Course guide
220226 - 220226 - Research Seminars

Last modified: 18/05/2026

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 702 - CEM - Department of Materials Science and Engineering.

Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Optional subject).
MASTER'S DEGREE IN AERONAUTICAL ENGINEERING (Syllabus 2014). (Optional subject).
MASTER'S DEGREE IN SPACE AND AERONAUTICAL ENGINEERING (Syllabus 2016). (Optional subject).
MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2025). (Optional subject).

Academic year: 2026 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: Martí Gelabert, Meritxell

Others:

TEACHING METHODOLOGY

The teaching methodology is divided into two parts:
- Face-to-face sessions of exhibition-participation of the content and realization of exercises.
- Autonomous work of study and realization of exercises and activities.
In the exhibition-participation of the contents, the teacher will introduce the theoretical bases of the terms, concepts, methods and results, illustrating them with convenient examples and asking for the realization of exercises, where appropriate, to facilitate its understanding.
The students, independently, must work the material provided by the teaching staff and the results of the working sessions-problems in order to assimilate and fix concepts.
The teacher will provide a studies and monitoring of activities plan (ATENA).

LEARNING OBJECTIVES OF THE SUBJECT

By the end of the course, the student should:

- Understand which methodological aspects can be applied in research.
- Be familiar with the tools available for bibliographic research.
- Be aware of the sources of research funding.
- Be familiar with the research conducted at the Terrassa Campus and/or at the student's university.

STUDY LOAD

Type	Hours	Percentage
Self study	48,0	64.00
Hours large group	27,0	36.00

Total learning time: 75 h

CONTENTS

Module 1: Research methodology

Description:
Introduction. Research definition and types. The methods in research. A general research method.

Full-or-part-time: 6h
Theory classes: 4h
Self study : 2h

Module 2: Idea and Search of the known facts

Description:
A seminar will be held to teach the bibliographic research tools available for conducting research.
Project planning through the hypothesis and objectives.

Full-or-part-time: 7h
Theory classes: 4h
Self study : 3h

Module 3: Presentation of the research groups at the Terrassa Campus (UPC) and/or from the students' home universities

Description:
Presentation of the research groups and their research lines

Full-or-part-time: 9h
Theory classes: 4h
Self study : 5h

Module 4: Broadcasting of the research results

Description:
Describes the type of existing publications, the structure of a scientific or technical publication, reporting structure, conferences. Patents.
The dissemination and communication of the project are addressed.

Full-or-part-time: 18h
Theory classes: 4h
Self study : 14h

Module 5: Research funding sources. Impacts and risks.

Description:
To understand the current sources of research funding.
And to address the impacts and risks of the project.

Full-or-part-time: 7h
Theory classes: 2h
Self study : 5h

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**.

Students must submit, in both "technical report" format and "conference presentation" format, a report that outlines a potential project that could fit within the research of one of the research groups at the Terrassa Campus or their university, and that includes all the topics covered in the course.

Written deliverables: 50%
Oral presentations: 15%
Final project: 35%

BIBLIOGRAPHY

Basic:
- Cegarra, José. Metodología de la investigación científica y tecnológica. Madrid: Díaz de Santos, 2004. ISBN 8479786248.

RESOURCES

Other resources:
Notes are available to the students in ATENEA