

# Course guide 240819 - 240819 - Workplace Safety II

		Last modified: 15/01/2025	
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: 2024	FCTS Credits: 6.0	Languages: Spanish	
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LECTURER			
Coordinating lecturer:	José Ignacio Álvarez Rodríguez		

Others: José Ignacio Álvarez Rodríguez

# **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**

The course will consist of a series of face-to-face lecture sessions, which will be complemented by exercises and a practical visit. During the tutoring sessions from 6:30 p.m. to 7 p.m., the subject coordinator will be available to students who request it, by contacting him directly.

A visit to a company in the health sector will be proposed to assess "in situ" the main security risks that exist in this type of entity.

# LEARNING OBJECTIVES OF THE SUBJECT

In the subject Safety at Work I, the techniques for identifying and assessing risks that can commonly occur in the world of work were developed. In this subject, it is essential to delve into the procedures for assessing and controlling specific situations that generate serious consequences and therefore require rigorous control systems. This is the case of chemical risk with serious consequences for which there is specific regulation in our community, which, due to its special impact on management aspects, is also taught in other sectors in which precise control of the reliability of installations and processes is required. The construction sector will also receive special treatment. The aim of all this is to be able to develop the corresponding preventive plans, with the appropriate strategies, according to the specificity of the risk and the seriousness of its consequences, as well as the type of company and sector to which it belongs. Develop emergency and self-protection plans



# **STUDY LOAD**

Туре	Hours	Percentage
Self study	96,0	64.00
Hours large group	54,0	36.00

### Total learning time: 150 h

# CONTENTS

### -WORK PLACES

### **Description:**

Workplace Guide (RD 486/1997). Workspaces. Circulation routes, ramps, fixed stairs, ladders. Design of work stations. Special jobs: height, confined spaces. Preventive measures. Special work permits. Legal references applicable to the work environment. Main safety requirements of the work environment. Royal Decree 485/1997. CTE RD 314/2006

### Full-or-part-time: 1h

Theory classes: 1h

### -Safety of machinery and work equipment

### **Description:**

Work Equipment Guide (RD 1215/1997). Machines: Directive 2006/42/EC and Royal Decree 1644/2008. Work equipment: Directive 89/65/EEC and Royal Decree 1215/97. Machine management procedure. Machine registration. Methodology for risk assessment in machines. Guards. Protective devices. Machine examples. Accident examples.

### Full-or-part-time: 1h

Theory classes: 1h

### -Main facilities of the company. Mandatory inspections-ECA's

### **Description:**

Legislation. Workplace-facilities guide. Mandatory reviews (authorized control entities). Guide to main periodic reviews and inspections in terms of safety (Foment del treball). Guide to management and maintenance of hospital facilities (College of Industrial Engineers of Madrid-AEIH). Procedure for management-review of facilities. Security visits. Facilities (Self-protection plan). Examples

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



### -Chemical risk. Serious accidents-SEVESO

### **Description:**

Chemical risk guide (RD 374/2001). Chemical products - identification. Physical hazards related to the storage, transport and use of chemical substances. Fundamentals of the CLP regulation (EC 1272/2008). Classes and categories of chemical hazards. Labelling and hazard pictograms. Safety data sheets (SDS). Types of storage of chemical products. Fundamentals of the RAPQ regulation. REACH regulation (EC 1907/2006) registration, evaluation, authorisation, restriction.

Serious accidents. SEVESO. Directive 2012/18/EU (Seveso III). Obligations of industrialists. Obligations of authorities. Effects of serious accidents: thermal radiation, overpressure, projection of fragments, BLEVE, toxic clouds. Intervention zones. Alert zones. Internal emergency plans (PEI). External emergency plans - civil protection. Examples of serious accidents.

Related activities: Exercise

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

# -ELECTRIC RISK

#### **Description:**

Legislation. Technical guide (RD 614/2001 Electrical risk). Electrical concepts: electrical parameters. Types of electrical installations. Occupational risks linked to electricity. Definitions of the electrical field. Danger zones. Worker qualifications. Consignment of electrical installations: the five golden rules. Work procedures. Electrostatic charges. Explosive atmospheres (ATEX). Coordination (CAU). Special work-authorizations. PPE. Examples of accidents.

Full-or-part-time: 1h

Theory classes: 1h

### -SAFETY IN CONSTRUCTION

#### **Description:**

Construction works guide (Royal D 1627/1997). Phases of a project. Roles in a project. Works with and without a project. Minor works. The health and safety coordinator (CSS). Health and safety study (ESS). Basic health and safety study (EBSS). Health and safety plan (PSS). Preventive principles applicable to works. Preventive resources. Obligations of contractors, subcontractors and self-employed workers. Incident log. CAE Relationship between RD 171/2004 and RD 1627/97. Necessary documentation for major and minor works (coordination).

