

**Environmental Evaluation of Plans, Programmes  
and Projects**

Code: 102827  
ECTS Credits: 9

Degree	Type	Year	Semester
2501915 Environmental Sciences	OB	3	2

### Contact

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### Use of Languages

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: No

### Teachers

Eduard Madaula Izquierdo  
Àngela Ribas Artola  
Marcela Arqueros Wood

### Prerequisites

- It is recommended to have taken the course "Environmental and Natural Resources Economics".

### Objectives and Contextualisation

- To know the environmental assessment procedures and the content of the mandatory documents.
- To know the legislation governing environmental assessments.
- To know how to identify and assess environmental impacts.
- To be able to propose mitigating measures of impacts.
- To recognize the main effects of human activities on the natural and social environment.
- To know how to value the social perception of environmental impacts.
- To critically analyze an environmental assessment.

### Competences

- Adequately convey information verbally, written and graphic, including the use of new communication and information technologies.
- Analyze and use information critically.
- Collect, analyze and represent data and observations, both qualitative and quantitative, using secure adequate classroom, field and laboratory techniques

- Demonstrate adequate knowledge and use the most relevant environmental tools and concepts of biology, geology, chemistry, physics and chemical engineering.
- Demonstrate adequate knowledge and use the tools and concepts of mathematics, computer science and statistics to analyze and manage environmental issues.
- Demonstrate adequate knowledge and use the tools and concepts of the most relevant social science environment.
- Demonstrate concern for quality and praxis.
- Demonstrate initiative and adapt to new situations and problems.
- Information from texts written in foreign languages.
- Integrate environmental information in order to formulate and test hypotheses.
- Integrate physical, technological and social aspects that characterize environmental problems.
- Learn and apply in practice the knowledge acquired and to solve problems.
- Quickly apply the knowledge and skills in the various fields involved in environmental issues, providing innovative proposals.
- Teaming developing personal values regarding social skills and teamwork.
- Work autonomously

## Learning Outcomes

1. Adequately convey information verbally, written and graphic, including the use of new communication and information technologies.
2. Analyze and use information critically.
3. Demonstrate concern for quality and praxis.
4. Demonstrate initiative and adapt to new situations and problems.
5. Demonstrate knowledge of some of the main areas of scientific disciplines environment.
6. Demonstrate knowledge of some of the main areas of the social sciences in the environment.
7. Identify processes sciences, life sciences and social sciences in the surrounding environment and evaluate them properly and originally.
8. Information from texts written in foreign languages.
9. Integrate environmental information with environmental knowledge acquired from the sequence of observation, recognition, synthesis and modeling.
10. Learn and apply in practice the knowledge acquired and to solve problems.
11. Learn and apply the theoretical and practical aspects of environmental impact assessment principles.
12. Observe, recognize, analyze, measure and properly and safely represent environmental processes.
13. Prepare a report explaining the results obtained in the performance of work in the field of environmental sciences.
14. Teaming developing personal values regarding social skills and teamwork.
15. Work autonomously

## Content

Part 1) Concepts, regulations and methods. Impacts on the biotic medium

1. Basic concepts on the Environmental Assessment and basic legislation
2. Structure and content of the Environmental Impact Studies
3. Identification and qualitative evaluation of impacts
4. Assessment of the magnitude of impacts and weighting of environmental factors
5. Mitigation measures of environmental impacts and Program of Environmental Surveillance
6. Evaluation of the biotic medium, ecological criteria to mitigate environmental impacts.
7. Criteria of valuation of species and protection figures
8. Criteria for the valuation of protected natural habitats and spaces

9. Case study with special impact on the natural environment

Part 2) The impacts on the physical environment

1. Introduction to the physical environment.
2. Evaluation of the impact of the spills.
3. Basic information for EIA of the physical environment.
4. Evaluation of the erosion process
5. Impacts in the hydrological cycle
6. Impacts on the river environment: water and sediments.
7. Impacts on the hydrogeological environment
8. Slope impacts.
9. Acoustic impact
10. Study of cases of special incidence in the physical environment

Part 3) The Environmental Impact Assessment from the social perspective

1. The social environment as part of the environment and the impact assessment
2. The temporary dimension. Discount and inflation
3. Techniques of quantification of social impacts. Input-output tables, production functions, others
4. Methods of valuation and social perception. Revealed and declared preferences
5. Aggregations and evaluation. Cost-benefit analysis, multicriterion, Leopold, Battelle
6. The equivalence analysis
7. Preventive, corrective and compensatory measures
8. Surveillance and cost quantification program
9. Applications

## **Methodology**

The subject combines theory classes, individual practices, practical work and a field trip.

(a) Lectures (theory classes) where the concepts and methods of the discipline are explained. The theoretical the complicated and important points of each didactic unit are highlighted and addressed. Subsequently, the student has to assimilate the concepts explained with the bibliographic information and his individual work.

(b) Methodology classes (seminars) where the explanation of the foundations of the main valuation and evaluation methods will be combined with calculations in the computer through case studies.

(c) Practical work (classroom practices) oriented to the knowledge of the processes and the documents involved in environmental evaluation.

(d) Field practice where a field trip will be made to observe and discuss on the ground the impacts caused by human actions.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Classroom practice	16	0.64	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14
Field trips	8	0.32	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14
Lectures (theory)	50	2	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 1
Seminars	4	0.16	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14
Type: Supervised			
Documentation and bibliography	12	0.48	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14
Type: Autonomous			
Individual study	100	4	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14

## Assessment

Separate evaluations will be carried out for the biotic and physical environment part, and social environment part and for the respective practical works.

The calculation of the final grade will be made according to the following weights, expressed as a percentage:

- Half biotic and half physical, 50%, 20% of which will come from a practical joint work of biotic environment and physical environment.
- Social media, 50%, 20% of which will come from a practical work of social environment.

The continuous evaluation involves at least 3 evaluation activities throughout the course.

To be able to pass, you must have a grade not lower than 3.5 out of 10 in each test (from the continuous assessment or the June exam if applicable) and a final average equal to or greater than 5.0 in the subject. The format, procedure and specific content of the evaluation tests of each part will be detailed by the corresponding teacher at the beginning of the course.

The student who does not pass the continuous assessment has the option of taking the June test and then for them the grades of the partial exams will not count. Only partial exams may be subject to evaluation in the June test; the rest of activities (works) will not be re-evaluated.

To participate in the recovery exam, the student must have been previously evaluated in a set of activities the weight of which equals a minimum of two thirds of the total grade of the subject. Therefore, the student must take at least 3 of the 4 proposed evaluative activities (2 tests and 2 assignments). To participate in the June test, the student must have obtained at least a 3.5 average in the subject in the continuous assessment.

A not presented in the June test implies a grade equal to that obtained in the evaluation of the course.

Those who exceed the final mitjana requirement equal to or greater than 5.0 and not 3.5 in each test will be qualified in the dossier with the average obtained in the continuous evaluation with a maximum limit of 4.7.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Partial exam natural environment	30%	2	0.08	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14
Partial exam social environment	30%	2	0.08	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15
Practical work natural environment	20%	16	0.64	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14
Practical work of social environment	20%	15	0.6	2, 10, 11, 5, 6, 4, 3, 13, 7, 9, 12, 8, 1, 15, 14

## Bibliography

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## Software

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