Course guide

240818 - 240818 - Industrial Hygiene II

Unit in charge: Barcelona School of Building Construction
Teaching unit: 1039 - UPF - Universitat Pompeu Fabra.
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: ALBERTO JAVIER ROJAS ROYO
Others:
Segon quadrimestre:
MIGUEL ANGEL ALBA HIDALGO - 10
CRISTINA BERCERO ANTILLER - 10
ALBERTO JAVIER ROJAS ROYO - 10

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Know the relation between occupational and health safeties.
2. Identify and distinguish the advanced evaluation techniques and noise control in the industry, the transmission mechanisms and ways of entry to biological agents.
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 face-to-face methodology will be the "class" with the participation of the students.
The tutorial methodology will be offered to solve specific problems of individual students.
Team work will be proposed to solve risk assessment problems.
Laboratory practices of noise, vibration, thermo-hygrometric variables, etc. measurement devices will be offered. for work groups.
Mandatory reading documents and voluntary reading books will be proposed.
"Internet" searches of relevant databases and documents will be proposed.

Material:
Class notes. Specific bibliographies of the 'Internet. Notes from the teacher. Reference books
LEARNING OBJECTIVES OF THE SUBJECT

Industrial Hygiene is a technical discipline that aims to prevent the appearance of occupational diseases by acting on the work environment. For this purpose, Industrial Hygiene studies this environment by identifying the possible pollutants and energies that may be present, and subsequently trying to estimate the magnitude of the exposure and compare it with the legal regulations that set the maximum admissible exposure levels or, failing that, with the evaluation criteria to use. In this way, prioritizing preventive action always considering collective protection before individual protection and allows the establishment of monitoring and control programs of occupational exposure to these chemical, biological and physical agents.

In this subject, knowledge of Hygiene focuses on biological and physical agents.

The student will be able to identify, measure and evaluate occupational exposures to physical and biological agents potentially present in work environments, the most common industrial activities in our productive environment. The student will be familiar with the evaluation criteria and regulations for use in Industrial Hygiene regarding this type of pollutants and will know the measurement systems and techniques and the exposure control methods.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<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

-BIOLOGICAL AGENTS

Description:

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

-NOISE

Description:

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

**Description:**

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

### THERMAL ENVIRONMENT

**Description:**

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

### VIBRATIONS

**Description:**

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

### NON-IONIZING RADIATION

**Description:**

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

### IONIZING RADIATION

**Description:**

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

### GRADING SYSTEM

The final evaluation of the subject will be the result of the continuous evaluation during the semester, taking into account the attendance, attitude and knowledge of the classes and the laboratory practice sessions. Additionally, there will be three mandatory evaluation tests.

If the student wants to take advantage of the possibility of a one-time evaluation, he will have to state it in writing to the school secretary before March 18, 2013.
EXAMINATION RULES.

Both the attendance to the practical laboratory classes and the delivery of the summary work thereof is mandatory.

BIBLIOGRAPHY

Basic:

RESOURCES

Other resources:
Noise
Royal Decree 286/2006, of 10 March, on the protection of the health and safety of workers against risks related to exposure to noise. BOE no. 60, of 11/03/2006.
Vibrations
Royal Decree 1311/2005, of 4 November, on the protection of the health and safety of workers from risks arising or likely to arise from exposure to mechanical vibration. BOE no. 265, of 5 November 2005, pages 36385 to 36390 (6 pages).
Thermal environment
Real Decreto 486/1997, de 14 de abril, por el que se establecen las disposiciones mínimas de seguridad y salud en los lugares de trabajo. "BOE" no. 97, de 23/04/1997.
Artificial optical radiation (ROA).
ROYAL DECREE 486/2010, of 23 April, on the protection of the health and safety of workers against risks related to exposure to artificial optical radiation. BOE no. 99, of 24 April 2010, pages 36103 to 36120 (18 pages).
Electromagnetic fields (EMF)
Biological agents
Real Decreto 664/1997, de 12 de mayo, sobre la protección de los trabajadores contra los riesgos relacionados con la exposición a
agentes biológicos durante el trabajo. "BOE" no. 124, 24/05/1997.