DEGREE CURRICULUM

ASSESSMENT OF THE ENVIRONMENTAL IMPACT

Coordination: BARRAU , JEROME

Academic year 2023-24

ASSESSMENT OF THE ENVIRONMENTAL IMPACT 2023-24

Subject's general information

<table>
<tr><td>Subject name</td><td>ASSESSMENT OF THE ENVIRONMENTAL IMPACT</td></tr>
<tr><td>Code</td><td>102142</td></tr>
<tr><td>Semester</td><td>1st Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Bachelor's Degree in Energy and Sustainability Engineering</td><td>3</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
<tr><td>Double bachelor's degree: Degree in Mechanical Engineering and Degree in Energy and Sustainability Engineering</td><td>3</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
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<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><td>PRAULA</td><td>TEORIA</td></tr>
<tr><th>Number of credits</th><td>3</td><td>3</td></tr>
<tr><th>Number of groups</th><td>1</td><td>1</td></tr>
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<tr><td>Coordination</td><td>BARRAU , JEROME</td></tr>
<tr><td>Department</td><td>ENVIRONMENT AND SOIL SCIENCES AND CHEMISTRY</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>English</td></tr>
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ASSESSMENT OF THE ENVIRONMENTAL IMPACT 2023-24

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
BARRAU , JEROME	jerome.barrau@udl.cat	0	
CRESPO GUTIÉRREZ, ALICIA	alicia.crespo@udl.cat	3,6	
VILARRUBI PORTA, MONTSERRAT	montse.vilarrubi@udl.cat	3,6	

Learning objectives

- Know how to identify and assess environmental impacts, as well as propose mitigating measures of impacts.
- Recognize the main effects of human activities on the social and natural environment.
- Identify the most important characteristics of the regulations that legislate the evaluation of the environmental impact in European, Spain and Catalonia.
- Describe the procedure and structure of environmental impact studies.
- Know the general concepts and assess the general procedure of an environmental audit based on specific cases.

Competences

Basic

- CB2. That students know how to apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.
- CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant issues of a social, scientific or ethical nature.

General

- CG16. To have basic knowledge and application of environmental technologies and sustainability.

Specific

- CE12. To have applied knowledge about renewable energies.
- CE15. To acquire the ability to understand, interpret and apply the legislation on energy and environment.
- CE16. Acquire capacity to assess the impacts of energy resources through knowledge of the natural environment and conduct energy and environmental audits.

Cross-disciplinary (according to UdL)

- CT2. Master a foreign language, especially English.
- CT3. Acquire training in the use of new technologies and ICTs.

Subject contents

ASSESSMENT OF THE ENVIRONMENTAL IMPACT 2023-24

Unit 1. Conceptual Framework

1. Concept of environment and environmental quality
2. Concept of environmental impact
3. Environmental assessment
4. Environmental issues

Unit 2. Legal and institutional framework

1. Historical background
2. Current environmental legislation in Europe, Spain and Catalonia

Unit 3. The environmental impact assessment (EIA)

1. Administrative procedure
2. Documents of the EIA
3. Screening & Scoping
4. Methodologies used in environmental assessment
    - Alternative selection
    - Factor weighting
    - Identification and assessment of impacts

Unit 4. The environmental impact study

1. Project description
2. Alternative selection
3. Environmental inventory
4. Assessment of the environmental elements
5. Identification and assessment of environmental impacts
6. Measures to minimize the final impact of the project
7. Calculation of the final impact of the project
8. Environmental monitoring plan
9. Synthesis document

Methodology

Lectures: presentation of the theoretical contents of the subject and different examples by the teacher.

Practical sessions: to strengthen concepts and notions developed in lectures, different practical sessions will include problem-solving, computer practices, discussions on real cases of Environmental Impact Assessment submitted to public information, and conferences by experts in EIA and strategic environmental management.

Externa visit: a mandatory external visit will be held (to be specified during the course).

Project: realization of an environmental impact study in groups and subsequent oral presentation of the project.

