

## Course guide

# 240EI033 - 240EI033 - Technological Innovation

Last modified: 02/06/2022

**Unit in charge:** Barcelona East School of Engineering  
**Teaching unit:** 732 - OE - Department of Management.

**Degree:** MASTER'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2012). (Compulsory subject).

**Academic year:** 2022    **ECTS Credits:** 3.0    **Languages:** Catalan

### LECTURER

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**Coordinating lecturer:** JUAN MARTINEZ SANCHEZ

**Others:**

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

1. Manage the research, development and technological innovation, based on the transfer of technology and property rights and patents
2. Manage the Research, Development and Technological Innovation, based on the transfer of technology and property rights and patents.

### TEACHING METHODOLOGY

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MD.1 Dynamic master lecture  
MD.2 Conferences  
MD.3 Autonomous learning  
MD.5 Team work and case-base learning

### LEARNING OBJECTIVES OF THE SUBJECT

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Lessons are built on a practical knowledge outlining how technology innovation is managed in real companies. The subject covers specifically Innovation Management through acquisition of new technologies and innovations. Additionally, this subject aims to provide the student with the necessary knowledge to deal with management, acquisition and protection of new research-based knowledge and innovations, as the base for ensuring a sustainable competitive advantage for companies in their market.

Specific objectives:

1. Identify the dynamics of the innovation processes in its different typologies and components.
2. Relate the innovation strategy to the general strategy of the company.
3. Understand Innovation Management tools and how to proceed to launch new products and services
4. Know how to protect innovation through different mechanisms
5. Know the public policy of innovation and the creation of innovation networks

### STUDY LOAD

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Type	Hours	Percentage
Self study	48,0	64.00
Hours large group	18,0	24.00
Hours small group	9,0	12.00

**Total learning time:** 75 h



## CONTENTS

### 1. TECHNOLOGY AND STRATEGY

**Description:**

Concept and types of technology. New technology trends and their impact in the organizations. Technology life cycle. Technology and strategy in a company.

**Specific objectives:**

1

**Related activities:**

1, 2, 3, 4, 5, 6

**Full-or-part-time:** 6h

Theory classes: 2h

Self study : 4h

### 2. INNOVATION

**Description:**

Innovation and technology change. The technology innovation process: models. Invention and innovation. Creativity and innovation. Diffusion of the innovation. Design within a company.

**Specific objectives:**

1

**Related activities:**

1, 2, 3, 4, 5, 6

**Full-or-part-time:** 12h

Theory classes: 4h

Practical classes: 2h

Self study : 6h

### 3. INNOVATION AND ORGANIZATIONS

**Description:**

Main elements and drivers influencing innovation in a company. Innovation in SME?s (Small-Medium Enterprises). R & D department: basic characteristics and organization. Relations of the R & D department.

**Specific objectives:**

1, 2

**Related activities:**

1, 2, 3, 4, 5, 6

**Full-or-part-time:** 12h

Theory classes: 4h

Practical classes: 2h

Self study : 6h



#### 4. TECHNOLOGY TRANSFER

**Description:**

Purchase and sell of technology. Different methods of technology transfer. Technology alliances. The problem of technology adoption.

**Specific objectives:**

1, 2

**Related activities:**

1, 2, 3, 4, 5, 6

**Full-or-part-time:** 6h

Theory classes: 2h

Self study : 4h

#### 5. PROTECTION OF INNOVATION

**Description:**

Patent and commercial secret. Legal regime to protect inventions and innovations. Protection of distinctive signs. Licensing.

**Specific objectives:**

3, 4

**Related activities:**

1, 2, 3, 4, 5, 6

**Full-or-part-time:** 6h

Theory classes: 2h

Self study : 4h

#### 6. SCIENCE AND TECHNOLOGY WITHIN A TERRITORY

**Description:**

R&D public programmes and policies. The Catalan framework (ACCIÓ) and the Spanish framework (CDTI). European R&D policies (FEDER, Horitzó 2020, Interreg). Clusters as a tool for competitiveness enhancement.

**Specific objectives:**

4, 5

**Related activities:**

1, 2, 3, 4, 5, 6

**Full-or-part-time:** 6h

Theory classes: 2h

Practical classes: 2h

Self study : 2h

### GRADING SYSTEM



## BIBLIOGRAPHY

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### Basic:

- Bayó, Enric. Com esdevenir una empresa innovadora [on line]. 2a ed. Barcelona: Acció, 2015 [Consultation: 13/05/2020]. Available on:

[https://www.accio.gencat.cat/ca/serveis/banc-coneixement/cercador/BancConeixement/com\\_esdevenir\\_una\\_empresa\\_innovadora](https://www.accio.gencat.cat/ca/serveis/banc-coneixement/cercador/BancConeixement/com_esdevenir_una_empresa_innovadora). ISBN 9788460659372.

### Complementary:

- Honrado, Angel; Molero, Eva; Díaz, Carlos. Guia de gestió de projectes : Horizon 2020 [on line]. Barcelona: Acció, 2014 [Consultation: 13/05/2020]. Available on:

[https://www.accio.gencat.cat/ca/serveis/banc-coneixement/cercador/BancConeixement/guia\\_de\\_gestio\\_de\\_projectes\\_horizon\\_2020](https://www.accio.gencat.cat/ca/serveis/banc-coneixement/cercador/BancConeixement/guia_de_gestio_de_projectes_horizon_2020).

- Centre d'Innovació i Desenvolupament Empresarial (CIDEM). Gestió de la innovació : diagnosi. 4a ed. Barcelona: Acció, 2007.

- Trott, Paul. Innovation management and new product development [on line]. 6th ed. Harlow: Prentice Hall, 2012 [Consultation: 04/03/2021]. Available on: <https://ebookcentral.proquest.com/lib/upcatalunya-ebooks/detail.action?docID=5186181>. ISBN 9780273736561.

- Amores, Xavier [et al.]. La Sistematització de la innovació : normes de la sèrie UNE 166.000 d'R+D+I. Barcelona: Acció, 2005. ISBN 8439366906.