295108 - 295II023 - Management of Technology

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering
Teaching unit: 732 - OE - Department of Management
Academic year: 2019
Degree: MASTER’S DEGREE IN MATERIALS SCIENCE AND ADVANCED MATERIALS ENGINEERING (Syllabus 2019). (Teaching unit Compulsory)
MASTER’S DEGREE IN INTERDISCIPLINARY AND INNOVATIVE ENGINEERING (Syllabus 2019). (Teaching unit Compulsory)
ECTS credits: 6
Teaching languages: English

Teaching staff

Coordinator: Joan Martinez Sanchez
Others: Segon quadrimestre:
PAU BARBARA MIR - T11, T12
LAIA BARBARÀ MIR - T11, T12

Opening hours

Timetable: The hours of attention will be published in the course of the virtual campus of the EEBE UPC (ATENEA)

Prior skills

In order to follow this course, it is advisable that the student has achieved the objectives of the Technological Innovation course.

Degree competences to which the subject contributes

Specific:
CEMCEAM-07. (ENG) Gestionar la Investigación, Desarrollo e Innovación Tecnológica, atendiendo a la transferencia de tecnología y los derechos de propiedad y de patentes

General:
CGMUEII-02. To manage, plan and supervise multidisciplinary teams according to technological creativity, business opportunity, social impact and sustainable development.
CGMUEII-03. Analyze the economic, social and environmental impact of technical solutions to base strategic decisions on criteria of objectivity, transparency and professional ethics.
CGMUEII-04. Transfer technological solutions in the form of products, services, processes or facilities in an efficient and sustainable manner, with an attitude of leadership and entrepreneurial spirit.

Transversal:
01 EIN. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.
02 SCS. SUSTAINABILITY AND SOCIAL COMMITMENT. Being aware of and understanding the complexity of social and economic phenomena that characterize the welfare society. Having the ability to relate welfare to globalization and sustainability. Being able to make a balanced use of techniques, technology, the economy and sustainability.
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.
Upon completion of the course, the student should be able to:
- Inventorate and evaluate internal and external, consolidated and emerging technologies, and make a proposal for their management aligned with the company's strategy.
- Plan and manage RDI projects and know the procedures to obtain public-private financing for these projects.

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 34h</th>
<th>22.67%</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 0h</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Hours small group: 20h</td>
<td>13.33%</td>
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<tr>
<td></td>
<td>Guided activities: 0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Self study: 96h</td>
<td>64.00%</td>
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The teaching of the course is based on different methodologies (Master classes, seminars, workshops, projects) prioritizing active learning and "learning by doing" through exercises and team projects.

### Learning objectives of the subject

Upon completion of the course, the student should be able to:
- Inventorate and evaluate internal and external, consolidated and emerging technologies, and make a proposal for their management aligned with the company's strategy.
- Plan and manage RDI projects and know the procedures to obtain public-private financing for these projects.
## Content

### Technology management

**Learning time:** 13h 30m  
Theory classes: 8h 30m  
Laboratory classes: 5h

**Description:**
Introduction to technology management. Concept of technology, strategic and economic value. Inventory and technology maps. Sources of technology. Surveillance and technology prospecting. Technology transfer and technological alliances.

**Specific objectives:**
To know how to define what is a technology and value it commercially and strategically. To be able to make an inventory of internal and external technologies in the company and interpret and carry out technology maps. To understand the main sources of technology and the principles of surveillance and technological prospection. To understand the main mechanisms of technology transfer and how strategic alliances work.

### Intellectual property

**Learning time:** 13h 30m  
Theory classes: 8h 30m  
Laboratory classes: 5h

**Description:**
This chapter presents various ways to protect intellectual property and technology (copyright, trademarks, industrial designs, topology of semiconductors, utility models, patents ...) and how to manage them.

**Specific objectives:**
To know the different ways of legally protecting a technology, the procedure to request these protections and how to value what options can be strategic and economically interesting to protect a new technology or development in a specific case.

### Management of RDI projects

**Learning time:** 6h 45m  
Theory classes: 4h 15m  
Laboratory classes: 2h 30m

**Description:**
Study of the project management of RDI, their activities, risks and more frequent costs.

**Specific objectives:**
Be able to plan an RDI project, identify the necessary activities, the most important risks and the main costs, following the accounting model of the H2020 projects.
### Change management

**Description:**
Study of how to manage technological changes in a company in terms of the effects that the change generates on employees, teams and the company itself.

**Specific objectives:**
- to understand, know how to predict and explain the effects that a technological change may have on an organization and know how to manage it in order to minimize the adverse effects and obtain the maximum benefit.

**Learning time:** 6h 45m  
- Theory classes: 4h 15m  
- Laboratory classes: 2h 30m

### RDI finance

**Description:**
Study of the main sources of financing for RDI projects, both public and private.

**Specific objectives:**
- Know who are and how business angels and venture capital companies or crowdfounding and the main public funding programs of the RDI projects (Acc10, CDTI, H2020, etc.) work

**Learning time:** 13h 30m  
- Theory classes: 8h 30m  
- Laboratory classes: 5h

### Qualification system

- 2 partial exams with a weight of 25% each exam (50% for both exams)  
- 1 exercise with a weight of 20%  
- 1 Team Project (30%).

There is no final exam.  
There is a continuous evaluation and, therefore, there is no re-evaluation exams.

### Regulations for carrying out activities

The exercises must be delivered exclusively through the virtual campus course (ATENEA) and always on the indicated dates.
Bibliography

Basic:


Complementary:


