Course guide
240819 - 240819 - Workplace Safety II

Unit in charge: Barcelona School of Building Construction
Teaching unit: 1004 - UB - (ENG)Universitat de Barcelona.
Degree: MASTER’S DEGREE IN OCCUPATIONAL HEALTH AND SAFETY (Syllabus 2016). (Compulsory subject).
Academic year: 2022
ECTS Credits: 6.0
Languages: Spanish

LECTURER

Coordinating lecturer: XAVIER POY QUINTANA
Others: Óscar Ballesteros

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Identify and distinguish the different integration models for the prevention in the management of the company.
2. Recognise the structure of the prevention system: public organisms and competences and benefit societies, recognise and explain the legislation and specific technical regulations regarding to the occupational security and dispose the sufficient technical knowledge to carry out risk evaluations and set corrective measures in front of general threats related to the work, installations, working devices, fire risk and explosion. Recognise some techniques similar to the prevention: security in the product, management of assets and road security, and recognise the communication techniques regarding to the prevention of occupational risks.
3. Know to develop emergency and security plans, make training and information plans assigned to workers, including the detection of needs and establish the evaluating systems and monitoring measures, lay out corrective measures in front of risks of chemical nature, physical or biological; carry out risk evaluations and set out corrective measures related to the physical and mental load at work; make the epidemiologic study design to identify risk factors of occupational nature, apply its basics and manipulation and applications of the main chemical analysis techniques in the hygienic world.

TEACHING METHODOLOGY

In the tutoring sessions from 6.30 pm to 7 pm, the subject coordinator will be at the disposal of the students who request it, contacting him directly.

It will be proposed to make a visit to a company in the logistics sector to assess the risk in machines and the handling of materials on site and another to a company for the storage and distribution of chemical products.
LEARNING OBJECTIVES OF THE SUBJECT

In the subject Safety at Work I the techniques of identification, evaluation and control of the risks that can commonly occur in the world of work were developed. In this subject of specialization it is essential to delve into the procedures for evaluation and control of those situations that generate accidents with serious consequences and therefore require rigorous control systems. Such is the case of the chemical risk with serious consequences in industrial processes and in transport, including fires and explosions, on which there is specific regulation in our community, which due to its special impact on management aspects is also instructive in other sectors in which precise control of the reliability of facilities and processes is required.

Risks in the Construction sector, in electrical installations, gas installations, pressure equipment, and dangerous mechanical maintenance machines and equipment, will have a specific treatment. With all this, it is intended to be able to develop the corresponding preventive plans with the appropriate strategies, according to the specificity of the risk and the severity of its consequences, as well as the type of company and sector to which it belongs.

Specific knowledge and skills

a) The student will be able to apply the most appropriate legal, technical and managerial preventive measures for the evaluation and control of certain risks of accidents with serious consequences that usually occur in industrial facilities, in construction and in service activities.

b) Based on the foregoing, the knowledge of solutions to specific risks will be deepened: mechanical, electrical, fire, explosion and high chemical risk, generating serious accidents, as well as the development of the corresponding preventive planning.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Hours large group</td>
<td>54,0</td>
<td>36.00</td>
</tr>
<tr>
<td>Self study</td>
<td>96,0</td>
<td>64.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h

CONTENTS

- WORK PLACES

Description:

Full-or-part-time: 1h
Theory classes: 1h

- HANDLING OF MATERIALS

Description:

Full-or-part-time: 1h
Theory classes: 1h
### -MACHINES

**Description:**

**Full-or-part-time:** 1h  
**Theory classes:** 1h

### -FIRE AND EXPLOSIONS, CHEMICAL RISK

**Description:**


**Related activities:**
Exercise

**Full-or-part-time:** 1h  
**Theory classes:** 1h

### -SAFETY IN CONSTRUCTION

**Description:**

**Full-or-part-time:** 1h  
**Theory classes:** 1h

### -EMERGENCY PLAN. PRACTICAL APPLICATIONS.

**Description:**

**Full-or-part-time:** 1h  
**Theory classes:** 1h
- ELECTRIC RISK

Description:
Electric energy: analysis of variables and fundamental laws. Regulatory framework for the safety of facilities, equipment and people. Factors that influence the electrical effect: The intensity and duration of the current, the electrical resistance of the human body, the voltage, the frequency, the path of the current. Type of electrical contacts: direct and indirect. Protection against direct electrical contacts. Measures to protect facilities and equipment. Interposition of obstacles. Coating of active parts. Degrees of switchgear protection against access to dangerous parts, foreign solid bodies and water. Receiver classification. The five golden rules for working on electrical installations and in the vicinity. Protection against indirect electrical contacts: Class A and class B protection systems. Double insulation. Circuit separation. Use of small safety voltages. Grounding of masses and breaking devices due to fault intensity, differentials. Periodic checks. Practical applications.

Full-or-part-time: 1h
Theory classes: 1h

GRADING SYSTEM

La evaluación final de la asignatura será el resultado de la evaluación continua en el transcurso del cuatrimestre, teniendo en cuenta: los conocimientos y habilidades adquiridas, los ejercicios resueltos y las actitudes mostradas.

EXAMINATION RULES.

The exercises will have to be delivered solved, immediately before the corresponding evaluation test.

BIBLIOGRAPHY

Basic:

RESOURCES

Other resources:
Prevention Technical Notes, NTP, various.
http://www.insht.es/portal/site/Insht/menutitem.a82abc159115c8090128ca10060961ca/?vgnextoid=db2c46a815c83110VgnVCM1000.
Teaching aids for various oral presentations will be provided.