Project Management and Environmental Legislation (2500232)

General Information

School	ETSECCPB
Departments	Departament d'Enginyeria Civil i Ambiental (DECA)
Credits	6.0 ECTS
Programs	GRAU EN ENGINYERIA AMBIENTAL (pla 2020)
Course	2025/26

Main teaching language at each group

- Group 10Q2 Spanish (Q2)

Faculty

Responsible Faculty: Gonzalo Ramos Schneider
Faculty: Semih Gönen, Anna Ramon Tarragona, Gonzalo Ramos Schneider

Objectives of Education

Description and analysis of all current regulations, at European, national and regional level, which regulate the protection and preservation of the different elements and aspects that constitute the environment. The procedures that Administrations must follow to control regulatory compliance will be included.
Introduction to the methodology and tools for the development of a project or technical study in the field of environmental engineering, including the project writing and development phases. It will include: applicable contractual regulations (Public Sector Contracts Law), award procedures, agents involved and their functions, temporary, economic and technical management of projects, documents to be developed, phases and approval procedures, etc.
Finally, how planning of environmental projects is carried out by the Administration through Master Plans, and the environmental evaluations of Infrastructure Master Plans, will be addressed.

1. Understand the methodology for writing an engineering project and make a comprehensive management analysis of a project.
2. Evaluate and analyze whether a project or activity complies with current legislation in order to measure its environmental effects and design measures to adopt to mitigate or avoid them.
3. Know the main strategies and programs that determine an action in the environment (ISO, EMAS, etc.)

Project Management and Environmental Legislation. In this subject the methodology and elements for the development of a project or technical study will be considered.
In the field of environmental engineering. In addition, the current regulations that regulate the protection and preservation of the different elements that constitute the environment will be analyzed, as well as the procedures that the Administration must follow to control or supervise said activities. The strategies, plans or programs that determine the uses or the way of carrying out those activities in a given territory will also be studied.

Competencies

Especific

Apply the fundamental concepts of statistics and randomness of physical, social and economic phenomena, as well as uncertainty and decision-making techniques.

Identify the fundamentals of structure theory, sustainable procedures for construction and dismantling of buildings and civil works; and describe the technology bases of the materials used in construction.
Design and project treatment systems for purification and purification of water resources, and establish the basis for the management of waste generated, describe and assess desalination and reuse processes.
Analyze, design, simulate and optimize processes and systems with environmental relevance, both natural and artificial, and their resolution techniques, as well as recognize techniques for analysis and evaluation of climate change.
Design and project processes for the treatment of contaminated soils and aquifers.
Prepare, implement, coordinate and evaluate urban and industrial solid waste management plans and resource recovery.
Apply measures to prevent and control air quality, quantify noise pollution and its corrective measures and quantify odor emissions and corrective measures.

Generic

Identify, formulate and solve problems related to environmental engineering.
Apply the functions of consulting, analysis, design, calculation, project, construction, maintenance, conservation and exploitation of any action in the territory in the field of environmental engineering.
To use in any action in the territory proven methods and accredited technologies, in order to achieve the greatest efficiency respect for the environment and the protection of the safety and health of workers and users.
Apply the necessary legislation during the professional practice of environmental engineering.
Apply business management techniques and labor legislation.

Total hours of student work

		Hours	Percentage
Supervised Learning	Large group	45.0 h	75.00 %
	Medium group	0.0 h	0.00 %
	Laboratory classes	15.0 h	25.00 %
	Guided Activities	0.0 h	0.00 %
Self Study		90.0 h	

Contents

Environmental legislation

European, national and regional environmental regulations
Regulatory compliance control tools
Regulatory compliance control tools
Planning of environmental projects by the Administration
Planning of environmental projects by the Administration
Practical analysis of the regulations and administrative control procedures in real cases of projects
Practical analysis of the regulations and administrative control procedures in real cases of projects

Project management

The project.
The project. BIM methodology
The project.
Phases of a Project
Planning
Planning

Teaching Methodology

The course consists of 2.3 hours per week of classroom activity (large size group) and 1.2 hours weekly with half the students (medium size group).

The 2.3 hours in the large size groups are devoted to theoretical lectures, in which the teacher presents the basic concepts and topics of the subject, shows examples and solves exercises.

The 1.2 hours in the medium size groups is devoted to solving practical problems with greater interaction with the students. The objective of these practical exercises is to consolidate the general and specific learning objectives.

Support material in the form of a detailed teaching plan is provided using the virtual campus ATENEA: content, program of learning and assessment activities conducted and literature.

Although most of the sessions will be given in the language indicated, sessions supported by other occasional guest experts may be held in other languages.

Grading Rules

(*) The evaluation calendar and grading rules will be approved before the start of the course.

The evaluation of the subject includes two face-to-face exams, one per evaluation, which represent 60% of the final grade. Another 20% of the final grade corresponds to a practical project in which students will form groups and work on a BIM task. Students are expected to spend at least 2 hours and no more than 4 hours developing the requested project. The other 20% will correspond to a group work in which an analysis of the regulations and administrative control procedures will be carried out in a real case of a project.

Qualification and admission criteria for reassessment: Students who have failed the ordinary assessment and have regularly taken the assessment tests for the failed subject will have the option of taking a reassessment test within the period set in the academic calendar. Students who have already passed it or students qualified as not presented may not take the reassessment test of a subject. The maximum grade in case of taking the reassessment exam will be five (5.0). The non-attendance of a student summoned to the reassessment test, held in the period set, may not lead to another test at a later date.

Extraordinary evaluations will be carried out for those students who, due to accredited force majeure, have not been able to take any of the continuous evaluation tests. These tests must be authorized by the corresponding head of studies, at the request of the professor responsible for the subject, and will be carried out within the corresponding school period.

Office Hours

Professors will attend students at the time indicated at the beginning of the course or on demand.

Bibliography

Basic

- Arce Ruiz, R.M. La evaluación ambiental en la ingeniería civil. Madrid: Mundi-Prensa, 2013. ISBN 9788484766445.
- Gómez Orea, D.; Gómez Villarino, M.T. Evaluación de impacto ambiental. 3. Madrid: Mundi-Prensa, 2013. ISBN 9788484766438.
- Gomez Orea, Domingo. Evaluación ambiental estratégica. Madrid: Mundi-Prensa Libros, 2014. ISBN 9788484766766.
- Jorba, M.; Vallejo, R. Manual para la restauración de canteras de roca caliza en clima mediterráneo. Barcelona: Generalitat de Catalunya: Departament de Medi Ambient i Habitatge, 2010. ISBN 9788439382058.
- Reyes Rodríguez, Antonio Manuel; Cordero, Pablo; Candelario Garrido, Alonso. BIM. Diseño y gestión de la construcción. ISBN 9788441538177.

Complementary

- Fundamentos BIM para la contratación pública. Ministerio de Transportes, Movilidad y Agenda Urbana (Mitma), 2022.

- Gosalves, J; Murad, M. BIM en 8 puntos. Ministerio de Transportes, Movilidad y Agenda Urbana (Mitma), 2016.