



POLITÉCNICA

INTERNATIONAL
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PR/CL/001



E.T.S. de Ingenieros de
Telecomunicacion

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

93000850 - Ict market policy and regulation

DEGREE PROGRAMME

09AQ - Master Universitario en Ingenieria de Telecomunicacion

ACADEMIC YEAR & SEMESTER

2017/18 - Semester 2

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1. Description

1.1. Subject details

Name of the subject	93000850 - Ict market policy and regulation
No of credits	3 ECTS
Type	Optional
Academic year of the programme	Second year
Semester of tuition	Semester 4
Tuition period	February-June
Tuition languages	English
Degree programme	09AQ - Master Universitario en Ingenieria de Telecomunicacion
Centre	Escuela Tecnica Superior de Ingenieros de Telecomunicacion
Academic year	2017-18

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Luis Castejon Martin (Subject coordinator)	C-426	luis.castejon@upm.es	Sin horario. Please, you can arrange an appointment by email.
Fernando Herrera Gonzalez	C-426	fernando.herrera@upm.es	Sin horario. Please, you can arrange an appointment by email.

Zoraida Frias Barroso	C-431	zoraida.frias@upm.es	Sin horario. Please, you can arrange an appointment by email.
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* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

3. Skills and learning outcomes *

3.1. Skills to be learned

CE16 - Capacidad para la elaboración, dirección, coordinación, y gestión técnica y económica de proyectos sobre: sistemas, redes, infraestructuras y servicios de telecomunicación, incluyendo la supervisión y coordinación de los proyectos parciales de su obra aneja; infraestructuras comunes de telecomunicación en edificios o núcleos residenciales, incluyendo los proyectos sobre hogar digital; infraestructuras de telecomunicación en transporte y medio ambiente; con sus correspondientes instalaciones de suministro de energía y evaluación de las emisiones electromagnéticas y compatibilidad electromagnética.

CE6 - Capacidad para modelar, diseñar, implantar, gestionar, operar, administrar y mantener redes, servicios y contenidos.

CE7 - Capacidad para realizar la planificación, toma de decisiones y empaquetamiento de redes, servicios y aplicaciones considerando la calidad de servicio, los costes directos y de operación, el plan de implantación, supervisión, los procedimientos de seguridad, el escalado y el mantenimiento, así como gestionar y asegurar la calidad en el proceso de desarrollo.

CG1 - Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en el desarrollo y/o aplicación de ideas, a menudo en un contexto de investigación.

CG2 - Que los estudiantes sepan aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos o poco conocidos dentro de contextos más amplios (o multidisciplinares) relacionados con su área de estudio.

CG3 - Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios.

CG4 - Que los estudiantes sepan comunicar sus conclusiones y los conocimientos y razones últimas que las sustentan a públicos especializados y no especializados de un modo claro y sin ambigüedades.

CG5 - Que los estudiantes posean las habilidades de aprendizaje que les permitan continuar estudiando de un modo que habrá de ser en gran medida autodirigido o autónomo.

CT1 - Capacidad para comprender los contenidos de clases magistrales, conferencias y seminarios en lengua inglesa.

CT2 - Capacidad para dinamizar y liderar equipos de trabajo multidisciplinares.

CT3 - Capacidad para adoptar soluciones creativas que satisfagan adecuadamente las diferentes necesidades planteadas.

CT4 - Capacidad para trabajar de forma efectiva como individuo, organizando y planificando su propio trabajo, de forma independiente o como miembro de un equipo.

CT5 - Capacidad para gestionar la información, identificando las fuentes necesarias, los principales tipos de documentos técnicos y científicos, de una manera adecuada y eficiente.

CT6 - Capacidad para emitir juicios sobre implicaciones económicas, administrativas, sociales, éticas y medioambientales ligadas a la aplicación de sus conocimientos.

CT7 - Capacidad para trabajar en contextos internacionales.

3.2. Learning outcomes

RA145 - Capacidad de desarrollar estrategias funcionales y globales en una empresa

RA174 - Comprender los fundamentos económicos de la regulación (competencia perfecta, fallos de mercado, efectos del monopolio, oligopolios, competencia oligopolística)

RA175 - Construir modelos de costes de un operador para determinar los precios (comerciales y regulados) según estándares históricos, corrientes y LRIC

RA177 - Comprender la situación de la competencia en los mercados de telecom (fijo, móvil, banda ancha, televisión, Internet), problemas de competencia

RA180 - Comprender la regulación de las ofertas de contenidos en redes multiservicio

RA189 - Enfoques de la regulación alternativos al enfoque mainstream neoclásico: la Escuela Austriaca de Economía (Hayek y Mises)

RA10 - Saber realizar una presentación de carácter técnico, ante una audiencia de pares, que describa el trabajo realizado y sus resultados, de forma clara y bien estructurada, en el tiempo establecido, y usando un lenguaje preciso

RA133 - Capacidad de entender y seleccionar las diferentes alternativas de comunicaciones

RA188 - Regulación europea del Roaming

RA76 - Habilidad de comunicación oral y escrita

RA171 - Saber determinar los costes de una red a efectos de fijar precios, según metodologías de contabilidad de costes (históricos, corrientes y LRIC)

RA187 - Regulación de la Interconexión de redes

RA182 - Comparativa internacional de los mercados de telecom, consolidación de operadores europeos

RA184 - Competition policy: análisis de mercados, determinación de operadores con poder significativo de mercado, fallos de mercado y remedios

RA173 - Comprender las causas por las que regular los mercados

RA186 - Regulación antitrust en Europa: caso más conocidos (Wanadoo, Google y otros)

RA176 - Analizar la regulación del acceso al par de cobre

RA117 - Conocer los aspectos básicos de los sistemas y servicios de radiocomunicaciones, su marco regulatorio y estándares técnicos de referencia.

RA120 - Conocer los aspectos básicos de las tecnologías utilizadas en los sistemas de comunicaciones móviles

RA146 - Capacidad de analizar y desarrollar estrategias empresariales en contexto de la economía digital

RA147 - Capacidad de analizar y desarrollar estrategias empresariales en el contexto de la economía digital

RA148 - El alumno tendrá una visión general sobre los elementos claves que determinan el pasado, presente y una visión estratégica sobre el futuro del sector de las de las tecnologías de la información y las comunicaciones. Será capaz de realizar análisis de entorno e identificar el comportamiento de los agentes que participan en el ecosistema digital

RA33 - Capacidad para abordar y desarrollar en grupo casos prácticos de análisis, diseño, dimensionamiento, simulación, pruebas y su gestión técnico-económica de sistemas de comunicaciones que usen redes satelitales, redes fijas troncales y de acceso óptico y/o eléctricas y redes móviles incluyendo el concepto de "Internet de las Cosas"

RA41 - Capacidad de presentar los resultados de lo anterior en grupo de forma oral y escrita

RA170 - Conocer los fundamentos económicos de la regulación de las telecomunicaciones

RA138 - Conocer los procesos de toma de decisiones implicados en la dirección de empresas

RA172 - Analizar las finanzas de un operador de telecom, comparativamente con las de una OTT, para conocer EBITDA, rotación activos, ROE, caja, Capex

RA178 - Comprender la regulación del acceso de fibra óptica

RA179 - Comprender la regulación de las redes móviles y los operadores móviles virtuales

RA181 - Comprender el impacto de la regulación en la estrategia de las compañías regadas

RA183 - Subastas de espectro

RA8 - Adquirir experiencia en el planteamiento de un problema de negocio y en su resolución mediante aplicaciones y servicios, con una adecuada toma de decisiones de diseño, realizada en equipo, teniendo en cuenta todos los contenidos de la asignatura

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

4. Brief description of the subject and syllabus

4.1. Brief description of the subject

An introduction based on some recent press headlines that the student will be able to answer with the knowledge and case studies developed in the RTIC course

