68907 - Speciality in industrial hygiene

Información del Plan Docente

Academic Year	2017/18
Faculty / School	102 - Facultad de Derecho
Degree	462 - Master's in Occupational Health and Safety
ECTS	10.0
Year	1
Semester	Second semester
Subject Type	Optional
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

This course has a practical approach so that the proposed activities are focused on the understanding and assimilation of knowledge and skills necessary for professional performance of an industrial hygienist, addressing the student to acquire the "know to do" competences. For this reason, a wide range of teaching and learning tasks are implemented, such as

- The overview of the knowledge acquired in participatory lectures, is complemented by practice sessions where the student must know the practical application of the knowledge acquired.

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- In seminars students learn to work together, explain and defend the work that they develop.
- As a complement of classroom sessions, visits to facilities are scheduled to applied the concepts learn in class.
- For a better follow-up of the learning process, students are encouraged to use the tutorials: conventional tutorials, or more specific tutorials related to practical seminars.

5.2.Learning tasks

The course includes the following learning tasks:

- 1. **Conferences**. Presentation of the course contents through lectures illustrated with examples.
- 2. **Case Studies**. Case studies to practice solving the problems of risk management related to industrial hygiene, from detection risk through its evaluation to end in eliminating or controlling hygienic risk. Specifically, thre are three types of practical cases to be solved related to chemical, physical and biological agents pose. The instructions of case studies will be provided by teachers or by e-mail or deposited in the reprography service.
- 3. **Guided assignment**. Students will have to elaborate a case under the supervision of teachers on a proposed case by teachers. This case is equivalent to 3 ECTS (75 hours of student work). The deadline for the submission of the case is June 13, 2013. It represents 40% of the final grade. The assessment criteria will take into account the specificity in the responses, knowledge of the matter and the correct interpretation of the law and applicable regulations.
- 4. **Seminars**. Several seminars that deal with some specific monographically proposed issues.
- 5. **Visits to industrial facilities**. They try to give a real picture of the risks and preventive measures implemented in a working environment.

5.3.Syllabus

The course will address the following topics:

Class	Content
Lecture	Introduction to the course. Specific legislation on Industrial Hygiene, case study.
Lecture	Advanced Occupational Toxicology. Biologic control.
Lecture	Chemical reactivity. Ecotoxicological properties.
Lecture	Detection of chemical contaminants in Industrial Hygiene.
Lecture	Sampling of chemical contaminants, measuring strategy, measuring equipment. Explain assessment of carcinogenic, mutagenic, toxic for reproduction and sensitizers.
Lecture	Control of chemical contaminants by General ventilation.

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	Lecture	Control of chemical contaminants by localized extraction.
	Seminar	PPE selection of respiratory protection against chemical agents, chemical suit and gloves. Practical cases.
	Lecture	Noise measurement methodology and measurement equipment.
	Lecture	Measurement and evaluation of vibration exposure.
	Seminar	Lighting.
	Lecture	Selection of personal protective equipment against noise.
	Lecture	Noise control measures.
	Lecture	Ionizing radiation. Non-ionizing radiation.
	Lecture	Thermal environment.
	Seminar	Specific risks in the manufacture of metal products. Practical applications. Physical agents Noise and Vibrations Assessment.
Seminar		Specific risks in beef, pork, sheep farming. Poultry farms. Specific risks in hospitals and healthcare facilities. Practical applications of biological agents evaluation in these sectors.
Seminar		Specific risks in wood. Specific risks in Graphic Arts: exposure to inks and solvents. Practical application of identification, assessment and control of chemical agents.

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Lecture	Biological agents. Non-pathogenic bioaerosols.
Seminar	Presentation and submission of case study. Exam.

Faculty and teaching staff:
The responsibility and the provision of teaching correspond to various professionals and specialists in the areas of Industrial Hygiene, with extensive experience in Industrial Hygiene and the teaching field. Among the professionals there are University professors, specialists and technicians with outstanding and proven knowledge in prevention from the ISSLA, Services Occupational Health and Safety and Work Accident Mutuals.
Professor and coordinator of the course: D. Miguel Olmos Llorente. Technician in Occupational Risk Prevention. Master's Degree in Occupational Health and Safety at the University of Salamanca. Director of the Society for Prevention Fremap in Zaragoza. Professor in "Master of Occupational Health and Safety" of the University of Zaragoza.
Other teachers of the course:

- Dra. Celia Domeño Recalde. Professor of Analytical Chemistry at the University of Zaragoza. Two master collaborator at the University of Zaragoza, Master's in Environmental Engineering and Master's of Occupational Health and Safety, and the Graduate Water Resources.
- D. Rafael Garcia Foncillas. Licensed in medicine. Primary attention doctor. Associate Professor responsible for occupational health in the Degree of Industrial Relations and Human Resources at the University of Zaragoza.
- Dr. Fernando Marzo Uceda. Technician in Occupational Risk Prevention. Medical Labour Cabinet and Safety of Zaragoza. ISSLA. Vice President of the Society Medicine, Hygiene and Safety of Aragon and La Rioja (SMHSTAR).
- Dra. Cristina Nerín de la Puerta. University Professor and Director of LEAD, Dpt. Analytical Chemistry, EINA, University of Zaragoza group
- D. Eugenio Paredes Palomo. Technician in Occupational Risk Prevention. Master's Degree in Occupational Health and Safety at the University of Salamanca. Aragon Regional Coordinator Area Industrial Hygiene Society Fremap Prevention. Professor in "Master's of Occupational Health and Safety" of the University of Zaragoza.
- D. Pedro Perez Polo. Technician in Occupational Risk Prevention. Aragon Regional Coordinator of Occupational Health and Safety Prevention Mutual Fremap. Professor in "Master's of Occupational Health and Safety" of the University of Zaragoza.
- D. Joaquín Ramo Maicas. Technician in Occupational Risk Prevention. Provincial Chief of Aragon Institute of Occupational Safety and Health (ISSLA) in Teruel. Professor in "Master's of Occupational Health and Safety" of the University of Zaragoza.

5.4.Course planning and calendar

The course consists of 10 ECTS distributed as follows:

- Lectures: 2.8 ECTS
- Seminars / workshops: 1.0 ECTS
- Presentation of work and asssment: 0.2 ECTS
- Tutorials: 2.0 ECTS
- Student work: 3.0 ECTS
- Company visits: 1.0 ECTS

The final schedule will be published on the website of the Faculty of Law http://derecho.unizar.es/ well in advance.

5.5.Bibliography and recommended resources

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Al estudiante durante la realización de las clases prácticas se le indicará una bibliografía de carácter básico para cada tema así como una relación de sitios web en los que poder consultar documentación e información.

El material, apuntes y casos prácticos que vaya a ser utilizado serán proporcionados por el profesorado o por medios electrónicos o depositados en reprografía.