Course guide
205112 - 205112 - Advanced Project Management

Last modified: 19/06/2026

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 758 - EPC - Department of Project and Construction Engineering.

Degree: MASTER'S DEGREE IN TECHNOLOGY AND ENGINEERING MANAGEMENT (Syllabus 2016). (Optional subject).

Academic year: 2026 **ECTS Credits:** 7.5 **Languages:** English

LECTURER

Coordinating lecturer: Gonçalves Ageitos, Maria

Others: Nicolau Martinez, Marc

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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.

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.

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 apply agile project management methodologies to develop their projects, 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

Type	Hours	Percentage
Hours large group	30,0	16.00
Hours medium group	30,0	16.00
Self study	127,5	68.00

Total learning time: 187.5 h

CONTENTS

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, including the definition of different approaches for project management according to project characteristics.

Specific objectives:
Life cycle of a project
Organizational structures and project management environment
Project Management approaches: from agile to traditional

Related activities:
In-class activities
Group project

Full-or-part-time: 48h
Theory classes: 9h
Practical classes: 9h
Self study : 30h

Module 2. Disruptive project management: baseline and design

Description:
Within this module, the students will learn and apply disruptive management methods to define a baseline and validate their idea for a project. The hands-on sessions will combine theory and practice to master common tools and methods of design thinking, agile and lean management.

Specific objectives:
Methods to identify user needs and generate ideas
Value and feasibility
Validation and priority

Related activities:
In-class activities
Group project

Full-or-part-time: 57h 20m
Theory classes: 12h
Practical classes: 12h
Self study : 33h 20m

Module 3: Disruptive project management: solution definition

Description:
Within this module, the students will learn and apply disruptive management methods to define and refine the solution of their project. The hands-on sessions will combine theory and practice to master common tools and methods of design thinking, agile and lean management.

Specific objectives:
How to refine and prioritize the features and functions of a proposed solution.
What are and how to create user stories.
Application of SCRUM to generate an optimum solution.

Related activities:
In-class activities
Group project

Full-or-part-time: 47h
Theory classes: 9h
Practical classes: 9h
Self study : 29h

GRADING SYSTEM

Any academic fraud, plagiarism or use or possession of unauthorised means in an assessment activity leads to a mark of zero (0) for the affected test or assignment. Furthermore, in accordance with the University's regulations, if disciplinary proceedings are initiated the subject is recorded as "Pending Assessment" until a decision is reached. These incidents are managed in accordance with the **Action Framework for Academic Integrity in Assessment at the UPC**.

The final grade depends on the following three elements:

* 30%, In-class activities: Case Studies and procedural aspects
* 30%, In-class activities: Class discussions and attendance
* 40%, Group project: Project deliverables and presentation