- Public consultation on the regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy.
- Telcos 1H-2016 results. Telefónica earns 22% less and cuts the dividend of 2016 and 2017 by debt. Orange grows at a rate of 5% in Spain with revenues of 3,706 million. Vodafone is slowing down in Spain; revenues amounted to 2,496 million euros, 0.3% more than in the same period of the previous year.
- Six Big Technology Questions for President Trump. Will you overturn the net neutrality rules? What exactly is your stance on encryption and digital privacy?
- Brussels vetoes Telefónica for the sale of O2 due to competition issues. The European Commission believes that the purchase by Hutchison would reduce the rivalry in the mobile in the United Kingdom.
- The "all in one" bundles of Telcos are imposed, but with greater expense. Ten million households have contracted telephony, Internet and television bundles, according to the CNMC. The cause of this boom in the bundles is the need for operators to monetize the important investments in the deployment of new networks (fibre and 4G) and the purchase of audiovisual rights, in particular in football.
- Brussels accuses Google of paying manufacturers to install their search engine "The dominant companies have the responsibility of not abusing restricting competition, Google has abused its dominant position". The Commission accuses him of forcing the manufacturers and operators of mobile phones and tablets that operate with Android to install their services by default.
- The CNMC makes access to Telefónica's fibre network more flexible. The regulator softens the requirements to access poles and conduits for operators. The agency has approved the revision of the MarCo offer (approved in 2009), which regulates access to Telefónica's civil works infrastructures.
- Europe wins, the Internet is still free. The new EU regulation on net neutrality benefits users and helps innovation and democracy
- Alierta and Colao ask the EU to put an end to Internet monopolies. The president of Telefónica says that the European regulations are obsolete and asymmetric, which only regulates the telcos while leaving the OTTs free to run, they do not respect privacy or security, and they know the lives of all of us.
- MásMóvil will use the mobile and fibre optic network of Orange after not renewing the agreement with Movistar. The operator reached an agreement with Orange when it bought Jazztel, and the European Commission forced it to divest itself of some assets and rent others to authorize the operation.
- Orange studies segregate its fixed wholesale business and its fibre network.

- The CNMC proposes to deregulate the market of the Mobile Virtual Operators (MVNO)
- The net cost of the universal telecommunications service in 2013 amounted to 19.5 million euros
- The 5G will displace the television channels of its frequencies in 2022. The households will have to retune their televisions after the decision of the EU to assign the band of the digital TV to the new mobile Internet

Course description

This course provides in-depth knowledge and practices about the very modern economics of telecom, Internet and ICT sectors as well as about the digital, network and collaborative economy and the online platforms. It provides to the student the necessary and sufficient sectoral and specific regulation of telecommunications and Internet markets that every Master in Telecommunications Engineering should require when analysing a business case, together with the competition rules applicable to dominant firms to prevent monopolistic power.

This course is a 'must' whether working in a Telco, an Internet or Over-The-Top (OTT) firm, a startup, a consultancy, an investment bank, a technology provider, or regulatory authority.

The regulation is a substantive part of the business of any operator, OTT, supplier, or startup, either in the way in which the retail services are produced through wholesale services; the services offered in online platforms; the innovation; prices and costs; the commercial offer of packaged products; the business strategy of an operator, OTT or MVNO that enters the market; the possibilities of consolidation of the companies of the sector and their treatment from the perspective of the competition authorities; the demand for spectrum that makes possible the growth of mobile services to 4G and 5G networks; the need to improve Internet access services by prioritizing traffic; the zero-rated services that begin to emerge, etc.

The so-called 'collaborative economy' poses significant challenges to how the economic life of companies has been organized and regulated. The also so-called 'online platforms' led by the OTTs, such as e-commerce marketplaces, search engines, online payment systems, online advertising, big data systems, social networks and video streaming and video sharing services, represent significant opportunities and challenges for the economy. Online platforms play an increasingly central role in social and economic life and are an essential part of a thriving Internet-driven economy. Therefore, it is necessary to make a thorough evaluation of the role of online platforms, their economics and how, if appropriate, to regulate them. One approach could be self-regulation co-regulation to ensure flexibility and updating. Cybersecurity demands strict measures.

The last part of the course provides students with an overview of the different challenges of the Internet, digital services, and the Information Society: intellectual property, network neutrality, data privacy, electronic commerce, electronic payments (mobile payment), and so forth.

External lectures from directors of regulation and policy coming from Telco operators and OTTs

It is expected to hold sessions with managers in charge of regulatory and policy affairs inside Telco operators and OTTs, to know the point of view of each one of them. Also, a lecture about alternative approaches to neoclassical mainstream regulation based on the Austrian School of Economics (Mises and Hayek). Another session consisting of a roundtable that will bring together directors of regulation of operators that will discuss the questions that students will previously submit. Moreover, a final session with a conference on Internet regulation by the director of regulatory affairs of an OTT company.

