

Academic Year: ( 2023 / 2024 )

Review date: 28-03-2023

Department assigned to the subject: Continuum Mechanics and Structural Analysis Department

Coordinating teacher: VADILLO MARTIN, GUADALUPE

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 highly advisable to take this course in the year before graduation. Nevertheless at least the student should have passed the first and the second course of the degree before taking this course.

**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.

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

CG1. Ability to solve problems with initiative, decision-making, creativity, critical reasoning and to communicate and transmit knowledge, skills and abilities in the field of Industrial Engineering.

CG3. Ability to design a system, component or process in the field of Industrial Technologies to meet the required specifications

CG4. Knowledge and ability to apply current legislation as well as the specifications, regulations and mandatory standards in the field of Industrial Engineering.

CG5. Adequate knowledge of the concept of company, institutional and legal framework of the company. Organisation and management of companies.

CG6. Applied knowledge of company organisation.

CG8. Knowledge and ability to apply quality principles and methods.

CG9. Knowledge and ability to apply computational and experimental tools for the analysis and quantification of Industrial Engineering problems.

RA1. Knowledge and understanding: Have basic knowledge and understanding of science, mathematics and engineering within the industrial field, as well as knowledge and understanding of Mechanics, Solid and Structural Mechanics, Thermal Engineering, Fluid Mechanics, Production Systems, Electronics and Automation, Industrial Organisation and Electrical Engineering.

RA2. Engineering Analysis: To be able to identify engineering problems within the industrial field, recognise specifications, establish different resolution methods and select the most appropriate one for their solution

RA3. Engineering Design: To be able to design industrial products that comply with the required specifications, collaborating with professionals in related technologies within multidisciplinary teams.

RA4. Research and Innovation: To be able to use appropriate methods to carry out research and make innovative contributions in the field of Industrial Engineering.

RA5. Engineering Applications: To be able to apply their knowledge and understanding to solve problems and design devices or processes in the field of industrial engineering in accordance with criteria of cost, quality, safety, efficiency and respect for the environment.

RA6. Transversal Skills: To have the necessary skills for the practice of engineering in today's society.

## OBJECTIVES

The aim of this subject is to introduce students into the world of enterprise. Besides the above, enterprise practices offer students the chance to put into practice the knowledge acquired during his other studies, as well as understanding the importance of practical aspects in choosing the solution for a problem.

1. Knowing the working methods in a company and the main tools to support the work of an engineer.
  2. Acquiring the ability to apply knowledge gained during the engineering studies to working practice, using a combination of knowledge and techniques of engineering to solve problems.
  3. Finding solutions for a problem which are reasonable within the scope of the company and meet the standards, respect the equality of opportunities between men and women and are responsible from the environmental point of view.
  4. Ability to work in a workteam, playing the roles specified by the project manager and being integrated into the company, but in turn being able to work autonomously.
  5. Communicate knowledge in a effective way within the company.
  6. Acquiring new knowledge and techniques for solving engineering problems in an autonomous way.
  7. Learning to use tools in the field of business.
  8. Competition to join a working team.
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1. Appreciate the importance of practical aspects when looking for the solution to a problem.
  2. Learn to communicate effectively using the language of business.
  3. Joining a team and learn to perform their duties in an efficient, coordinated and measured way.
  4. Knowledge of working methods in a company.
  5. Applying knowledge and skills acquired in engineering studies to the world of business

## 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: 5 ECTS = 150 hours of internship in the company.

Theoretical Work: 1 ECTS = 30 hours to make a report of the work done during the internships in the company.

## 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.