

## Course guide

# 205114 - 205114 - Environment, Health and Safety, and Quality Management

**Last modified:** 11/04/2025

**Unit in charge:** Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
**Teaching unit:** 732 - OE - Department of Management.  
758 - EPC - Department of Project and Construction Engineering.

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

**Academic year:** 2025    **ECTS Credits:** 7.5    **Languages:** English

### LECTURER

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**Coordinating lecturer:** Jesús Abad Puente

**Others:** Marta Gangolells Solanellas

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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#### Specific:

CE01-MEM. The ability to describe the main management theories.

CE04-MEM. The ability to apply theoretical and fundamental principles of technology and engineering business management in conditions of uncertainty.

CE09-MEM. The ability to include aspects of internationalisation in decision making.

CE10-MEM. The ability to develop and defend a comprehensive technology and engineering business management project.

#### 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.

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.

#### Basic:

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.

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 standard problems through specific techniques related to the theoretical contents and principles of the course.

Project Based learning: Students resolve 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

Recently, the integration of management systems has become an increasingly important mechanism adopted by organizations, as it represents an alternative to operating with multiple parallel management systems. Therefore, the main objective of this course is to introduce students to the three more widespread management systems adopted by firms, namely occupational health and safety, quality and environment, as well as to the methodologies for their integration.

## STUDY LOAD

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

**Total learning time:** 187.5 h

## CONTENTS

### Module 1: Management Systems

#### Description:

The goal of this module is to provide the basic framework for understanding management systems, process-based management, audits and performance indicators.

Management principles, process-based management, continuous improvement

Management systems and certification process

#### Related activities:

Distance and in-class activities

Case studies

Online self-Assessment

Final exam

#### Full-or-part-time: 24h

Theory classes: 5h

Practical classes: 3h

Self study : 16h

## Module 2: Environmental management

### Description:

The goal of this module is to provide basic knowledge on the interrelation between industrial activities and the environment and to introduce tools to assess and improve their environmental performance.

Sustainable production: Best Available Techniques and Industrial Emissions

The Life Cycle Approach

Managing the environmental aspects of industrial activities

Environmental management systems

### Related activities:

Distance and in-class activities

Case studies

Online self-Assessment

Final exam

**Full-or-part-time:** 38h 30m

Theory classes: 5h

Practical classes: 7h

Self study : 26h 30m

## Module 3: Health and Safety Management

### Description:

The goal of this module is to provide basic knowledge on the interrelation between industrial activities and the occupational health and safety management and to introduce tools to assess and improve their safety performance.

Occupational accidents and illnesses

Fundamentals of occupational health and safety activities

Risk models and risk management

Occupational health and safety management systems

### Related activities:

Distance and in-class activities

Case studies

Final exam

**Full-or-part-time:** 39h

Theory classes: 6h

Practical classes: 6h 30m

Self study : 26h 30m

#### Module 4: Quality Management

**Description:**

The goal of this module is to provide basic knowledge on the interrelation between industrial activities and the quality management and to introduce tools to assess and improve their quality performance.

The quality principles  
Quality management models  
Total Quality Management

**Related activities:**

Distance and in-class activities  
Case studies  
Final exam

**Full-or-part-time:** 39h

Theory classes: 6h  
Practical classes: 6h 30m  
Self study : 26h 30m

#### Module 5: Integrated Management Systems

**Description:**

The goal of this module is to show the integration of management systems as an alternative to operating with multiple individual and parallel management systems.

Key issues on integration of management systems  
Integration methodologies  
Benefits and difficulties integrating management systems

**Related activities:**

Distance and in-class activities  
Case studies  
Final exam

**Full-or-part-time:** 62h 30m

Theory classes: 5h  
Practical classes: 10h  
Self study : 47h 30m

### GRADING SYSTEM

The final grade depends on the following three elements:

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