Development plan

Week	Methodology	Contents	Classroom hours	Autonomous work
1	Lecture class + practices	Unit 1	4	4
2	Lecture class + practices	Unit 2	4	6
3	Lecture class + practices	Unit 3	4	6
4 - 8	Lecture class + practices	Unit 4	14	24
9	Evaluation test			

10 – 14	Practices	Project	12	30
15	Project Presentation			
19	Recovery exam			

Evaluation

Evaluation blocks	%
PA1. Written test units 1-4	30
Written report “Environmental impact study”	45
Oral presentation “Environmental impact study”	15
Practices, exercises and external visit	10
Recovery of written exam	30
Project recovery “Environmental impact study”	45

Course evaluation guidelines

Minimum mark and recoveries

- To pass the subject it is necessary to have a 5 out of 10 on the final mark of the subject and have a mark equal to or greater than 3 on the test (PA1) and the written report "Environmental impact study".
- The mark of the partial exam can be recovered/improved with a recovery exam and the mark of the written project with the delivery of a new written report.

Exams

- During week 9 will be carried out the programmed evaluation tests (partial exam) PA1. PA1 test has a weight of 30% on the final mark of the subject.

Project “Environmental impact study”

- An environmental impact study will be carried out in groups of 4 people (to be completed once the student group is closed), of a case study that will be presented in class. Each group will study a different project. The project guidelines will be explained in class and will be available on the virtual campus. The deadline to deliver the work will be during the month of December, to be specified in class.
- A written report of the environmental impact study must be submitted, which has a weight of 45% on the final mark.
- An oral presentation, by groups, of the results obtained in the environmental impact study should be made. The presentation day will be determined in class and has a weight of 15% on the final mark of the subject.

Practices, exercises, and external visit

- During the course, different practices and exercises will be carried out, including a self-evaluation exercise at the end of each unit that will be delivered through the virtual campus.
- Attendance at the external visit is mandatory.
- The mark of the practices represents 10% of the final mark of the subject and cannot be recovered/improved with another recovery activity.

Alternative evaluation

- The alternative evaluation system for work or family reconciliation maintains the same evaluation blocks described above, although the delivery dates will be flexible according to the specific needs of the students adhering to this type of evaluation. The written environmental impact assessment report and the subsequent

oral presentation will be allowed individually.

Bibliography

GARMENDIA SALVADOR, A. [et al.], '*Evaluación de impacto ambiental*', Pearson Prentice Hall, 2005.

CONESA FDEZ.-VÍTORA, V., '*Guía metodológica para la evaluación del impacto ambiental*', Mundi-Prensa, 4ª ed., Madrid (2010)

GÓMEZ OREA, D.; GÓMEZ VILLARINO, Mª.T., *'Evaluación de impacto ambiental'*, Mundi-Prensa, 3ª ed., 2013.

COHEN, S., *'Understanding Environmental Policy'*, Columbia University Press, 2014.

GRANERO CASTRO, J., *'Evaluación de impacto ambiental. Guía metodológica para la evaluación de estudios de impacto ambiental'*, FC editorial, 2a ed. Revisada y ampliada, 2015.

CONESA FDEZ.-VÍTORA, V., '*Instrumentos de la gestión ambiental en la empresa*', Mundi-Prensa, 1997.

PUIG, R. [coord..], '*Llibre didàctic d'anàlisi del cicle de vida (ACV)*', Xarxa Temàtica Catalana d'ACV.

Spanish government – Ministry for the Energetic Transition – environmental assessment: https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/evaluacion-ambiental/

Catalan government – Dept. of Environment and Sustainability, environmental assessment: http://mediambient.gencat.cat/ca/05_ambits_dactuacio/avaluacio_ambiental/

European Commission, Environmental Assessment: https://ec.europa.eu/environment/eia/index_en.htm

European Commission, Environment: https://ec.europa.eu/environment/index_en.htm

United Nations, Climate Reports: https://www.un.org/en/climatechange/reports.shtml

WorldWatch Institute: https://www.worldwatch.org