

Información del Plan Docente

Academic Year	2017/18
Faculty / School	175 - Escuela Universitaria Politécnica de La Almunia 179 - Centro Universitario de la Defensa - Zaragoza
Degree	457 - Bachelor's Degree in Industrial Organisational Engineering 563 - Bachelor's Degree in Industrial Organisational Engineering 425 - Bachelor's Degree in Industrial Organisational Engineering
ECTS	6.0
Year	3
Semester	Half-yearly
Subject Type	Compulsory
Module	---

1.General information**1.1.Introduction****1.2.Recommendations to take this course****1.3.Context and importance of this course in the degree****1.4.Activities and key dates****2.Learning goals****2.1.Learning goals****2.2.Importance of learning goals****3.Aims of the course and competences****3.1.Aims of the course****3.2.Competences****4.Assessment (1st and 2nd call)****4.1.Assessment tasks (description of tasks, marking system and assessment criteria)****5.Methodology, learning tasks, syllabus and resources****5.1.Methodological overview****Specialization in Business**

Presentation general methodology

30126 - Quality

The learning process designed for this subject is based on the following:

Strong interaction between the teacher/student. This interaction is brought into being through a division of work and responsibilities between the students and the teacher. Nevertheless, it must be taken into account that, to a certain degree, students can set their learning pace based on their own needs and availability, following the guidelines set by the teacher.

The current subject (the teacher should put THE NAME OF THE SUBJECT here) is conceived as a stand-alone combination of contents, yet organized into three fundamental and complementary forms, which are: the theoretical concepts of each teaching unit, the solving of problems or resolution of questions and laboratory work, at the same time supported by other activities.

The organization of teaching will be carried out using the following steps:

- **Theory Classes** : Theoretical activities carried out mainly through exposition by the teacher, where the theoretical supports of the subject are displayed, highlighting the fundamental, structuring them in topics and or sections, interrelating them.
- **Practical Classes** : The teacher resolves practical problems or cases for demonstrative purposes. This type of teaching complements the theory shown in the lectures with practical aspects.
- **Individual Tutorials** : Those carried out giving individual, personalized attention with a teacher from the department. Said tutorials may be in person or online.

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The learning process that has been designed for this course is based on the following:

Course credits are divided into:

Class activities (60 hours)

- Type I activities. Master classes (theory and problems) (40 hours)
- Type III activities. Computer practices (10 hours)
- Type VI activities. Tutored practical works (6 hours)
- Type VIII activities. Realization of examinations and tests (4 hours)

Non-classroom learning activities (90 hours):

- Type VI activities. Tutored practical works (16 hours)
- Type VII activities. Personal study of the student (74 hours)

Scheduled learning activities

The learning process designed for this course combines the following elements:

- **Theoretical and practical classes** that allow the transmission of knowledge to the students, promoting participation of them, in which, case studies will be resolved as well as theory will be taught without having an explicit separation between.
- Computer assisted **practical classes** that will be taught in the classroom with laptops available to students or in the computer labs.
- Realization of **tutored works** . Students will work in groups under the supervision of their teachers.
- **Personalized attention** both in small groups and individualized in the tutorials.
- **Study and personal work** continued by students from the beginning of the course.

At the ADD/Moodle the basic theoretical content will be available, i.e. collection of problems and case studies, guides of the computer practices, as well as supplementary material will be also available.

It must take into account that the subject has both theoretical and practical orientation. Therefore, the learning process emphasizes as much as in the participation of students in classes, as in the realization of problems and laboratory practices, in the realization in group of a case study, and in the individualized study.

5.2.Learning tasks

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The programme offered to the student to help them achieve their target results is made up of the following activities...

Involves the active participation of the student, in a way that the results achieved in the learning process are developed, not taking away from those already set out, the activities are the following:

Face-to-face generic activities :

- **Theory Classes** : The theoretical concepts of the subject are explained and illustrative examples are developed as support to the theory when necessary.
- **Practical Classes** : Problems and practical cases are carried out, complementary to the theoretical concepts studied.

Generic non-class activities :

- Study and understanding of the theory taught in the lectures.
- Understanding and assimilation of the problems and practical cases solved in the practical classes.
- Preparation of seminars, solutions to proposed problems, etc.
- Preparation of summaries and reports.
- Preparation of the written tests for continuous assessment and final exams.

The subject has 6 ECTS credits, which represents 150 hours of student work in the subject during the trimester, in other words, 10 hours per week for 15 weeks of class.

A summary of a weekly timetable guide can be seen in the following table. These figures are obtained from the subject file in the Accreditation Report of the degree, taking into account the level of experimentation considered for the said subject is moderate.

