# 205112 - Advanced Project Management

**Coordinating unit:** 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
**Teaching unit:** 758 - EPC - Department of Project and Construction Engineering  
**Academic year:** 2017  
**Degree:** MASTER’S DEGREE IN TECHNOLOGY AND ENGINEERING MANAGEMENT (Syllabus 2016). (Teaching unit Optional)  
**ECTS credits:** 7.5  
**Teaching languages:** English

## Teaching staff

| Coordinator | María Gonçalves Ageitos |

## Degree competences to which the subject contributes

### Basic:

- CB6. Knowledge and understanding that provides a basis or opportunity for originality in the development and/or application of ideas, often in a research context.
- CB7. METMF_ The ability to apply the knowledge and problem-solving skills acquired in new or unfamiliar environments within wider (or multidisciplinary) contexts related to the area of study.
- CB8. METMF_ The ability to integrate knowledge and deal with the complexity of making judgements on the basis of information that, albeit incomplete or limited, includes thoughts on the role played by social and ethical responsibility in the application of knowledge and judgement.
- CB9. METMF_ The ability to communicate conclusions, and the knowledge and reasons that ultimately sustain these conclusions, to specialised and lay audiences in a clear and unambiguous way.
- CB10-METP. Learning abilities that will enable students to keep studying in a largely self-directed or independent manner.

### Specific:

- CE06-MEM. The ability to optimally assign physical and financial resources in process and project management in technological settings.
- CE07-MEM. The ability to manage processes and projects in technological settings subject to levels of uncertainty.

CE08-MEM. The ability to evaluate the results of process and project development in technological settings subject to levels of process uncertainty.

### Transversal:

- CT1a. ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.
- CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.
- CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.
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**Teaching methodology**

Lecture: Lecturers present concepts, principles and techniques, with the active participation of students.
Problem Based Learning: Lecturers and students resolve exercises and case studies through specific techniques related to the theoretical contents and principles of the course.
Project Based learning: Teams of students develop a project management plan, solving complex problems through specific techniques related to the theoretical contents and principles of the course.
Self-study: Students diagnose their learning needs, in collaboration with the lecturers, and plan their own learning process.

**Learning objectives of the subject**

The course Advanced Project Management aims to introduce students to planning, organizing, securing and managing resources efficiently for the successful completion of specific project goals and objectives. Students will learn to design, manage and monitor international technology and engineering projects.

**Study load**

<table>
<thead>
<tr>
<th>Total learning time: 187h 30m</th>
<th>Hours large group:</th>
<th>30h</th>
<th>16.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group:</td>
<td>30h</td>
<td>16.00%</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>127h 30m</td>
<td>68.00%</td>
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# Module 1: Project life cycle and organization.

**Description:**
The goal of this module is to introduce the students to the project life cycle and organization following the standards and good practices defined in the PMBoK (Project Management Body of Knowledge 5ª Ed, of the Project Management Institute).

- Life cycle of a Project
- Organizational structures within projects
- Introduction to Project Management processes
- Introduction to Project Management knowledge areas
- Project Integration Management: The Project Management Plan
- Organizational process assets: definition of procedures, guidelines and tools to be used during the subject

**Related activities:**
- In-class activities
- Group project
- Final exam

<table>
<thead>
<tr>
<th>Learning time: 35h 30m</th>
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<tbody>
<tr>
<td>Theory classes: 6h</td>
</tr>
<tr>
<td>Practical classes: 6h</td>
</tr>
<tr>
<td>Self study: 23h 30m</td>
</tr>
</tbody>
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## Module 2: Project management plan (I): scope, time, cost

**Description:**
The goal of this module is to introduce the basic concepts and required for the project scope, time and cost management.

- Project scope management (planning, collecting requirements, defining scope, creating WBS)
- Project time management (planning, defining and sequencing activities, estimating activities resources and durations, developing schedule)
- Project cost management (planning, estimating costs and determining budget)

**Related activities:**
- In-class activities
- Group project
- Final exam

<table>
<thead>
<tr>
<th>Learning time: 70h</th>
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<tbody>
<tr>
<td>Theory classes: 12h</td>
</tr>
<tr>
<td>Practical classes: 12h</td>
</tr>
<tr>
<td>Self study: 46h</td>
</tr>
</tbody>
</table>
Module 3: Project management plan (II):
Quality, risks, human resources, communications, procurement, stakeholders

Learning time: 70h
Theory classes: 12h
Practical classes: 12h
Self study: 46h

Description:
The goal of this module is to introduce the basic concepts and tools required for the project quality, human resources, communications, risks, procurement and stakeholder management.

Project quality management (planning)
Project human resource management (planning)
Project communications management (planning)
Project risks management (planning, identifying risks, analyzing risks qualitatively and quantitatively, planning risks response)
Project procurement management (planning)
Project stakeholder management (planning)

Related activities:
In-class activities
Group project
Final exam

Qualification system

The final grade depends on the following three elements:

* 30%, In-class activities
* 40%, Group project (report and dissertation)
* 30%, Final exam

Bibliography