# COURSE DATA

## DATA SUBJECT

**Code:** 45012
**Name:** Safety and Hygiene
**Cycle:** Master's Degree
**ECTS Credits:** 3
**Academic year:** 2025-26

## STUDY (S)

| Degree | Center | Acad. year | Period |
|---|---|---|---|
| 2249 - Master's Degree in Chemistry | Facultat de Química | 1 | Annual |

## SUBJECT-MATTER

| Degree | Subject-matter | Character |
|---|---|---|
| 2249 - Master's Degree in Chemistry | Optatividad en Química | ELECTIVES |

## COORDINATION

BAEZA BAEZA JUAN JOSE

# SUMMARY

The use of chemicals in the workplace exposes users to various occupational hazards, especially those related to safety and health. Therefore, the objetive of this course is to study the prevention of accidents and occupational diseases as required by society and legislation.

Students who take this course will acquire the knowledge, skills and competencies related to occupational Safety and Health, general and specific risks and their prevention in the chemical sector, basic elements of risk prevention management and first aid. These aspects coincide with the training program for the performance of basic level functions for activities included in sections b) and c) of annex I of the R.D. 39/1997, Regulation of Prevention Services, with additional training on those specific risks and their prevention in the chemical sector.

The National Commission on Safety and Health at Work has identified as an unfulfilled measure promoting a preventive culture in university education through the transversal integration of prevention occupational hazards in the study plans and proposed including such content in the curricular implementation of university degrees.

# PREVIOUS KNOWLEDGE

### RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

### OTHER REQUIREMENTS

Previous knowledge of chemistry taught in the degrees indicated in the recommended entry profile for Master's students is required.

## COMPETENCES / LEARNING OUTCOMES

### -

Apply the advanced theoretical and practical knowledge gained in the different specialties of chemistry to R&D and innovation.

Be able to design, conduct, analyse and interpret complex experiments and data, as a specialist.

Be able to solve complex chemistry problems, whether in the academic, research or industrial application areas at a specialization or masters-level.

Possess the necessary skills to develop multidisciplinary activities within the field of chemistry at the master's level.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

## DESCRIPTION OF CONTENTS

### 1. Basic concepts on safety and health at work

Work and health: professional risks.
Working conditions and risk factors.
Damages derived from work. The work accidents and the professionals sicks. Other pathologies derived from work.
Basic regulatory framework regarding the prevention of occupational hazards.
Basic rights and duties in this topic.

Risks linked to security conditions.
Risks related to the working environment.
Workload, fatigue and job dissatisfaction.
Elementary risk control systems. Collective and individual protection.
Emergency and evacuation plans.

## 2. General risks and their prevention

Risks linked to security conditions.
Risks related to the working environment.
Workload, fatigue and job dissatisfaction.The health control of workers.

## 3. Specific risks and their prevention in the chemical sector

Chemical agents and hazardous chemical agents.
Identification, packaging and labeling of chemical agents. REACH and CLP regulations.
Risk factors and routes of exposure.
Chemical risk assessment.
Control of chemical risk. Ventilation and Personal Protective Equipment.
Storage, handling and transportation of hazardous chemicals.
Emerging Chemical Hazards: Particulates (Nanomaterials, Diesel Engine Exhaust Gases, Man-Made Mineral Fibers); allergens and sensitizing agents; carcinogens, mutagens and substances with toxic effects for reproduction; combined risks.

## 4.
## Basic elements of risk prevention management

Public bodies related to safety and health at work.
Organization of preventive work. Basic routines:
- Preventive organization.
- Occupational risk prevention plan
- Documentation: collection, preparation and files

## 5. First aid

- General advice.
- Activation of the emergency system.
- Links in the relief chain.
- Primary evaluation of a crashed.
- Hemorrhages.
- Emergency kit.

# WORKLOAD

### PRESENCIAL ACTIVITIES

| Activity | Hours |
|---|---|
| Tutorials | 5,00 |
| Theory | 25,00 |
| **Total hours** | **30,00** |

## NON PRESENCIAL ACTIVITIES

| Activity | Hours |
|---|---|
| Attendance at other activities | 5,00 |
| Individual or group project | 5,00 |
| Independent study and work | 20,00 |
| Preparation of lessons | 15,00 |
| Preparation for assessment activities | 0,00 |
| Resolution of case studies | 0,00 |
| **Total hours** | **45,00** |

## TEACHING METHODOLOGY

The course will be taught in asynchronous online mode. Among other training activities, there will be the resolution
In addition, use will be made of the Virtual Classroom platform, a virtual space where all the information considered

## EVALUATION

The evaluation will be based on a written exam (50%) and on the presentation of work and continuous evaluation (5

The written exam will take place at the end of the course.

## REFERENCES


- Curso de capacitación para el desempeño de funciones de nivel básico. Instituto Nacional de Seguridad y Salud en el Trabajo (INSST), 2019. Disponible on-line en https://www.insst.es/documentacion/catalogo-de-publicaciones/curso-de-capacitacion-para-el-desempeno-de-funciones-de-nivel-basico-ano-2019

- Manual bàsic de Seguretat i Salud en el Treball. Institut Valencià de Seguretat i Salut en el Treball (INVASSAT). 2014-19. Disponible on-line en http://invassat.gva.es/va/manual-basico-sst

- Materiales del Instituto Nacional de Seguridad y Salud en el Trabajo (INSST) https://www.insst.es/

- Portal de Riesgos Químicos del INSST https://www.insst.es/materias/riesgos/riesgos-quimicos