

**COURSE DATA****Data Subject**

<b>Code</b>	44618
<b>Name</b>	The company's relationships with the environment
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	5.0
<b>Academic year</b>	2017 - 2018

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
2218 - M.U. en Química	Faculty of Chemistry	1	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2218 - M.U. en Química	12 - The company's relationships with the environment	Optional

**Coordination**

<b>Name</b>	<b>Department</b>
MARZAL RAGA, CONSUELO REYES	45 - Administrative and Procedural Law

**SUMMARY**

The subject The Company's Relationships with the Environment is divided into two distinct blocks. The first, LEGAL FRAMEWORK OF CHEMICAL RESEARCH AND EXPERIMENTATION, is worth 3 ECTS credits and is organized and delivered by the departments of Commercial Law "Manuel Broseta" (2 ECTS) and of Administrative Law (1 ECTS). Its contents focus on legal and juridical issues affecting chemical research and professional practice in the field of chemical companies. The second block, OCCUPATIONAL HEALTH AND SAFETY, is worth 2 ECTS credits and is organized and delivered by the Department of Analytical Chemistry. This part covers the measures and legal aspects of occupational risk prevention and hygiene and safety in the workplace.



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

## OUTCOMES

### 2218 - M.U. en Química

- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Be able to solve complex chemistry problems, whether in the academic, research or industrial application areas at a specialization or masters-level.
- Possess the necessary skills to develop multidisciplinary activities within the field of chemistry at the master's level.
- Be able to design, perform, analyse and interpret experiences and complex data in the environment of chemistry at a specialization level.
- Acquire advanced knowledge to assess the importance of chemistry in health, the environment, new materials and energy.
- Acquire the necessary advanced knowledge to assess the importance of chemistry in economic and social development in a context of specialization.

## LEARNING OUTCOMES

- Know and understand the regulations that affect the research activity and the chemical industry.
- Acquire knowledge of the organization of the chemical company and the chemical industry.
- Identify the type of legal liability arising from the research activity.
- Know ways to exploit the results.
- Identify the chemicals present in various work environments from their safety data sheet and from the reactions involved, and relate them to their potential impact on the health of workers.
- Evaluate hygiene and safety risks, and design possible prevention plans and/or remedial action.
- Know the main techniques for the sampling and analysis of the chemical agents present in the workplace.
- Establish protocols for working with chemical agents.



## DESCRIPTION OF CONTENTS

### 1. Legal framework of chemical research and experimentation (Commercial Law)

Regulatory framework in chemical research and experimentation.

The system of sources.

Reference to international conventions and constitutional principles.

Freedom of research; limits.

### 2. Industrial and chemical property (Commercial Law)

Introduction to the legal system of intellectual property (industrial property and intellectual property).

Patent law.

Special reference to chemical-pharmaceutical patents, particularities of their regime. Reference to biotechnology patents and plant variety rights. Prohibitions concerning patent registration.

The patent as an object of trade. Patent contracts: special reference to the license agreement.

Legal status of employees' inventions.

Legal protection of business secrets and knowhow.

Effect on competition law.

### 3. Legal aspects of the company (Commercial Law)

Approach to the concept of company-employer. Legal status of the commercial entrepreneur.

The social entrepreneur I. Forms and types of business: special reference to capital companies and partnership liability regime.

The social entrepreneur II. Incorporation of the company and social capital.

The social entrepreneur III. Bodies of the company (general meeting and board). Ways to organize the administration of the company. Special reference to the liability regime of the administrators of the capital company.

Technology-based companies (TBCs).

### 4. The liability regime and Chemistry (Administrative Law)

FUNDAMENTAL CONCEPTS AND ASSUMPTIONS OF ENVIRONMENTAL LAW: Concept and characteristics of environmental law. Principles and functional postulates. Community and constitutional approaches of environmental protection policy. Subjective rights and the environment: general considerations. Rights of participation on environmental matters, in particular, the right of access to environmental information.

LEGAL INSTRUMENTS FOR ENVIRONMENTAL PROTECTION: Typology of the main instruments and their characteristics. Environmental impact assessment and strategic environmental assessment. Integrated prevention and control of pollution. Control of classified activities.

LEGAL REGIME OF THE ENVIRONMENTAL SECTORS INVOLVING INTERVENTION ON POLLUTANTS: Waste. Atmospheric pollution. Water sanitation. Other pollutants.

ASSURANCE OF LIABILITY. Environmental responsibility. Obligations of assurance of liability. Offenses and penalties.



### **5. Introduction to industrial hygiene**

Historical background. Classification of pollutants in industrial hygiene. Definition, objectives and functions of industrial hygiene. Branches of industrial hygiene. Industrial hygiene legislation.

### **6. Occupational toxicology**

Toxicity, dose and response. Entryways. Distribution, accumulation, metabolism and elimination of toxic substances. Effects of chemicals on health.

### **7. Sampling of chemical contaminants**

Sampling of chemical contaminants. Introduction. Sampling of gases and vapors. Aerosol sampling.

### **8. Analytical techniques in industrial hygiene**

Analytical techniques in industrial hygiene. Instrumental techniques used in industrial hygiene: Determinations in real time.

### **9. Hierarchization of health risks**

Hierarchization of health risks. Determination of types of hazards. Determination of types of amount. Determination of types of frequency. Determination of types of potential exposure. Determination of potential risk score.

### **10. Simplified inhalation risk assessment**

Simplified inhalation risk assessment: method based on the HSE "COSHH Essentials". Method based on the INRS method.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Computer classroom practice	15,00	100
Tutorials	5,00	100
Study and independent work	30,00	0
Preparation of evaluation activities	30,00	0
Preparation of practical classes and problem	15,00	0
<b>TOTAL</b>	<b>125,00</b>	

**TEACHING METHODOLOGY**

Theoretical classes: participatory lecture. Supervised practical activities.

Seminars. Workshops. Applied practical problems.

Use of the Virtual Classroom, the virtual space where students can find all the information considered appropriate for the development of different subjects, theories, problems, workshops, etc., and which allows the control of student participation in daily activities.

Continuous assessment (discussion, online activities, etc.).

**EVALUATION**

Oral and/or written tests (examinations) based on learning outcomes and objectives, covering theory and/or practice (60%).

Continuous assessment of assignments, attendance, participation, case studies, presentations in class, etc. (40%).

A minimum mark of 5.0 out of 10 in both the tests and in continuous assessment is required for these marks to count towards the final grade. Also, both blocks require a minimum mark of 5.0 out of 10.0 to count towards the aggregate mark. To pass the subject students must obtain a minimum overall mark of 5.0 out of 10.0.

**REFERENCES****Basic**

- - BROSETA PONT, M. y MARTÍNEZ SANZ F., Manual de Derecho Mercantil, Vol. 1, Tecnos, Madrid, 2015.
- - EMBID IRUJO, J.M., (Dir.), Derecho de Sociedades de Capital. Estudio de la Ley de sociedades de capital y de la legislación complementaria, Marcial Pons, Madrid, 2016.





- - GUILLEM CARRAU, J., Manual de bioderecho para no juristas, Valencia, Tirant lo Blanch, 2013.
- LASAGABASTER HERRARTE, Iñaki (Dir.), Derecho ambiental. Parte especial. II, Productos químicos, transgénicos, residuos, contaminación electromagnética, Bilbao, Lete, 2010.
- LOZANO CUTANDA, B., Derecho Ambiental Administrativo, Ed: CEF, 2014.
- ORTEGA ÁLVAREZ, Luis y ALONSO GARCÍA, M<sup>a</sup> Consuelo (Dir.), Tratado de derecho ambiental, Valencia, Tirant lo Blanch, 2013.
- - Higiene Industrial, Félix Bernal y otros técnicos del INSHT, 2006, 4<sup>a</sup> Edición
- - Higiene industrial. Problemas resueltos, Técnicos CNCT-INSHT, 2006, Ed. INSHT
- Manual básico de prevención de riesgos laborales: Higiene industrial, Seguridad y Ergonomía Manuel Jesús Falagán Rojo y otros Sociedad Asturiana de Medicina y Seguridad en el Trabajo y Fundación Médicos Asturias. 2000
- - Higiene Industrial. Manual práctico. Manuel Jesús Falagán Rojo. Ed. Fundación Luis Fernández Velasco (1<sup>a</sup> ed.). Oviedo. 2008.

#### **Additional**

- - Higiene Industrial, Manual para la formación del especialista. Faustino Menéndez. Ed. Lex Nova.
- - Manual para la formación en Prevención de Riesgos Laborales. Especialidad de Higiene Industrial. Genaro Gómez Etxebarria, Ed. Ecoiuris 2006.
- <http://www.insht.es> (legislación actualizada relativa a la Higiene Industrial; Notas técnicas de prevención; Guías para la acción preventiva; Fichas y Notas prácticas; Guías y criterios; Enciclopedia de salud y seguridad en el trabajo de la OIT)