# 240AR033 - Technological Innovation

**Coordinating unit:** 240 - ETSEIB - Barcelona School of Industrial Engineering  
**Teaching unit:** 732 - OE - Department of Management  
**Academic year:** 2017  
**Degree:** MASTER’S DEGREE IN AUTOMATIC CONTROL AND ROBOTICS (Syllabus 2012). (Teaching unit Compulsory)  
**ECTS credits:** 3  
**Teaching languages:** English

## Teaching staff

**Coordinator:** Carme Martínez Costa  
**Others:** Edgar Fité Grau  
Ignacio Magallón Hernández  
Anastasi Pérez Peral  
Emilio Rosico Muñoz

## Degree competences to which the subject contributes

**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

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

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

<table>
<thead>
<tr>
<th>Total learning time: 75h</th>
<th>Hours medium group:</th>
<th>18h</th>
<th>24.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours small group:</td>
<td>9h</td>
<td></td>
<td>12.00%</td>
</tr>
<tr>
<td>Self study:</td>
<td>48h</td>
<td></td>
<td>64.00%</td>
</tr>
</tbody>
</table>
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## Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Learning time: 6h</th>
<th>Learning time: 12h</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. TECHNOLOGY AND STRATEGY</strong></td>
<td>Theory classes: 2h</td>
<td>Theory classes: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study: 4h</td>
<td>Practical classes: 2h</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td><strong>Related activities:</strong></td>
<td><strong>Specific objectives:</strong></td>
</tr>
<tr>
<td>Concept and types of technology. New technology trends and their impact in the organizations. Technology life cycle. Technology and strategy in a company.</td>
<td>1, 2, 3, 4, 5, 6</td>
<td>1</td>
</tr>
<tr>
<td><strong>2. INNOVATION</strong></td>
<td><strong>Learning time:</strong> 12h</td>
<td><strong>Description:</strong></td>
</tr>
<tr>
<td>Innovation and technology change. The technology innovation process: models. Invention and innovation. Creativity and innovation. Diffusion of the innovation. Design within a company.</td>
<td><strong>Related activities:</strong></td>
<td><strong>Specific objectives:</strong></td>
</tr>
<tr>
<td>1, 2, 3, 4, 5, 6</td>
<td>1, 2, 3, 4, 5, 6</td>
<td>1</td>
</tr>
<tr>
<td><strong>3. INNOVATION AND ORGANIZATIONS</strong></td>
<td><strong>Learning time:</strong> 12h</td>
<td><strong>Description:</strong></td>
</tr>
<tr>
<td>Main elements and drivers influencing innovation in a company. Innovation in SMEs (Small-Medium Enterprises). R &amp; D department: basic characteristics and organization. Relations of the R &amp; D department.</td>
<td><strong>Related activities:</strong></td>
<td><strong>Specific objectives:</strong></td>
</tr>
<tr>
<td>1, 2, 3, 4, 5, 6</td>
<td>1, 2, 3, 4, 5, 6</td>
<td>1, 2</td>
</tr>
</tbody>
</table>
## 4. TECHNOLOGY TRANSFER

**Learning time:** 6h  
Theory classes: 2h  
Practical classes: 0h  
Self study: 4h

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

**Related activities:**  
1, 2, 3, 4, 5, 6

**Specific objectives:**  
1, 2

## 5. PROTECTION OF INNOVATION

**Learning time:** 6h  
Theory classes: 2h  
Self study: 4h

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

**Related activities:**  
1, 2, 3, 4, 5, 6

**Specific objectives:**  
3, 4

## 6. SCIENCE AND TECHNOLOGY WITHIN A TERRITORY

**Learning time:** 6h  
Theory classes: 2h  
Practical classes: 2h  
Self study: 2h

**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.

**Related activities:**  
1, 2, 3, 4, 5, 6

**Specific objectives:**  
4, 5
240AR033 - Technological Innovation

Qualification system

Final project (team work) (40%)
Final Exam (50%)
Class attendance and participation (10%)

The qualification of the reassessment exam will replace the mark of the final written examination.

Students who have made the final examination and have not passed the subject, they can make the reassessment exam.

Bibliography

Basic:


Complementary:


