

## Course guide

# 480032 - GSGA - Fundamentals of Sustainable Management and Environmental Management Systems

Last modified: 13/06/2024

<b>Unit in charge:</b>	Barcelona School of Civil Engineering	
<b>Teaching unit:</b>	758 - EPC - Department of Project and Construction Engineering.	
<b>Degree:</b>	MASTER'S DEGREE IN SUSTAINABILITY SCIENCE AND TECHNOLOGY (Syllabus 2013). (Compulsory subject).	
<b>Academic year:</b> 2024	<b>ECTS Credits:</b> 5.0	<b>Languages:</b> Spanish

## LECTURER

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**Coordinating lecturer:** MARIA GONÇALVES AGEITOS

**Others:** Gonçalves Ageitos, Maria

## DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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### Specific:

3. The capacity to apply the methods and tools used in the identification, information management, planning, management, execution and evaluation of programmes and projects in the fields of sustainability and environmental management to specific problems in a collaborative manner.
2. The ability to critically analyse the features and work, business and environmental management methods and strategies of organisations, institutions and key agents for promoting sustainable human development, sustainability and environmental protection, particularly against climate change, by understanding and applying the concepts and theories of business ethics and social responsibility in the fields of engineering and scientific and technical innovation.
4. The ability to design, develop and apply, in an integrated and coordinated manner, the theories and analytical techniques of the social, economic and Earth sciences, as well as management and research-action techniques and approaches based on sustainability science and technology in the fields of biodiversity and natural resources, the built environment and services, and production systems and information.

### Generical:

CG01. Recognize the characteristics of sustainable systems, the impacts of the solutions of science and technology in sustainability, and be able to identify and incorporate elements of innovation and continuous improvement.

### Transversal:

1. 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.

### Basic:

CB6. Knowledge and understanding to provide a basis or opportunity for originality in developing and app ideas, often within a research context.

## TEACHING METHODOLOGY

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## LEARNING OBJECTIVES OF THE SUBJECT

After taking this course, the student will be able to:

Identify and apply ethical concepts and theory to the engineering, and the technical and scientific innovation fields. He/she will be able to define hypothesis or innovative ideas, contrast them, and assess their feasibility.

Know and understand the ethical dimension in the business environment, the strengths and limitations of the environmental and sustainability management systems, the existing strategies to foster their application and their link to environmental and sustainability policies.

Efficiently apply environmental and sustainability management systems.

Critically analyze and integrate the social, economic and environmental aspects in the environmental and business management strategies, and to propose new solutions to develop sustainable projects and management systems.

## STUDY LOAD

Type	Hours	Percentage
Hours large group	24,0	19.20
Hours medium group	12,0	9.60
Hours small group	9,0	7.20
Self study	80,0	64.00

**Total learning time:** 125 h

## CONTENTS

### (ENG) 1. FRAMEWORK OF THE ENVIRONMENTAL AND SUSTAINABLE MANGEMENT SYSTEMS

**Description:**

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**Specific objectives:**

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**Full-or-part-time:** 25h

Theory classes: 6h

Guided activities: 3h

Self study : 16h

### (ENG) 2. ÁNALISIS DEL CICLO DE VIDA (ACV)

**Description:**

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**Specific objectives:**

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**Related activities:**

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**Full-or-part-time:** 25h

Theory classes: 6h

Guided activities: 3h

Self study : 16h

### (ENG) 3. SISTEMAS DE AUDITORÍAS AMBIENTALES

**Description:**

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**Specific objectives:**

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**Related activities:**

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**Full-or-part-time:** 25h

Theory classes: 6h

Guided activities: 3h

Self study : 16h

### (ENG) 4. EVALUACIÓN AMBIENTAL

**Description:**

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**Specific objectives:**

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**Related activities:**

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**Full-or-part-time:** 25h

Theory classes: 6h

Guided activities: 3h

Self study : 16h

### (ENG) 5. PREVENCIÓN Y CONTROL INTEGRADOS EN LA CONTAMINACIÓN

**Description:**

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**Specific objectives:**

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**Related activities:**

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**Full-or-part-time:** 25h

Theory classes: 6h

Guided activities: 3h

Self study : 16h

## GRADING SYSTEM

AV1 Written test (PE). 25%

AV2 Oral presentations (PO). 25%

AV3 Work developed along the course (TR). 25%

AV4 Quality and performance in the teamwork (TG). 25%



## EXAMINATION RULES.

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The rules will be specified for each activity upon their proposal.

## BIBLIOGRAPHY

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### Basic:

- Asociación Española de Normalización y Certificación (AENOR). UNE-EN ISO 14044: gestión ambiental: análisis del ciclo de vida: requisitos y directrices. Madrid: Aenor, 2006.
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- Lawler, E.E.; Worley, C.G.; Creelman, D. Management reset : organizing for sustainable effectiveness. New York: John Wiley & Sons, 2011. ISBN 9780470637982.
- Müller-Christ, G. Sustainable management: coping with the dilemmas of resource-oriented management. Dordrecht: Springer, 2011. ISBN 9783642443602.
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