

GENERAL INFORMATION

| Course information | |
|--------------------|---|
| Name | Law and Legislation of the power industry |
| Code | LAW |
| Degree | Master in the Electric Power Industry (MEPI) |
| Year | 1 st |
| Semester | 2nd (Spring) |
| ECTS credits | 3 ECTS |
| Туре | Elective |
| Department | Electrical Engineering |
| Area | Power Systems |
| Coordinator | Tomás Gómez San Román, Vicente López-Ibor Mayor |

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DETAILED INFORMATION

Contextualization of the course

Contribution to the professional profile of the degree

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.

Prerequisites

Students willing to take this course should be familiar with the main principles of regulation.

CONTENTS

Contents

Theory

Part 1. EU Law: energy and competition

- 1.1. European Union Law: History and institutions
- 1.2. Introduction to the EU Clean Energy package
- 1.3. Competition Law and energy
- 1.4. Case study: energy contracts

Part 2. Building the EU energy market

- 2.1. Third package, Clean Energy Package: new Directive and Regulation, and EU institutions
- 2.2. Target models, framework guidelines and network codes
- 2.3. TSO unbundling, Infrastructure package and REMIT
- 2.4. EU energy market current situation and performance indicators
- 2.5. Challenges and the future of the EU energy market

Part 3. Case studies based on EU and Spanish market designs

- 3.1. Renewables and self-consumption regulation in Spain
- 3.2. Energy communities and active consumer roles
- 3.3. High energy prices and regulatory interventions in Europe
- 3.4. Implementation of platforms for electricity trading in Europe
- 3.5. Practical case: financing energy infrastructure.



Competences and Learning Outcomes

Competences

General Competences / Basic Competences

CB7. Ser capaces de asumir la responsabilidad de su propio desarrollo profesional y de su especialización en uno o más campos de estudio.

Specific Competences

| 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.

Learning outcomes

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 | | | | | |
| Lectures (30 hours): 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. | CB7, CE18, CE19. | | | | | |
| Out-of-class activities | Competences | | | | | |
| • Personal study of the material (35 hours): 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. | CB7, CE19 | | | | | |
| Individual term papers or team assignments (20 hours): Learning activity that will be carried out individually, outside of the classroom, which will require personal research or commentary of different materials. | CB7, CE18, CE19. | | | | | |
| Tutoring for groups or individual students will be organized upon request (5 hours). | CB7, CE18, CE19. | | | | | |



ASSESSMENT AND GRADING CRITERIA

| Assessment activities | Grading criteria | | | |
|--|---|--|--|--|
| ExamsUnderstanding of the theoretical concepts.Application of these concepts to practical cases. | | | | |
| Reports | Application of theoretical concepts to real problem-solving. Ability to solve a practical case study. Written communication skills. | | | |

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

- **Theory** will account for 80%, of which:
 - Part 1 exam: 26%
 - Part 2 exam: 27%
 - Part 3 exam: 27%

The exams are a combination of short questions and a multi-option test.

• Assignment report will account for the remaining 20%. The students must do one assignment by pairs or individually following the instructions of the course coordinators.

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.

Retake

- Theory, 80%:
 - A single retake final exam
- Assignment report will account for 20% (the previously obtained mark if greater than 5 will be preserved).

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.

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 Académicas) 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 SCHEDULE¹

| 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 Assessm | | | | | | | | |
| 28 | | 2 | | | | | | |
| OUT-OF-CLASS HOURS | | | | | | | | |
| Self-study | Self-study Tutoring Assignment reports writing | | | | | | | |
| 35 | 5 | 20 | | | | | | |
| | | ECTS credits: | 3 (90 hours) | | | | | |

¹ 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/
- 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:
 - 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 2023".



| | IN-CLASS ACTIVITIES | | | | | OUT-OF-CLASS ACTIVITIES | | | |
|------|---------------------|---|-----|--------------------------|-----|-------------------------|----------|-------------------------------|----------------------|
| Week | h/w | LECTURE & PROBLEM SOLVING | LAB | ASSESMENT | 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) | | Assigment reports (1/2h) | 8,5 | Review, self-study (2h) | | Writing assigment report (6h) | LO2, LO6 |
| 13 | 2 | Access tariffs and setlement of regulated activities in Spain (2h) | | | 8,5 | Review, self-study (2h) | | Writing assigment report (6h) | LO2, LO4, LO6 |



| 14 | 2 | Practical case: financing energy infrastructure (2h) | | 8,5 | Review, self-study (2h) | | Writing assigment 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 |