

## 60641 - Environmental legislation and management systems

### Syllabus Information

**Academic year:** 2024/25

**Subject:** 60641 - Environmental legislation and management systems

**Faculty / School:** 100 - Facultad de Ciencias

**Degree:** 540 - Master's in Industrial Chemistry

**ECTS:** 9.0

**Year:** 1

**Semester:** Annual

**Subject type:** Compulsory

**Module:**

### 1. General information

The subject 'Management Systems and Environmental Legislation' aims to review and deepen the knowledge on quality management systems, environmental management and occupational risk prevention management in the chemical sector and industry. The environmental law regulations applied to chemistry and eco-labelling. And the quality assurance systems in chemical laboratories.

### 2. Learning results

Upon completion of the subject, the student will be able to: Understand and distinguish the requirements demanded in the different standardized management systems and especially those related to documentation needs for the implementation and subsequent certification of conformity to technical standards.

Apply technical and management tools for the research and development of products, processes and services in the chemical and related industries. Express themselves correctly on issues related to knowledge management, development of original ideas and process leadership.

Identify and recognize, with the support of ICT, general aspects of environmental legal regulations, as well as those related to the environmental impact of the products and processes studied at international, European and national level.

Recognize the advanced competences of the REACH and CLP Regulations and related guidelines.

Identify and distinguish between laboratory quality models based on quality assurance and quality control activities. Design, implement and assess strategies for the above activities.

Understand the principles of accreditation and laboratory inter-comparison standards. Solve numerical problems on classification and scoring of the competence of chemical testing laboratories.

### 3. Syllabus

MODULE Management systems.

Topic 1: Principles and tools.

Topic 2: Quality systems. Standards. Compliance and certification.

Topic 3. Environmental management systems. ISO standards. EMAS Regulation. Environmental declaration of companies.

Topic 4. Occupational risk prevention systems. Legal regulation and OSHAS 18001 standard.

MODULE Environmental legislation.

Topic 5: International environmental laws and climate change. European Union and climate change. European agencies.

Topic 6. Regulation of chemical substances and preparations. Regulations: REACH; CLP; BRP biocides; PIC; and others. Hazardous, volatile and persistent organic substances. Waste.

MODULE Quality systems in the laboratory.

Topic 7. Quality Management in the chemical laboratory. Quality assurance and control.

Topic 8. Advanced metrology and uncertainty.

Topic 9. Proficiency Inter-laboratory testing. Accreditation and good laboratory practices.

### 4. Academic activities

Lectures: sessions led by the teacher where the subjects will be explained: 60 hours.

Problems and cases: dynamic sessions with presentation and solving of practical cases that can be carried out in a computer classroom with ICT means, proposed by the teacher: 30 hours.

Practical cases prepared by the students: they will work assignments according to the teacher's guidance. And they could be exposed orally or/and in written reports : 20 hours

Study of the subject: preparation of classes and practical activities: 105 hours.

Assessment tests (10 hours).

## 5. Assessment system

Types:

1. Continuous assessment by the following:

a) Cases and problems resolution alongside the course, in each of the three modules. The overall qualification of this part stands for the 60% of the final grade: grade 1.

b) written and/or oral test of the subjects of each of the three modules. They will be carried out in the scheduled period of the official calls for exams. The overall result of this part stands for the 40% of the final grade: grade 2.

The final grade according to this system is: overall grade =  $0.60 \times \text{grade1} + 0.40 \times \text{grade2}$ .

Students must obtain a minimum grade of 4 out of 10 in each of the previous partial grades (grade 1 and grade 2) in order to average and pass the subject. They pass if they achieve an overall grade of at least 5 out of 10 points.

2. Assessment by exclusively a global final test, in the scheduled period of the official calls for exams, consisting of two parts:

a) written and/or oral final test consisting of solving standard cases of each of the modules of the subject: grade 3.

and also

b) additional exercise (written and/or oral) including subjects of each of the modules: grade 4.

The grade, according to this mode, is: overall grade =  $0.50 \times \text{grade 3} + 0.50 \times \text{grade 4}$ .

Students must obtain a minimum grade of 4 out of 10 in each of the previous partial grades (grade 3 and grade 4) in order to average. They pass the subject if they achieve an overall grade of at least 5, out of 10 points.

The student who has not achieved the minimum grade will be assessed in the global evaluation periods according to a final and global test.

## 6. Sustainable Development Goals

4 - Quality Education

9 - Industry, Innovation and Infrastructure

13 - Climate Action