

## GENERAL INFORMATION

Course information	
Name	Law and Legislation of the power industry
Code	LAW
Degree	Master in the Electric Power Industry (MEPI)
Year	1 <sup>st</sup>
Semester	2nd (Spring)
ECTS credits	3 ECTS
Type	Elective
Department	Electrical Engineering
Area	Power Systems
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## DETAILED INFORMATION

<b>Contextualization of the course</b>
<b>Contribution to the professional profile of the degree</b>
The overall objective of the course is that students get to know, understand and analyze the legal principles on which electricity markets are based, and the main rules and legislation that currently govern the power industry under a European perspective, with special emphasis on the European Union (EU) internal market and the Spanish market.
<b>Prerequisites</b>
Students willing to take this course should be familiar with the main principles of regulation.

## CONTENTS

<b>Contents</b>
<b>Theory</b>
<b>Part 1. EU Law: energy and competition</b>
<ul style="list-style-type: none"> <li>1.1. European Union Law: History and institutions</li> <li>1.2. Introduction to the EU Clean Energy package</li> <li>1.3. Competition Law and energy</li> <li>1.4. Case study: energy contracts</li> </ul>
<b>Part 2. Building the EU energy market</b>
<ul style="list-style-type: none"> <li>2.1. Third package, Clean Energy Package: new Directive and Regulation, and EU institutions</li> <li>2.2. Target models, framework guidelines and network codes</li> <li>2.3. TSO unbundling, Infrastructure package and REMIT</li> <li>2.4. EU energy market current situation and performance indicators</li> <li>2.5. Challenges and the future of the EU energy market</li> </ul>
<b>Part 3. Case studies based on EU and Spanish market designs</b>
<ul style="list-style-type: none"> <li>3.1. Renewables and self-consumption regulation in Spain</li> <li>3.2. The electricity Iberian market and integration on the EU market</li> <li>3.3. Monitoring of wholesale and retail markets in Spain</li> <li>3.4. Implementation of platforms for electricity trading in Europe</li> <li>3.5. Practical case: financing energy infrastructure.</li> </ul>

<b>Competences and Learning Outcomes</b>	
<b>Competences</b>	
<b>General Competences / Basic Competences</b>	
CB7.	Ser capaces de asumir la responsabilidad de su propio desarrollo profesional y de su especialización en uno o más campos de estudio.
<b>Specific Competences</b>	
CE18.	Conocer las características principales del ordenamiento jurídico en la UE y en España, así como los principios y técnicas de regulación del derecho de la electricidad y del gas en ambos ámbitos.
CE19.	Conocer los aspectos fundamentales de la regulación de los mercados de electricidad y gas a través de casos ejemplo en el marco del mercado interior de la energía en la Unión Europea y del mercado de la electricidad en España.
<b>Learning outcomes</b>	
By the end of the course students should be able to:	
LO1.	Be aware of the legal and juridical framework of the electric power industry, and its implications in the professional activity.
LO2.	Know the characteristics of the legal system and the main legal aspects of the electric power industry in the EU and in Spain through specific case studies.
LO3.	Understand the strategic implications of the rules on decision-making in the electricity sector and the available mechanisms for solving conflicts in the energy sector.
LO4.	Know the responsibilities that arise from the activity in the energy sector.
LO5.	Understand the main issues relating to European legislation in this area, especially in regards to electricity markets, regulation for competition, system operation and network business.
LO6.	Understand the legal operation of regulatory instruments, wholesale and retail markets, and the settlement of regulated activities.

## TEACHING METHODOLOGY

General methodological aspects	
The way of meeting the competences targeted in this subject is through a combination of lectures and personal study including a final term paper.	
In-class activities	Competences
<ul style="list-style-type: none"> <li>▪ <b>Lectures (30 hours):</b> Presentations of the main concepts and legislative developments by the instructors including professionals from the power sector. They will include dynamic presentations, case studies, and the participation and interaction with students.</li> </ul>	CB7, CE18, CE19.
Out-of-class activities	Competences
<ul style="list-style-type: none"> <li>▪ <b>Personal study of the material (35 hours):</b> This is an individual activity by the students, in which they will read, analyze and question the readings provided as background material, and that will be discussed with other students and lecturers in the classroom.</li> </ul>	CB7, CE19
<ul style="list-style-type: none"> <li>▪ <b>Individual term papers or team assignments (20 hours):</b> Learning activity that will be carried out individually, outside of the classroom, which will require personal research or commentary of different materials.</li> </ul>	CB7, CE18, CE19.
<ul style="list-style-type: none"> <li>▪ <b>Tutoring</b> for groups or individual students will be organized upon request (5 hours).</li> </ul>	CB7, CE18, CE19.

