to apply their knowledge and understanding to identify, formulate and solve engineering problems using established methods;

RA4.1 the ability to conduct searches of literature, and to use data bases and other sources of information;

RA5.1 the ability to select and use appropriate equipment, tools and methods;

RA5.2 the ability to combine theory and practice to solve engineering problems;

RA5.4 an awareness of the non-technical implications of engineering practice.

RA6.1 function effectively as an individual and as a member of a team;

RA6.2 use diverse methods to communicate effectively with the engineering community and with society at large;

RA6.5 recognise the need for, and have the ability to engage in independent, life-long learning.

## OBJECTIVES

By the end of this content area, students will be able to have:

1. awareness of the wider multidisciplinary context of engineering.

2. the ability to apply their knowledge and understanding to identify, formulate and solve engineering problems using established methods;
3. the ability to conduct searches of literature, and to use data bases and other sources of information;
4. the ability to select and use appropriate equipment, tools and methods;
5. the ability to combine theory and practice to solve engineering problems;
6. an awareness of the non-technical implications of engineering practice.
7. function effectively as an individual and as a member of a team;
8. use diverse methods to communicate effectively with the engineering community and with society at large;
9. recognise the need for, and have the ability to engage in independent, life-long learning.

## DESCRIPTION OF CONTENTS: PROGRAMME

As content is understood all those activities carried out by students in companies, entities and organizations, which aim to provide a practical complement (or academic-practical complement) to academic training provided that such activity is related to their academic training and their possible career opportunities.

In particular, the training objective of the practice will necessarily include the following aspects:

- Tasks to be developed by the student.
- Knowledge that the student will acquire.
- If the student will participate in design, planning or development tasks.
- Within which projects or areas will the practices be framed.
- Tools that will be used.

## LEARNING ACTIVITIES AND METHODOLOGY

The student will have a tutor in the company, who will direct, guide and supervise the activities of the practice.

There will also be an academic tutor at Uc3m who will be informed about the progress of the practice and will provide support to the student if necessary. The academic tutor will carry out the tutorials that he or she considers necessary and will also grade the student.

Practical Work 17 ECTS.

Development of the specific tasks in a company supervised by a person in the company. The practical work develops specific skills and most of the crossed skills, such as teamwork, ability to apply knowledge to practice, planning and organization, analysis and synthesis. The work also aim to develop specific skills attitudes.

Evaluation: 1 ECTS.

The evaluation consists in making a complete report about the work done during the internship. This task should verify that the student has successfully used his practice time and has acquired all the aforementioned skills properly.

## ASSESSMENT SYSTEM

The evaluation system includes the evaluation of the activities carried out during the internship in the company. For this, the following elements will be used:

- Report of the tutor in the company: The academic tutor of the Uc3m will request this report from the tutor of the company.
- Student report: of the work done during the practice. The student will do it according to the instructions published in Aula Global to which he or she will have access once enrolled in the subject.

Both elements will give a 100% rating.

The academic tutor at UC3M, based on the above documents, will assess the work according to the form established for this purpose.

Students who do not present the report will be rated as NOT SUBMITTED. The Tutor must send the assessment record with this grade.

If the student gives up the practice for which the subject has been validated and enrolled without having reached enough number of hours to pass the subject, he or she will be graded as NOT SUBMITTED because will not be able to present the report.