240AR033 - Technological Innovation

Coordinating unit: 240 - ETSEIB - Barcelona School of Industrial Engineering
Teaching unit: 732 - OE - Department of Management
Academic year: 2019
Degree: MASTER'S DEGREE IN AUTOMATIC CONTROL AND ROBOTICS (Syllabus 2012). (Teaching unit Compulsory)
ECTS credits: 3
Teaching languages: English

Teaching staff
Coordinator: Gema Calleja Sanz
Others: Ignacio Magallón Hernández
Ferran Vila Picas

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.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 large group:</th>
<th>18h</th>
<th>24.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group:</td>
<td>9h</td>
<td>12.00%</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>48h</td>
<td>64.00%</td>
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</tbody>
</table>
# Content

## 1. TECHNOLOGY AND STRATEGY

**Description:**

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

**Specific objectives:**
1

**Learning 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.

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

**Specific objectives:**
1

**Learning 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 SMEs (Small-Medium Enterprises). R & D department: basic characteristics and organization. Relations of the R & D department.

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

**Specific objectives:**
1, 2

**Learning time:** 12h
- Theory classes: 4h
- Practical classes: 2h
- Self study: 6h
### 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

### Qualification system

Final project (team work) (50%)
Class activities (50%, average grade of the deliverables)
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Bibliography

Basic:


Complementary:


