

## 29528 - Quality Control and Improvement

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 29528 - Quality Control and Improvement

**Faculty / School:** 175 - Escuela Universitaria Politécnica de La Almunia

**Degree:** 625 - Bachelor's Degree in Industrial Processes' Data Engineering

**ECTS:** 6.0

**Year:** 3

**Semester:** Second semester

**Subject type:** Compulsory

**Module:**

### 1. General information

The main objective of the subject is to know and know how to apply process and product control techniques to improve the business approach.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to their achievement.

- Goal 4: Quality education (M 4.3, M4.4 and M4.7)
- Goal 9: Industry, innovation and infrastructure (M 9.4)

### 2. Learning results

- Establish statistical process controls in production systems
- Use tools for the verification and control of facilities, processes and products
  - Control charts and process capability analysis
- Perform sampling inspection
  - quality control of processes, raw materials and finished products Perform verifications, tests and technical reports.
- To propose improvement projects with a business approach

### 3. Syllabus

- Quality control and improvement: Statistical Process Control.
- Tools for the verification and control of facilities, processes and products: Control charts and analysis of the process capability.
- Sampling inspection: quality control of processes, raw materials and finished products.
- Verifications, tests and technical reports.
- Repeatability and Reproducibility Studies.
- DMAIC cycle in the Six Sigma methodology.
- Improvement projects with business focus.

### 4. Academic activities

Face-to-face format:

- Lectures: presentation of the subject content, 3h/week for 15 weeks
- Exercises and lab classes, 1h/week for 15 weeks
- Study and personal work: completion of evaluable work and preparation of exams (Student dedication to the subject)
- Assessment tests.

Dual format:

- Lectures: presentation of the course content, 3h/week for 5 weeks
- Exercises and lab classes, 1h/week for 5 weeks
- Company: 8h/week for 10 weeks. Students will be trained in real work situations and contexts.
- Study and personal work: assessment of work and preparation of exams (Dedication of the students to the subject)
- Assessment tests.

## 5. Assessment system

### Face-to-face format:

Continuous assessment

- Exercises and proposed works, which will have a score of 40% of the grade of the subject.
- Written assessment tests, which will have a score of 60% of the grade of the subject.

### Dual format:

Continuous assessment

- Exercises and proposed works, which will have a score of 10% of the grade of the subject.
- Written assessment tests, which will have a score of 20% of the grade of the subject.
- Assessment of the skills acquired in the company (70% of the grade). Each of the competencies acquired in the company will be evaluated by the company's tutor and the university by applying the relevant rubrics.

### Face-to-face and dual formats:

Assessment in Call

Following the regulations of the University of Zaragoza in this regard, if the student has not passed any of these activities during the semester, they will have the opportunity to pass the subject by means of a global test in two official calls.