## ASSESSMENT AND GRADING CRITERIA

Assessment activities	Grading criteria	Weight
Exams	<ul style="list-style-type: none"> <li>▪ Understanding of the theoretical concepts.</li> <li>▪ Application of these concepts to practical cases.</li> </ul>	80%
Reports	<ul style="list-style-type: none"> <li>▪ Application of theoretical concepts to real problem-solving.</li> <li>▪ Ability to solve a practical case study.</li> <li>▪ Written communication skills.</li> </ul>	20%

## GRADING AND COURSE RULES

The student has two periods of final evaluation during one academic year. The first one (regular assessment) will be carried out at the end of course (end of the semester). In case that this was not passed obtaining 5 or more points, the student has another opportunity of final evaluation (Retake) at the end of the academic year. The dates of evaluation periods will be announced in the web page.

Grading
Regular assessment
<ul style="list-style-type: none"> <li>▪ <b>Theory</b> will account for 80%, of which:               <ul style="list-style-type: none"> <li>• Part 1 exam: 26%</li> <li>• Part 2 exam: 27%</li> <li>• Part 3 exam: 27%</li> </ul> </li> </ul> <p>The exams are a combination of short questions and a multi-option test.</p> <ul style="list-style-type: none"> <li>▪ <b>Assignment report</b> will account for the remaining 20%. The students must do one assignment by pairs or individually following the instructions of the course coordinators.</li> </ul> <p>In order to pass the course, the final grade must be greater or equal to 5 out of 10 points. The mark of the exams must be greater or equal to 4 out of 10 points and the mark of the assignment report must be at least 5 out of 10 points.</p>
Retake
<ul style="list-style-type: none"> <li>▪ <b>Theory, 80%:</b> <ul style="list-style-type: none"> <li>• A single retake final exam</li> </ul> </li> <li>▪ <b>Assignment report</b> will account for 20% (the previously obtained mark if greater than 5 will be preserved).</li> </ul> <p>The students that have failed obtaining at least 4 as average of the three exams will also have a retake final exam for the three parts together. In any case, the mark of the retake must be greater or equal to 4 out of 10 points and the mark of the assignment report must be at least 5 out of 10 points. In order to pass the course, the final grade must be greater or equal to 5 out of 10 points.</p>
Course rules

- Class attendance is mandatory according to Article 93 of the General Regulations (Reglamento General) of Comillas Pontifical University and Article 6 of the Academic Rules (Normas Academicas) of the ICAI School of Engineering. Not complying with this requirement may have the following consequences:
  - Students who fail to attend more than 15% of the lectures may be denied the right to take the exams during the regular assessment period.

Students who commit an irregularity in any graded activity will receive a mark of zero in the activity and disciplinary procedure will follow (cf. Article 168 of the General Regulations (Reglamento General) of Comillas Pontifical University).

## WORK PLAN AND SCHEDULE<sup>1</sup>

In and out-of-class activities	Date/Periodicity	Deadline
Part 1 exam	Week 5	
Part 2 exam	Week 10	
Part 3 exam	Week 15	
Review and self-study of the concepts covered in the lectures	After each lesson	–
Assignment report writing	During the last three weeks of the course	Week 15
Final exam		Only for retakes

STUDENT WORK-TIME SUMMARY			
IN-CLASS HOURS			
Lectures	Problem-solving	Lab sessions	Assessment
28			2
OUT-OF-CLASS HOURS			
Self-study	Tutoring	Assignment reports writing	
35	5	20	
ECTS credits:			<b>3 (90 hours)</b>

<sup>1</sup> A detailed work plan of the subject can be found in the course summary sheet (see following page). Nevertheless, this schedule is tentative and may vary to accommodate the rhythm of the class.



## BIBLIOGLOPHY

### Basic bibliography

#### Part 1: EU Law

- EU Energy Law & Policy: Jean Michel Glachant and others Claeys & Casteels, 2011
- Competition Energy Market: Peter D. Cameron Oxford Press. 2007

#### Part 2: : EU electricity and gas markets

- Building a European energy market: legislation, implementation, and challenges: Tomás Gómez & Rodrigo Escobar. FUNCAS, 2014.

