Universidad Zaragoza

Academic Year/course: 2023/24

29748 - Industrial Quality

Syllabus Information

Academic year: 2023/24
Subject: 29748 - Industrial Quality
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 434 - Bachelor's Degree in Mechanical Engineering
ECTS: 6.0
Year: 4
Semester: First semester
Subject type: Optional
Module:

1. General information

This subject focuses on interpreting industrial needs in the field of industrial quality so that students are able to provide adequate and optimal solutions, both from an organizational and technical point of view, to the problems related to the control, assurance and management of quality in the company.

Sustainable Development Goals (SDGs):

- Agenda 2030 and SDGs in a broad spectrum: one of the subject areas of the course is Social Responsibility, in which the SDGs are explained, among other things, and special emphasis is placed on how Industrial Quality can help achieve the SDGs indicated. It is evaluated in the subject exam.
- Goal 12: Ensure sustainable consumption and production modalities)
    - Target 12.4

2. Learning results

The student, in order to pass this subject, must demonstrate the following results...

1. -Applies techniques of control, assurance, quality management, total quality and continuous improvement of products and processes throughout their life cycle.

2. -Identify product standardization and certification needs, as well as legal requirements for product safety and assess their compliance.

3. -Know and document a quality management system applicable to a manufacturing company, standardized according to ISO 9001 or other international benchmarks (EFQM, and others), as well as similarly documents integrated management systems and quality management systems of industrial testing/calibration laboratories.

4. -Plan and deploy quality management objectives and undertakes audits of quality management systems and the processes documented therein.

5. -Know and selects appropriate inspection and verification methods (including statistical process control, design of experiments, reliability, etc.) according to criteria such as the manufacturing system used or the established quality objectives.

3. Syllabus

Theoretical-practical syllabus

1. EFQM Model

2. ISO 9000 Quality Management System

3. Safety, occupational hazards and environmental quality

4. Quality, CSR and civil liability

5. Continuous improvement / Lean

6. Quality in purchasing

7. Product quality in the market / Reliability

Laboratory practices

- Self-assessment according to the EFQM model
- Quality management system
- Lean / Quality tools
- Purchasing / Reliability
- Company visits

4. Academic activities

Lectures, problem classes and practical sessions in the laboratory are given according to the timetable and calendar established by the center (available in its web page).

The list and dates of the different activities, together with all kinds of information and documentation about the subject, will be published in the Digital Teaching Ring (ADD) of the University of Zaragoza.

As a guideline:

- Each week, 3 hours of classes (lectures or problems) are scheduled.
- Approximately every two weeks the student will perform a 2.5 hour laboratory practicum.

5. Assessment system

Gradual assessment. Divided into three blocks:

Block 1:

Written tests consisting of solving theoretical and practical questions and problems. It represents 30% of the final grade and must obtain a grade higher than 4.0 (out of 10) to average with the rest of the blocks.

Block 2:

Practice reports of the subject. It represents 10% of the final grade and a grade higher than 4.0 (out of 10)must be obtained in order to average with the rest of the blocks.

Block 3:

Set of works in which to solve the cases presented. It represents 60% of the final grade and a grade higher than 4.0 (out of 10) must be obtainedto average with the rest of the blocks.

The grade for the subject will be obtained from the weighted average of all the blocks. A grade of 5.0 or higher must be obtained to pass.

Global assessment.

In case of not passing any of the blocks of the gradual assessment, the student may take the global assessment to which they are entitled, in any of the two calls, which will consist of an exam that includes both blocks of the gradual assessment, with the same scheme of distribution of points and minimum grades.