FICHA TÉCNICA DE LA ASIGNATURA

Datos de la asignatura	
Nombre completo	Economía Digital/Digital Economics
Código	E000012125
Impartido en	Grado en Administración y Dirección de Empresas y Grado en Análisis de Negocios/Business Analytics [Quinto Curso]
Nivel	Reglada Grado Europeo
Cuatrimestre	Semestral
Créditos	6,0 ECTS
Carácter	Obligatoria (Grado)
Departamento / Área	Departamento de Economía
Responsable	Juan Jung
Horario	Tuesday 16:45 - 18:15 / Wednesday 16:45 - 18:15
Horario de tutorías	Write e-mail to professor to schedule meeting
Descriptor	This course introduces the main features of the Digital Economy. The analysis includes an understanding of the digital ecosystem value chain, the economic fundamentals behind digital markets and platform economy, and the role of newer advances such as artificial intelligence, blockchain and other innovations. Contents also include the analysis of how the digitization process impacts in the society.

Datos del profesorado	
Profesor	
Nombre	Juan Felipe Jung Lusiardo
Departamento / Área	Departamento de Economía
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DATOS ESPECÍFICOS DE LA ASIGNATURA

Contextualización de la asignatura
Aportación al perfil profesional de la titulación

The digital technologies are producing a massive transformation on social interactions and production processes. As a result, it has been widely identified that fostering the digitalization is a necessary condition to increase social welfare, productivity, and economic growth. However, the Digital Economy can be characterized by large market power in certain segments, non-monetary pricing, multi-sided markets, feedback mechanisms, and technological evolution. In this context, the aim of this course is to introduce the students with the main features of the Digital Economy. As a starting point, we will analyze the value chain of the digital ecosystem: from developers and content creation to end-users. The we will focus on describing some of the fundamentals behind digital markets, in terms of pricing, competition and platform economy. Furthermore, we will study the role of newer advances such as artificial intelligence, blockchain and other innovations. After that, we will analyze how this digitization process impacts in the society in terms of social interactions, business strategies, economic growth, productivity, employment, and main emerging challenges. Finally, we will analyze specifically some of the most relevant markets: telecommunications, media, advertising, e-commerce, and the sharing / gig economy.

Prerequisitos

Basic knowledge of microeconomics

Competencias - Objetivos

Competencias

Instrumental skills

- CGI 1. Analytical capacity and ability to synthesize
- CGI 2. Problem resolution and decision-making ability
- CGI 4. Ability to manage information from diverse sources
- CGI 7. Oral and written communication in a foreign language

Interpersonal skills

- CGP 9. Interpersonal skills: listen, discuss and debate
- CGP 10. Leadership capacity and ability to work in group situations
- CGP 11. Critical capability
- CGP 13. Recognition of, and respect for, diversity and multiculturalism

Systemic skills

- CGS 14. Capacity to learn and work independently
- CGS 17. Capacity to elaborate and transmit ideas, projects, reports, solutions and problems

Learning outcomes (intellectual skills)

- Describe and comprehend the main fundamentals of the Digital Economy
- Analytical capacity and ability to synthesize the basic functioning of the Digital Economy markets.
- Understand the main effects of Digital Economy on the society
- Acquire the basic knowledge about the potential market failures and distortions associated to Digital Markets

Learning outcomes (practical skills)

- Use and interpret basic economic data.
- Development of oral presentational skills, and capacity to work in groups and to pursue
- independent study.

Learning outcomes (attitudinal)

- Listen, argue and criticize the social and ethical implications of the Digital Economy

BLOQUES TEMÁTICOS Y CONTENIDOS

Contenidos – Bloques Temáticos
Block I. Fundamentals of the Digital Economy
Chapter 1. Introduction
1.1. The digital ecosystem in perspective
1.2. The pace of technological diffusion
1.3. Stakeholders and relationships in digital markets
Chapter 2. Pricing and competition
2.1. Introduction to industrial organization
2.2. Producing in the traditional economy vs. digital economy
2.3. Digital goods and services
2.4. Formation of monopolies in the digital economy
2.5. Pricing with zero marginal costs
2.6. Price discrimination, non-linear pricing and bundling
2.7. Product differentiation and customer lock in
2.8. Gatekeepers and EU regulation
Chapter 3. Platform economy
3.1. Multi-sided markets
3.2. Network effects
3.3. The long-tail
3.4. Recommendation and matching systems
3.5. Business models and monetization
3.6. The Chicken and Egg problem
Chapter 4. Economics of Blockchain
4.1. Immutable distributed databases
4.2. Applications
4.3. Bitcoin

Chapter 5. Digital innovation

5.1. Artificial intelligence: uses and applications

5.2. Sharing economy

5.3. Gig economy

5.4. Startup economy

5.5. GovTech

Block II. Individual market analysis

Chapter 6. Individual market analysis

6.1. Telecommunications market

- The basics about telecom regulation
- European framework
- Spanish market

6.2. E-commerce

6.3. Advertising market

Block III. Impact of the Digital Economy on the society

Chapter 7. Socio economic impact of the digitalization

7.1. Economic impact of digital technologies

- Digital transformation and Industry 4.0
- Adoption and diffusion
- Economic impact at the firm-level
- Heterogeneous effects

7.2. Environmental impact

7.3. Impact on health

7.4. Impact on financial inclusion

Chapter 8. Emerging challenges

8.1. Digital Divide

8.2. Digitalization and jobs

8.3. Privacy and Cybersecurity

8.4. Jurisdiction challenges

8.5. Ethical and social challenges of Artificial Intelligence

8.6. Geopolitics

METODOLOGÍA DOCENTE

Aspectos metodológicos generales de la asignatura

Metodología Presencial: Actividades

KEYNOTE CLASSES: taught by the corresponding teacher in which the basic knowledge of each of the program topics will be presented.

CASE-STUDY CLASSES: sessions where more specific issues of each topic of the program will be addressed through readings and case-studies.

INDIVIDUAL TEST RESOLUTION: as the syllabus of the subject progresses, students must respond individually to a series of tests at a certain date.

WORK IN GROUPS: students (in groups) will have to present a specific reading or case-study provided by the professor, in which they will be able to show their understanding in the field.

Metodología No presencial: Actividades

CONTINUOUS STUDY. Through continuous work at home, the student will analyze, understand, and preferentially go deeper in the explained contents.

WORK IN GROUPS: students (in groups) will have to analyze a specific reading or case-study provided by the professor, in which they will be able to show their understanding in the field.

INDIVIDUAL TUTORIALS: Throughout the course, the student may attend individual tutorials with the professor, at the times previously established, to resolve doubts related to the student's individual study.

RESUMEN HORAS DE TRABAJO DEL ALUMNO

LECTURES: 36

ACTIVITY BASED CLASSES: 24

CASE STUDY ANALYSIS: 18

WRITTEN TESTS: 5

INDIVIDUAL EXERCISE SOLVING: 30

WORK PRESENTATION: 12

WORK IN GROUPS: 15

INDEPENDENT STUDY: 40

ECTS CREDITS: 6

EVALUACIÓN Y CRITERIOS DE CALIFICACIÓN

- Exercises in class (mini-tests)
- Paper / Case study analysis and presentation
- Work in groups
- Assistance and participation
- Final Exam

Important: any use of ChatGPT or other AI tools in activities requested by the professor should be noticed. These tools can be used to find information or resolve queries, but not for text copy paste.

Calificaciones

Ordinary Period

Exercises and paper / case study analysis, individually or in groups, will represent 40% of the final grade. The final exam will represent 50% of the final grade. Assistance and participation will represent 10% of the final grade.

Extraordinary Period

Course practical grades could be taken into account if those help the student. The final qualification will be 20% course work and 80% the final exam, or 100% the final exam (what benefits the student the most).

BIBLIOGRAFÍA Y RECURSOS

Bibliografía Básica

- Class slides available via moodle
- International Telecommunication Union and the World Bank (2020). Digital Regulation Handbook. Geneva. Licence: CC BY-NC-SA 3.0 IGO. Download available: https://www.itu.int/dms_pub/itu-d/opb/pref/D-PREF-TRH.1-2020-PDF-E.pdf

Bibliografía Complementaria

- Overby, H., & Audestad, J. A. (2018). Digital economics: How information and communication technology is shaping markets, businesses, and innovation. CreateSpace Independent Publishing Platform.
- Varian, H. (2014). Intermediate Microeconomics: A modern approach. 9th edition.
- Brynjolfsson, E., & McAfee, A. (2014). The second machine age: Work, progress, and prosperity in a time of brilliant technologies. WW Norton & Company.
- Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). Platform revolution: How networked markets are transforming the economy and how to make them work for you. WW Norton & Company.
- Varian, H. (1997) Versioning Information Goods. Download available: http://people.ischool.berkeley.edu/~hal/Papers/version.pdf
- Church, J. and Ware, R. (2000). Industrial Organization: A Strategic Approach. Download available: http://works.bepress.com/jeffrey_church/23/
- McAfee, R., Lewis, T. , and Dale, D. (2014). Introduction to Economic Analysis. Download available: https://www.kellogg.northwestern.edu/faculty/dale/ieav21.pdf
- Krishna, V. (2009). Auction Theory. 2nd Edition. Academic Press