Full-or-part-time: 1h

Theory classes: 1h

### -COORDINATION OF BUSINESS ACTIVITIES (CAE)

### **Description:**

Legal basis (Art. 24 LPRL, Law 54/2003, RD171/2004). Obligations regarding coordination according to the relationship between companies. Document exchange. Practices beyond document exchange. CAE procedure. The duty of vigilance of the principal employer. Good practices regarding coordination of business activities. Coordination meetings. Visits. Examples.

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

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# -EMERGENCY AND SELF-PROTECTION PLANS

# **Description:**

Legal framework. Main references: Art20 Law 31/1995, RD 393/2007, Decree 30/2015. Types of emergency plans. Internal risk. External risk. Fire risk assessment methods: Mosler, Gretener method. Means of evacuation and fire fighting. Fire risk. Other risks. Emergency management. Emergency organization chart. Assignment of responsibilities and functions. Action sheets. Training (EPI, ESI, CECO). Drills and implementation of emergency plans. Examples of emergency plans and self-protection plans (PAUs). Safety visits-inspections. Examples of emergency situations.

Procedures Self-protection plans (Catalonia). HERMES platform. Accredited technicians.

### Full-or-part-time: 1h

Theory classes: 1h

# ACTIVITIES

### Visit to a health center. Safety risks

### **Description:**

MAIN SECURITY RISKS IN A HEALTH CARE FACILITY

- -Installations subject to regulations-ECA'S
- -Works (if any are in progress at that time)
- -Self-protection plan-pau
- -Visit to any healthcare area
- -Maintenance workshops
- -General warehouse
- -Community kitchen
- -Laundry

Full-or-part-time: 2h Practical classes: 2h

# **GRADING SYSTEM**

The final evaluation of the subject will be the result of the continuous evaluation during the semester, taking into account: the knowledge and skills acquired, the exercises solved and the attitudes shown. There will be 2 continuous evaluation tests



# BIBLIOGRAPHY

### **Basic:**

- Bestratén Belloví, Manuel; Mitjans Talon, Enric. Seguridad en el trabajo. 2011. Madrid: Instituto Nacional de Seguridad e Higiene en el Trabajo, DL 2011. ISBN 9788474257908.

- Aguilar Franco, Josefa. Riesgo químico : sistemática para la evaluación higiénica. [Madrid]: Instituto Nacional de Seguridad e Higiene en el Trabajo, DL 2010. ISBN 9788474257861.

- Guía técnica para la evaluación y prevención de los riesgos relativos a la utilización de los equipos de trabajo : Real Decreto 1215/1997, de 18 de julio B.O.E. nº 188, de 7 de agosto [on line]. Madrid: Instituto Nacional de Seguridad e Higiene en el Trabajo, D L 2000 [Consultation: 21/03/2014]. Available on: http://www.insht.es/InshtWeb/Contenidos/Normativa/GuiasTecnicas/Ficheros/equip01.pdf. ISBN 8474255600.

- Guía técnica para la evaluación y prevención de los riesgos relativos a las obras de construcción [Recurs electrònic] : Real Decreto 1627/1997, de 24 de octubre BOE nº 256, de 25 d'octubre [on line]. Madrid: Ministerio de Trabajo y Asuntos Sociales. Instituto Nacional de Seguridad e Higiene en el Trabajo, 2003 [Consultation: 21/03/2014]. Available on: http://www.insht.es/InshtWeb/Contenidos/Normativa/GuiasTecnicas/Ficheros/g\_obras.pdf. ISBN 8474256577.

- Guía técnica para la evaluacion y prevención de los riesgos relacionados con los agentes químicos presentes en los lugares de trabajo [Recurs electrònic] : Real Decreto 374/2001, de 6 de abril BOE nº 104, de 1 de mayo 2001 [on line]. Madrid: Instituto Nacional de Seguridad e Higiene en el Trabajo, 2013 [Consultation: 21/03/2014]. Available on: http://www.insht.es/InshtWeb/Contenidos/Normativa/GuiasTecnicas/Ficheros/g\_AQ.pdf. ISBN 9788474258103.

- Espanya. Ministerio de Trabajo e Inmigración. Para la evaluación y prevención del riesgo eléctrico: Real Dedreto 614/2001, de 8 de junio BOE nº 148, de 21 de junio / Ministerio de Trabajo e Inmigración. Instituto Nacional de Seguridad e Higiene en el Trabajo [on line]. Madrid: Ministerio de Trabajo e Inmigración : Instituto Nacional de Seguridad e Higiene en el Trabajo, 2002 [Consultation: 02/12/2013]. Available on: http://www.insht.es/InshtWeb/Contenidos/Normativa/GuiasTecnicas/Ficheros/g\_electr.pdf.

# RESOURCES

### **Other resources:**

Regulatory Disclosure Sheet, FDNDN of RD 379/2001 of RD 1254/1999

PreventionTechnicalNotes,NTP,various.http://www.insht.es/portal/site/Insht/menuitem.a82abc159115c8090128ca10060961ca/?vgnextoid=db2c46a815c83110VgnVCM100000dc0ca8c0RCRD />Teaching aids for various oral presentations will be provided