4.2. Syllabus

1. General framework for the regulation of telecommunications and the digital economy
 - 1.1. Formation of commercial offers based on regulated wholesale offers: services xDSL, fibre, OMV, contents
 - 1.2. The ecosystem and the value chain of the Telco and the Internet
2. Finances of Telco operators and OTT from a regulatory perspective
 - 2.1. Economic and financial analysis of companies
 - 2.2. Investments in assets, cash flows and margins
 - 2.3. Impact of regulation on investors
 - 2.4. The case of Telefonica
3. Economic fundamentals of Telco regulation
 - 3.1. Economics of Telcos
 - 3.2. Perfect competition model
 - 3.3. Monopoly, oligopoly, monopolistic competition
 - 3.4. Effects of monopoly and regulatory intervention
4. An analysis of the impact of regulation
 - 4.1. Theoretical foundation
 - 4.2. Static effects
 - 4.3. Dynamic effects
 - 4.4. Application case
5. Regulation of the telecommunications market
 - 5.1. Methodology of market analysis and imposition of PSM obligations
 - 5.2. Regulation of network interconnection in Spain: OIR and AMLT offers
 - 5.3. Regulation of fixed broadband access in Spain: access to copper pair and fibre optic networks. Regulated

- Telefonica's offers OBA, ORLA, Marco, NEBA (VULA)
- 5.4. Regulation of virtual mobile operators (MVNO) in Spain: commercial agreements supervised by the NRA
- 5.5. Regulation of commercial offers and bundles in Spain
- 5.6. Regulated costs of operators for pricing in Spain: cost theory, standards and cost models
- 6. Economy of the Internet and networks (network economy): regulation of the digital ecosystem
 - 6.1. Online platforms
 - 6.1.1. Multisided and two-sided markets
 - 6.1.2. Network effects
 - 6.2. The collaborative economy: private transport, accommodation and banking sector
 - 6.3. Single Digital Market and electronic commerce
- 7. General competition rules
 - 7.1. Anti-competitive behaviour and mitigation
 - 7.2. Abuse of market power
 - 7.2.1. Excessive and predatory prices. Denial of supply. Margin narrowing (margin squeeze)
 - 7.3. Collusion (cartels)
- 8. Competition cases: anti-monopoly (antitrust) and mergers and acquisitions of companies
 - 8.1. EC Europe case: Wanadoo / Telefonica case in ADSL services in Spain
 - 8.2. EC Europe case: Google Android and Google search engines and AdWords
 - 8.3. Spanish CNMC case of mergers between companies: absorption of Digital + by Telefónica
 - 8.4. Mergers and acquisitions of operators in European countries. Cases Telefonica O2 UK and Telefónica Deutschland E-Plus
- 9. Alternative economic approaches to current regulation: the Austrian School of Economics
- 10. Working sessions with consultants, directors of regulation and policy of operators and OTT
 - 10.1. Roundtable with directors of regulation of operators on current issues
 - 10.2. Invited conference on Internet regulation: director of regulatory affairs and policy of an OTT firm

5. Schedule

5.1. Subject schedule*

Week	Face-to-face classroom activities	Face-to-face laboratory activities	Other face-to-face activities	Assessment activities
1	Presentation of the Course Duration: 01:00 Lecture			
	General framework for the regulation of telecommunications and the digital economy Duration: 01:00 Lecture			
2	General framework for the regulation of telecommunications and the digital economy Duration: 02:00 Lecture			
3	Finances of Telco operators and OTT from a regulatory perspective Duration: 02:00 Lecture			
4	Economic fundamentals of Telco regulation Duration: 02:00 Lecture			Case 1 development Individual work Continuous assessment Duration: 08:00
5	Economic fundamentals of Telco regulation Duration: 02:00 Lecture			
6	An analysis of the impact of regulation Duration: 02:00 Lecture			Case 2 development Individual work Continuous assessment Duration: 08:00
7	An analysis of the impact of regulation Duration: 02:00 Lecture			
8	Regulation of the telecommunications market Duration: 02:00 Lecture			Case 3 development Group work Continuous assessment Duration: 10:00
9	Regulation of the telecommunications market Duration: 02:00 Lecture			

10	Regulation of the telecommunications market Duration: 02:00 Lecture			
11	Economy of Internet and networks (network economy): regulation of the digital ecosystem Duration: 02:00 Lecture			Case 4 development Group work Continuous assessment Duration: 10:00
12	General competition rules Duration: 02:00 Lecture			
13	Alternative economic approaches to current regulation: the Austrian School of Economics Duration: 02:00 Lecture			Reading summary of the course textbook about fundamentals of regulation (see bibliography) Individual work Continuous assessment Duration: 12:00
14	Working sessions with consultants, directors of regulation and policy of operators and OTT Duration: 02:00 Additional activities			
15				Summary of the keypoints of invited lectures Individual work Continuous assessment Duration: 04:00
16				
17				Final exam for non-continuous assessment students Written test Final examination Duration: 01:30 A single case covering all the course essential issues, including a final dissertation Problem-solving test Final examination Duration: 30:00

The independent study hours are training activities during which students should spend time on individual study or individual assignments.

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The subject schedule is based on a previous theoretical planning of the subject plan and might go through experience some unexpected changes along throughout the academic year.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Continuous assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
4	Case 1 development	Individual work	No Presential	08:00	20%	5 / 10	CT4 CT1 CG1 CE6 CG5
6	Case 2 development	Individual work	No Presential	08:00	20%	5 / 10	CE7 CE6 CT6 CT7 CT2 CG1
8	Case 3 development	Group work	No Presential	10:00	20%	5 / 10	CG5 CE16 CG3 CG4 CG2 CT5
11	Case 4 development	Group work	No Presential	10:00	20%	5 / 10	CT1 CG3 CE7 CT6 CT5
13	Reading summary of the course textbook about fundamentals of regulation (see bibliography)	Individual work	No Presential	12:00	15%	5 / 10	CT4 CG1 CG3 CG4 CG2 CT6 CG5 CT2 CT5
15	Summary of the keypoints of invited lectures	Individual work	No Presential	04:00	5%	5 / 10	CG5 CG1 CG3 CG4

6.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
17	Final exam for non-continuous assessment students	Written test	Face-to-face	01:30	50%	5 / 10	CT4 CT1 CE16 CG1 CG3 CG5 CT2 CG4 CE7 CE6 CG2 CT6
17	A single case covering all the course essential issues, including a final dissertation	Problem-solving test	Face-to-face	30:00	50%	5 / 10	CG5 CT4 CG1 CG3 CG4 CG2 CT6 CT7 CT5

6.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
Final exam for all the students in the extraordinary exam (re-sit)	Written test	Face-to-face	02:00	50%	5 / 10	CE16 CG1 CG3 CG4 CE7 CE6 CG2 CT6 CT4 CT1 CT7 CT5

A single case covering all the course essential issues, including a final dissertation	Problem-solving test	Face-to-face	30:00	50%	5 / 10	CG5 CT4 CG1 CG4 CT3 CG2 CT6 CT7 CT5
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6.2. Assessment criteria

Students will be qualified through continuous evaluation by default. According to the "Normativa de Evaluación del Aprendizaje de la Universidad Politécnica de Madrid" rules, students willing to resign to continuous evaluation must notify so to the coordinator in writing at the Registry of the School Secretary before the end of **week 3**.

The evaluation will assess if students have acquired all the competences of the subject. Thus, evaluation through final assessment will be carried out considering all the evaluation techniques used in continuous evaluation (EX, ET, TG, etc.), and will be celebrated in the exam period approved by the "Junta de Escuela" for the current academic semester and year. Evaluation activities that assess learning outcomes that cannot be evaluated through a single exam can be carried out along the semester.

The extraordinary examination will be carried out exclusively by the final assessment method.

Continuous assessment

Attendance is mandatory to be assessed in the continuous assessment mode (90% of the lectures). The case studies will be developed either individually or in two members groups seized upon the number of students enrolled, all depending on the different cases' scope.

1. The case studies must be solved and handed-in by the students before we discuss them in the lectures.
2. The case studies will be discussed in the lectures among all the students enrolled and the faculty. The presentations of the different case studies will be weighted a total of 10% of the total grade. Each student or group will be given the chance to present at least one of the case studies (depending on the number of groups).

