

205114 - Environment, Health and Safety, and Quality 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:	Jesús Abad Puente
Others:	Marta Gangolells Solanellas

Degree competences to which the subject contributes

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.

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.

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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 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

Total learning time: 187h 30m	Hours large group:	30h	16.00%
	Hours medium group:	30h	16.00%
	Self study:	127h 30m	68.00%

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Content

<p>Module 1: Management Systems</p>	<p>Learning time: 24h Theory classes: 5h Practical classes: 3h Self study : 16h</p>
<p>Description: The goal of this module is to provide the basic framework for understanding management systems, process-based management, audits and performance indicators.</p> <p>Management principles, process-based management, continuous improvement Management systems and certification process</p> <p>Related activities: Distance and in-class activities Case studies Online self-Assessment Final exam</p>	
<p>Module 2: Environmental management</p>	<p>Learning time: 38h 30m Theory classes: 5h Practical classes: 7h Self study : 26h 30m</p>
<p>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.</p> <p>Sustainable production: Best Available Techniques and Industrial Emissions The Life Cycle Approach Managing the environmental aspects of industrial activities Environmental management systems</p> <p>Related activities: Distance and in-class activities Case studies Online self-Assessment Final exam</p>	

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<p>Module 3: Health and Safety Management</p>	<p>Learning time: 39h Theory classes: 6h Practical classes: 6h 30m Self study : 26h 30m</p>
<p>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.</p> <p>Occupational accidents and illnesses Fundamentals of occupational health and safety activities Risk models and risk management Occupational health and safety management systems</p> <p>Related activities: Distance and in-class activities Case studies Final exam</p>	
<p>Module 4: Quality Management</p>	<p>Learning time: 39h Theory classes: 6h Practical classes: 6h 30m Self study : 26h 30m</p>
<p>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.</p> <p>The quality principles Quality management models Total Quality Management</p> <p>Related activities: Distance and in-class activities Case studies Final exam</p>	

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Module 5: Integrated Management Systems

Learning time: 62h 30m

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

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

Qualification 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

Bibliography