#### Part 3: Spanish and EU case studies:

- Spanish Electricity Act 24/2013, 26 December 2013.

### Complementary bibliography

#### Part 1: EU Law:

- Regulated Industries: Richard J. Pierce Jr. and Ernest Gellhorn West Group, 1999
- EU Energy Law: Volume I: "The Internal Market. The third liberalization package" Claeys & Casteels, 2010
- Principios de Derecho Europeo de la Energía: Alessio Parente Aranzadi
- The Law and Business of International Project Finance: Kluwer Law International, 1998

#### Part 2: EU electricity and gas markets

- Building Competitive Gas Markets in the EU: Regulation, Supply and Demand, Jean-Michel Glachant, Michelle Hallack and Miguel Vázquez . Edward Elgard, 2013.
- The Evolution of Electricity Markets in Europe, Leonardo Meeus, Edward Elgard, 2020.

#### Part 3: Spanish and EU case studies:

Boletín Oficial del Estado. [http://www.boe.es/diario\\_boe/](http://www.boe.es/diario_boe/)

- Ley 24/2013, de 26 de diciembre, del Sector Eléctrico

CNMC. Boletín Mensual de Indicadores Eléctricos y Económicos. Informes sobre el sector energético español.

- <http://www.cnmc.es/es-es/energ%C3%ADa/sobreenerg%C3%ADa.aspx>

European Commission Energy <https://ec.europa.eu/energy/>

- Communications from the Commission:
  - The support of electricity from renewable energy sources. 2008.
  - In-depth study of European Energy Security, accompanying the document A European Energy Security Strategy. 2014
  - A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy. 2015
  - A Clean Planet for all. A European Strategic Long Term Vision for a Prosperous, Modern, Competitive and Climate Neutral Economy. 2018

- New Directives and Regulations under the Clean Energy Package - 2018 & 2019
- IEA. "World Energy Outlook 2020".

	IN-CLASS ACTIVITIES				OUT-OF-CLASS ACTIVITIES				LEARNING OUTCOMES
Week	h/w	LECTURE & PROBLEM SOLVING	LAB	ASSESSMENT	h/w	SELF-STUDY	TUTORING	OTHER ACTIVITIES	Learning Outcomes
1	2	Course presentation and introduction (1/2h), European Union Law (history and institutions) (1 & 1/2 h)			2,5	Review, self-study (2h)			LO1
2	2	EU energy from a legal perspective and European energy charter (2h)			3	Review, self-study (3h)			LO1, LO5
3	2	European Union energy policy (2h)			3	Review, self-study (3h)			LO1, LO5
4	2	Competition Law and market manipulation (2h)			3	Review, self-study (3h)			LO3, LO4, LO5
5	2	EU energy market: Thrid package and institutions (1 & 1/2 h)		Part 1 Exam (1/2 h)	3	Review, self-study (3h)			LO2, LO3, LO4
6	2	EU energy market: Target models, framework guidelines and network codes (2h)			3	Review, self-study (3h)			LO2, LO4
7	2	EU energy market: TSO unbundling, Infrastructure package and REMIT (2h)			3	Review, self-study (3h)			LO2, LO4
8	2	EU energy market: current situation and performance indicators (2h)			3	Review, self-study (3h)			LO2, LO3, LO5
9	2	Challenges and the future of the EU energy market (2h)			3	Review, self-study (2h)			LO2-LO6
10	2	The Spanish electricity law and regulatory institutions (1 & 1/2 h)		Part 2 Exam (1/2 h)	3	Review, self-study (2h)			LO2, LO6
11	2	The electricity Iberian market and integration on the EU market (2h)			3	Review, self-study (2h)			LO2, LO4, LO6
12	2	Monitoring of wholesale and retail markets in Spain (2h)		Assignment reports (1/2h)	8,5	Review, self-study (2h)		Writing assignment report (6h)	LO2, LO6
13	2	Access tariffs and settlement of regulated activities in Spain (2h)			8,5	Review, self-study (2h)		Writing assignment report (6h)	LO2, LO4, LO6

14	2	Practical case: financing energy infrastructure (2h)			8,5	Review, self-study (2h)		Writing assignment report (6h)	LO3, LO6
15	2	Term paper presentations (1 & 1/2h)		Part 3 Exam (1/2 h)	2		Tutoring (5h)	Presentation preparation (2h)	LO1-LO6