

## 29848 - Occupational Risk Prevention Applied to Engineering

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 29848 - Occupational Risk Prevention Applied to Engineering

**Faculty / School:** 326 - Escuela Universitaria Politécnica de Teruel

**Degree:** 444 - Bachelor's Degree in Electronic and Automatic Engineering

**ECTS:** 6.0

**Year:** 4

**Semester:** Second semester

**Subject type:** Optional

**Module:**

### 1. General information

The subject is presented with a complete content and a practical approach, so that the students have the basis to integrate occupational risk prevention in any production process of the company in which they participate and/or in an engineering project.

The main *objectives* to be achieved are the following:

1. Convey the importance of the subject, demonstrating the immense applications and implications it has in companies, in order to improve working conditions, safety, process quality and productivity.
2. Introduce students to the use of tools and applications to work in this field. Train students in the search for updated regulations and other relevant bibliography.
3. Enable students to identify risk factors, evaluate risks that could not be eliminated, propose preventive measures to minimize the consequences through preventive planning and establish a control system.

This subject is committed to the SDGs, in particular, Goal 8 "Decent work and economic growth" and Objective 8.8 "Protect labour rights and promote a safe and secure working environment for all workers, including migrant workers, in particular women migrants and those in precarious employment". It also contributes to achieving Goal 5 "Achieve gender equality and empower all women and girls".

### 2. Learning results

- Be capable of taking the necessary decisions in the field of occupational risk prevention for the correct development of the professional work of an engineer with responsibility in health and safety.
- Integrate occupational risk prevention in each and every one of their actions and decisions within a company.
- Understand the importance of developing a productive and/or professional activity respecting the rules of occupational risk prevention
- Know the implications of non-compliance with occupational risk prevention regulations and be able to find the main prevention regulations that may be applicable to a particular production process.
- Produce the safety part of a project.
- Know the main obligations and rights, both of the employer and the worker, related to health and safety.
- Be able to identify, evaluate and propose preventive measures to avoid risks derived from the production activity.

### 3. Syllabus

The *contents* developed in the subject are the following:

- Unit 1. Introduction to the prevention of occupational hazards and applicable regulations
- Unit 2. Preventive specialties: Safety, Industrial Hygiene and Ergonomics and Applied Psychosociology, and Preventive Medicine
- Unit 3. Prevention of Occupational Accidents and Occupational Diseases. Emerging risks
- Unit 4. Evaluation of Occupational Risks and Prevention Plan
- Unit 5. Occupational risk prevention management
- Unit 6. Technical safety issues
- Unit 7. Safety section of an engineering project

### 4. Academic activities

This subject is taught in two different modalities: face-to-face and blended learning.

In the FACE-TO-FACE modality:

- *Master classes*: They will consist of expository sessions of theoretical and practical contents of the subject.
- *Problem solving classes and cases*: they will consist of several practical cases, some of them evaluable, as indicated in the assessment system.
- *Practical laboratory classes*: they will consist of several laboratory practices, some of them evaluable, as indicated in the assessment system.
- Depending on the development of the teaching, any other activity that is considered of interest for the students' learning may be proposed, with prior notice through the subject's Moodle.

In the BLENDED modality:

- Students will be provided with the necessary materials to carry out all the proposed teaching activities.

These materials will be available on the subject's website (<http://moodle.unizar.es/>). The students will be guided by the teacher with the help of telematic tutorials.

## 5. Assessment system

### CONTINUOUS ASSESSMENT

1. **Problem solving and case studies**: They will consist of three practical cases, representing 20% of the final grade, each one evaluated out of 10 points.

To do this, students must do an exercise of: reading the information provided, searching for additional information, understanding and reflecting on all the documentation and finally, proposing a justified solution together with a final reflection.

2. **Laboratory practices**: They will consist of three laboratory practices, accounting for 20% of the final grade, each one evaluated out of 10 points.

To do so, the students must do an exercise of: reading the information provided, searching for additional information, understanding and reflecting on all the documentation, using an application and/or tool proposed and finally, proposing a justified solution together with a final reflection.

3. **Subject work**: It will consist of an Occupational Risk Assessment of a real environment or a Study of Safety and Health of an engineering project (60%).

To do so, the guidelines detailed by the teacher will be followed and presented in class. A minimum grade of 5 is required to average with the rest of the grades.

### OVERALL EVALUATION (100%)

It will consist of a final exam with theoretical-practical questions and problems related to the content of the subject.

The exam will be presented to the teacher.