



Course guide

205002 - 205002 - Research Management and Aerospace Projects

Last modified: 11/04/2025

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 SPACE AND AERONAUTICAL ENGINEERING (Syllabus 2016). (Compulsory subject).

Academic year: 2025 **ECTS Credits:** 10.0 **Languages:** English

LECTURER

Coordinating lecturer: Garcia Almiñana, Daniel - Course Coordinator
Marta Roca Lefler - M1 Coordinator

Others: Shelly Domenech, Alvaro
Perez Llera, Luis Manuel

PRIOR SKILLS

NONE

REQUIREMENTS

MINIMUM ENGLISH LEVEL IS B2.2

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Transversal:

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.

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

TEACHING METHODOLOGY

- Interactive research seminars for MODULE 1.
- Master Class and Case Studies for MODULE 2.
- Teamwork for MODULE 3.

LEARNING OBJECTIVES OF THE SUBJECT

SPECIFIC SKILLS

- Understanding of the concept of Integrated Project Management as a basic tool for the development of Projects in the Aerospace field.
- Understanding the knowledge areas of the PMBoK (Project Management Body of Knowledge).
- Practicing some of the Project Management Tools of the PMBOK.
- Understanding and practicing some research tools such as database and references management.
- Developing a research paper.
- Understanding and practicing some research tools such as database and references management.

GENERIC SKILLS

- Critical Thinking
- Solvent use of the resources of information
- Effective oral and written communication
- Teamworking

STUDY LOAD

Type	Hours	Percentage
Hours small group	30,0	12.00
Self study	160,0	64.00
Hours large group	60,0	24.00

Total learning time: 250 h

CONTENTS

Module 1: INFORMATION RESEARCH (all students)

Description:

LEARNING OF EFFECTIVE USE OF INFORMATION IN RESEARCH

Related activities:

Along the semester the students will be appointed to several intensive research modules that will be conducted at the Campus Library facilities:

- Introduction to information research
- Information sources and tools in aeronautics
- Research databases (Web of Science and Scopus)
- Information management (Mendeley)
- Guidelines to elaborate, structure and write a master's thesis

The module is complemented by reading notes and support materials and the realization of various exercises and questionnaires

* These seminars are compulsory for all students

Related competencies :

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 27h

Theory classes: 9h

Guided activities: 9h

Self study : 9h

Module 2: PROJECT MANAGEMENT ?THEORY

Description:

PMBOK FUNDAMENTALS

Related activities:

The students will learn the PMBOK Fundamentals for Project Management:

- Integration Project Management.
- Scope Management.
- Schedule Management.
- Costs Management.
- Procurement Management.
- Human Resources Management.
- Quality Management.
- Risks Management.
- Stakeholders Management.
- Communications Management.

These activities will be practiced and assessed as Case Studies (in class) and Project Management Deliverables (in group).

Related competencies :

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.

Full-or-part-time: 58h

Theory classes: 18h

Self study : 40h

Module 3: PROJECT MANAGEMENT -TEAMWORK

Description:

PROJECT MANAGEMENT PLAN FOR AN EU H2020 PROPOSAL

Related activities:

The students will be working in groups, under the supervision of one lecturer acting as a NATIONAL CONTACT POINT, in order to develop by the end of the semester a complete EU H2020 proposal in the field of Space.

This project will be presented to a reviewing panel of experts highlighting:

- The EXCELLENCE of the proposal
- The expected IMPACT in case of success of the project
- The IMPLEMENTATION strategy for the proposal (Project Management Plan using the PMBOK standard)

Related competencies :

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.

Full-or-part-time: 165h

Theory classes: 45h

Self study : 120h



GRADING SYSTEM

The assessment will consist in:

- Final assessment for MODULE 1; 15%, splitted into at least 4 online questionnaires
- Continuous assessment of MODULE 2; 35% of the final course evaluation, splitted into at least 8 in-class assessment activities.
- Final assessment of MODULE 3; 50% of the final course evaluation, splitted into four concepts (18% preliminary group deliverables, 6,5% group presentation; 6,5% group documents, 18% individual work inside the group)

For those students who meet the requirements and submit to the reevaluation examination, the grade of the reevaluation exam will replace the grades of all the on-site written evaluation acts (tests, midterm and final exams) and the grades obtained during the course for lab practices, works, projects and presentations will be kept.

If the final grade after reevaluation is lower than 5.0, it will replace the initial one only if it is higher. If the final grade after reevaluation is greater or equal to 5.0, the final grade of the subject will be pass 5.0.

EXAMINATION RULES.

According to the "Normativa Acadèmica de Grau i Màster" (NAGRAMA)

BIBLIOGRAPHY

Basic:

- A guide to the project management body of knowledge (PMBOK® guide). 5th ed. Pennsylvania: Project management Institute Inc, 2013. ISBN 9781935589679.