3. Students are expected to engage in the course attending the lectures, expressing their points of view, etc.

Final assessment

- Final written exam (50%)
- Development of a case study, presentation, defence, and discussion with the faculty (50%)

Extraordinary assessment (re-sit)

It is based on the same structure of the final assessment.

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
Herrera González, F. Mitos sobre la regulación para la competencia. Aplicación de la teoría económica austriaca al mercado de las telecomunicaciones en España. INSTITUTO DE ESTUDIOS ECONOMICOS, 2012	Bibliography	Basic course textbook. It should be read by every student as part of the final assessment. Available in PDF format as well as in paper edition in the ETSIT Library.
Colin Blackman and Lara Srivastava. Telecommunications Regulation Handbook Tenth Anniversary Edition. ITU Infodev, 2011	Bibliography	http://www.infodev.org/infodev-files/resource/InfodevDocuments_1057.pdf
Infodev ICT Regulation Kit (World Bank)	Bibliography	http://www.ictregulationtoolkit.org/en/home

Massimo Motta. Competition Policy. Theory and Practice Cambridge University Press (2004).	Bibliography	
William J. Baumol , J. Gregory Sidak. Toward Competition in Local Telephony (AEI Studies in Telecommunications Deregulation). MIT Press, November 10, 1993.	Bibliography	
Martin E. Cave, Sumit K. Majumdar, Ingo Vogelsang. Handbook of Telecommunications Economics, Vol. 1: Structure, Regulation and Competition. North Holland; 1st edition, 2002	Bibliography	
Sumit Kumar Majumdar, Ingo Vogelsang, Martin E. Cave. Handbook of Telecommunications Economics, Volume 2: Technology Evolution and the Internet. Emerald Group Publishing Limited (January 10, 2006)	Bibliography	
Alfred E. Kahn. The Economics of Regulation: Principles and Institutions. The MIT Press; 0002-Revised edition (June 22, 1988).	Bibliography	
Jean Tirole, Jean-Jacques Laffont. Competition in Telecommunications. Munich Lectures in Economics The MIT Press, March 1, 2001	Bibliography	
Bridger M. Mitchell, Ingo Vogelsang. Telecommunications Pricing: Theory and Practice. Cambridge University Press (November 29, 1991)	Bibliography	

Farid Gasmi, D. Mark Kennet, William W. Sharkey, Jean-Jacques Laffont. Cost Proxy Models and Telecommunications Policy: A New Empirical Approach to Regulation. The MIT Press; Har/Cdr edition (September 9, 2002)	Bibliography	
Martin Cave, William Webb. Spectrum Management: Using the Airwaves for Maximum Social and Economic Benefit Hardcover. Cambridge University Press, November 30, 2015	Bibliography	
W. Kip Viscusi, John M. Vernon, Joseph E. Harrington Jr. Economics of Regulation and Antitrust, 4th Edition. The MIT Press (August 19, 2005)	Bibliography	
Pérez J. (coordinado). Neutralidad de red: aportaciones al debate. Fundación Telefónica, 2011.	Bibliography	http://www.fundaciontelefonica.com/arte_cultura/publicaciones-listado/pagina-item-publicaciones/itempubli/84/
Journal Telecommunications Policy. Elsevier	Bibliography	http://www.journals.elsevier.com/telecommunications-policy/
Notas y apuntes de clase. Se irán suministrando durante el curso a través del servidor Moodle.	Bibliography	
Moodle de la asignatura	Web resource	It contains all the course material. It supports all the course interactions (forum, case publication and deliverable upload, etc).
SILVIA SERRANO CALLE. "El riesgo regulatorio en el sector energético. Índice de evaluación de la calidad regulatoria (ICRE)". ESCUELA DE ORGANIZACIÓN INDUSTRIAL, 2013	Bibliography	http://www.eoi.es/savia/documento/eoi-80095/el-riesgo-regulatorio-en-el-sector-energetico-indice-de-evaluacion-de-la-calidad

8. Other information

8.1. Other information about the subject

Use of English and Spanish

This course is increasingly being updated to the English language, but it should be considered that an important part of the material and the bibliographic sources are in the Spanish language due to the fact that many aspects are related to the Spanish market and its regulation. Of course, this Spanish regulation is based on the European one, therefore the outcomes can be immediately applicable to any market.