

Approval date: 15/06/2022

COURSE GUIDE

**Innovation and Technology Management (23511C2)**

<b>Grado (Bachelor's Degree)</b>	Grado en Administración y Dirección de Empresas	<b>Branch</b>	Social and Legal Sciences				
<b>Module</b>	Innovación y Medioambiente	<b>Subject</b>	Dirección de la Innovación y la Tecnología				
<b>Year of study</b>	4 <sup>o</sup>	<b>Semester</b>	2 <sup>o</sup>	<b>ECTS Credits</b>	6	<b>Course type</b>	Elective course

**PREREQUISITES AND RECOMMENDATIONS**

As a last course subject, the student needs to review the previous lessons on strategic management and organizational structure

**BRIEF DESCRIPTION OF COURSE CONTENT (According to the programme's verification report)**

- Recognize and understand the importance of technological innovation as the origin and determinant of business competitiveness in the 21st century.
- Analyze and differentiate the most significant economic approaches in the treatment of Exchange Technological and Innovation.
- Analyze the integrating models of the technological innovation process, both from an internal business perspective, as from an industrial, evolutionary and dynamic point of view.
- Know and understand the fundamental factors to undertake the design of a strategy technological and innovation.
- Organizational design for technological innovation
- Institutional relations between company, innovation and technology

**SKILLS**

**GENERAL SKILLS**

- CG01 - Ability to learn and work autonomously.
- CG02 - Ability to analyse and search for information from a variety of sources applicable to the field of study.
- CG04 - Ability to work in a team.
- CG05 - Ability to work in stressful environments.
- CG06 - Ability to analyse and summarise.



- CG07 - Ability to make decisions.
- CG08 - Problem-solving skills in economic and business contexts.
- CG09 - Ability to organise and plan.
- CG10 - Ability to adapt to new or changing environments.
- CG14 - Ability to convey information, ideas and solutions to problems raised.
- CG15 - Ability to assume an ethical commitment at work.
- CG19 - Oral and written communication skills in Spanish.
- CG20 - Computer skills related to the field of study.
- CG21 - Ability to gather and interpret relevant data to make judgements.
- CG24 - Ability to apply knowledge to practice.

### SUBJECT-SPECIFIC SKILLS

- CE09 - Know and apply theoretical concepts and instrumental techniques and tools for solving economic problems in real-life scenarios.
- CE22 - Make a diagnosis of a real situation in the business world, identifying and modeling problems as well as proposing solutions in a reasoned manner.

### TRANSFERABLE SKILLS

- CT01 - Manage and administer a company or organisation by understanding its competitive and institutional positioning and identifying its strengths and weaknesses. Be part of any division of a medium or large company or organisation and be able to perform with ease the assigned management tasks.

## LEARNING OUTCOMES

When passing the subject, the student should be able to:

- Identify the main concepts related to technological innovation as key phenomenon to define the level of competitiveness
- Explain the dynamic of innovation processes according to different types of innovation
- Link the innovation strategy to the corporate strategy
- Know the available tools for technological vigilance
- Distinguish between different models to explain innovation management
- Distinguish between different mechanisms to protect and exploit inventions

## PLANNED LEARNING ACTIVITIES

### THEORY SYLLABUS

#### Unit 1. Science, technology and innovation

1. Science
2. Technology
3. Innovation
4. Linking science, technology and innovation

#### Unit 2. Innovation development



1. Models to explain innovation development
2. Open innovation model
3. Practical methodologies to develop innovation in practice

#### Unit 3. Strategies and business models for innovation

1. Strategic management of innovation
2. Technological vigilance
3. Strategic options to manage innovation and technology
4. Different tool for strategic analysis of innovation
5. Business models for innovation

#### Unit 4. Collaboration strategies for innovation

1. Advantages derived from in-house innovation
2. Advantages derived from collaborative strategy in innovation
3. Types of collaborative deals in innovation
4. Selecting a collaborative mode
5. Selecting and controlling a partner in innovation

#### Unit 5. Protection strategies

1. Different options to protect innovation
2. Patenting systems
3. Intellectual property management

#### Unit 6. Organizing the innovation

1. Organization design for innovation
2. Contingency approach of innovation: size, environment and technological systems
3. Classic organizational structure and innovation
4. Emergent organizational structures
5. R&D department

#### Unit 7. Managing and assessing digital innovation projects

1. Basic concepts of project management
2. Innovation project management
3. Methods for innovation management assessment

#### Unit 8. Managing new product development projects

1. Objectives of new product development projects
2. Parallel and sequential processes in project management
3. The involvement of customers and suppliers in new product development
4. New product development teams
5. The structure of new product development teams
6. Managing new product development teams

#### Unit 9. Practical tools to innovation management

1. Roadmapping
2. Design thinking
3. Design of the value proposition



#### 4. Measuring the innovative performance

##### PRACTICAL SYLLABUS

- Practice 1: Emergent technologies and Garner's curve.
- Practice 2: Understanding in insurance sector through LEMONADE
- Practice 3: Implementing design thinking I: problem space
- Practice 4: Implementing design thinking II: solution space

##### RECOMMENDED READING

##### ESSENTIAL READING

- Goffin, K. y Mitchell, R. (2017). Innovation Management: Effective strategy and implementation (Third edition). Macmillan Education.
- Lewrick, M. y otros (2020). The Design Thinking Toolbox: A Guide to Mastering the Most Popular and Valuable Innovation Methods. John Wiley & Sons.
- Prahalad, C. K. y Krishnan, M. S. (2017). The new age of innovation. Editorial McGraw-Hill.
- Schilling, M. A. (2012). Strategic management of technological innovation. Editorial McGrawHill.
- Schilling, M. A., & Shankar, R. (2019). Strategic management of technological innovation. McGraw-Hill Education.
- Tidd, B. y Bessant, J. (2013). Managing innovation. Editorial Wiley and Sons.

##### COMPLEMENTARY READING

- Brown, T., & Katz, B. (2019). Change by design: how design thinking transforms organizations and inspires innovation (Vol. 20091). New York, NY: HarperBusiness.
- Catmull, E., & Wallace, A. (2014). Creativity, Inc: overcoming the unseen forces that stand in the way of true inspiration. Random House.
- De Bono, E. (2010). Lateral thinking: a textbook of creativity. Penguin UK.
- Iger, R. (2019). The ride of a lifetime: Lessons learned from 15 years as CEO of the Walt Disney Company. Random House.
- Knapp, J., Zeratsky, J., & Kowitz, B. (2016). Sprint: How to solve big problems and test new ideas in just five days. Simon and Schuster.
- Linkner, Josh. (2021). Big Little Breakthroughs: How Small, Everyday Innovations Drive Oversized Results. New York: Post Hill Press.
- Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). Value proposition design: How to create products and services customers want. John Wiley & Sons.
- Osterwalder, A., Pigneur, Y., Smith, A., & Etienne, F. (2020). The Invincible Company: How to Constantly Reinvent Your Organization with Inspiration From the World's Best Business Models. John Wiley & Sons.
- Ridley, M. (2020). How innovation works: And why it flourishes in freedom. New York: Harper.
- Ries, E. (2014). Lean Startup: Schnell, risikolos und erfolgreich Unternehmen gründen. Redline Wirtschaft.
- Senor, D., & Singer, S. (2011). Start-up nation: The story of Israel's economic miracle. Random House Digital, Inc..



**RECOMMENDED LEARNING RESOURCES/TOOLS**

- <https://hbr.org/topic/innovation>
- <https://hbr.org/topic/technology-and-analytics>

**TEACHING METHODS**

- MD01 - Docencia presencial en el aula
- MD02 - Estudio individualizado del alumno, búsqueda, consulta y tratamiento de información, resolución de problemas y casos prácticos, y realización de trabajos y exposiciones.
- MD03 - Tutorías individuales y/o colectivas y evaluación

**ASSESSMENT METHODS (Instruments, criteria and percentages)****ORDINARY EXAMINATION DIET**

Skills and knowledge acquired by students will be assessed along the course, adding partial marks and the results obtained in a final exam.

1. Activities will define the 40% of the final mark: practical questions, glossary of the subject (20%) and proposed readings (20%).
2. Final exam will define the 60% of final mark. The written test will be divided into two parts: 'true or false' sentences (50%) and short questions, asking to relate news analyzed in lectures and theoretical contents (50%).

Important: In order to consider the mark of the activities, students should achieve 4 points in the final exam (total points: 10)

**EXTRAORDINARY EXAMINATION DIET**

Students who failed the ordinary assessment session, will have the opportunity to make an extraordinary evaluation which will fit the structure of the test in 'Unique final evaluation'. Students will be allowed to maintain the mark of the activities, just being asked to make the first part ('True or false' sentences and short questions, 6 points).

**SINGLE FINAL ASSESSMENT (evaluación única final)**

Student may request this option, and in case of approval, they will be evaluated through an unique evaluation, including the following parts:

1. 'True or false' sentences and short questions (6 points)
2. Questions about practical issues of the subject (2 points)
3. Questions about reading of the proposed book (2 points)

In order to pass the exam, students must achieve at least 5 points with this test.