Activity	Weekly school hours
Lectures	3
Laboratory or practical Workshop	1
Other Activities	6

Nevertheless the previous table can be shown into greater detail, taking into account the following overall distribution:

- 50 hours of lectures, with 30% theoretical demonstration and 70% solving type problems.
- 6 hours of written assessment tests, one hour per test.
- 4 hours of PPT presentations.
- 90 hours of personal study, divided up over the 15 weeks of the 2nd semester.

There is a tutorial calendar timetable set by the teacher that can be requested by the students who want a tutorial.

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Teachers of the subject make public to the students the programme with the specific dates of the activities through the Moodle platform that can be consulted by logging with their username and password at the address <https://moodle2.unizar.es/add/>. These activities are the sum of the learning activities and evaluation activities described above:

Classroom learning activities:

- Type I activities. Master classes (theory and problems) (40 hours)
- Type III activities. Computer assisted practices (10 hours)
- Type VI activities. Tutored practical work (6 hours)

Non-classroom learning activities:

- Type VI activities. Tutored practical work (16 hours)
- Type VII activities. Personal study of the student (74 hours)

Evaluation activities:

- Type VII activities.
 - o Final examination (4 hours)
 - o Continuous evaluation of classes, practical and tutored work.

5.3.Syllabus

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Unit 1. Quality Basic concepts
Unit 2. Historical development of quality
Unit 3. Quality costs
Unit 4. Quality in design, purchasing and agreed quality
Unit 5. Product and process Quality Control
Unit 6. Measurement Assurance. Metrology.
Unit 7. Quality improvement Tools
Unit 8. ISO 9001
Unit 9. Company Certification
Unit 10. Integrated Management Systems

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The subject syllabus is the next one:

1. Quality Scope and Definition
2. Quality Planning
3. Quality Control Techniques and Tools
4. Quality in Design
5. Quality in Manufacturing
6. Procurement Process Quality
7. MSA. Metrology
8. Quality Management Systems

5.4.Course planning and calendar

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Class hall sessions & work presentations timetable

The dates of the final exams will be those that are officially published at <http://www.eupla.es/secretaria/academica/examenes.html>.

The written assessment tests will be related to the following topics:

- **Test 1** : Topic 1.
- **Test 2** : Topic 2.

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Calendar of the sessions is available on the web site of the institution. The submission of papers is notified to the students either during the development of the class itself, or through the Moodle platform: <https://moodle2.unizar.es/add/>

Contents of course indispensable for obtaining the learning results

Topic 0: Subject presentation

Topic 1: Introduction: Definition and scope of quality

Topic 2: The quality planning

Topic 3: Quality Control Techniques and Tools

Topic 4: Quality in design

Topic 5: Quality in manufacturing

Topic 6: Quality in purchasing

Topic 7: Measurement assurance. Metrology

Topic 8: Quality management systems

Topic 9: Six sigma methodology

Resources

Documents, texts and works to be used will be available via personal or via Anillo Digital Docente/Moodle:
<https://moodle2.unizar.es/add/>

5.5. Bibliography and recommended resources

Specialization in Business

- ARRANZ, Alberto; DE DOMINGO, Jose Calidad y Mejora Continua. Donostiarra.
- JURAN, J.M; GRANA, Frank M.; BINGHAM, R.S. Manual de Control de la Calidad. Reverte.
- PFEIFER, Tilo; TORRES, Fernando. *Manual de Gestión e Ingeniería de la Calidad*. Mira Editores.
- JAMES; Paul. Gestión de la Calidad Total. Prentice Hall.
- UNE-EN ISO 9001:2015. Aenor

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- Ingeniería de la calidad / Raquel Acero ... [et al.] . - 3ª ed. Zaragoza : Centro Universitario de la Defensa, 2017
- Pfeifer, Tilo. Manual de gestión e ingeniería de la calidad / Tilo Pfeifer, Fernando Torres . - 1ª. ed. española act. y amp., 1ª reimp. Zaragoza : Mira, 2002
- Domingo Acinas, José de. Calidad y mejora continua / José de Domingo Acinas, Alberto Arranz Molinero San Sebastian : Donostiarra, D.L. 1997
- Juran, Joseph; Godfrey, Blanton. Juran's Quality Handbook. Nueva York, 1979
- Jeffrey K. Liker. The Toyota way: 14 management principles from the world's greatest manufacturer. EEUU: McGraw Hill, 2004

Materials

Documents, texts and works to use will be available via personal or via Anillo Digital Docente/Moodle:
<https://moodle2.unizar.es/add/>