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

Sergi Pla Rabes
María Ángeles Pérez Navarro

Prerequisites

There are no official pre-requisites. However, familiarity with the basics of conservation biology as well as with experimental design and statistics are implied.

Objectives and Contextualisation

This subject is an introduction to the evaluation of the effects of human actions on the natural environment, considering this evaluation in its dual aspect of scientific activity and normative environmental evaluation of plans, programs and projects. Its general objectives are to train students in the biological aspects of environmental assessments, concepts and methods applicable to ecological restorations. It also aims to introduce the analysis and the conduct of regulated environmental assessments. The specific objectives are as follows:

(1) To know the theoretical principles and practical aspects of ecological restorations.
(2) Understand methods for detecting effects of human actions on the natural environment.
(3) To know the contents of the environmental assessments, the methods available to them in their biological aspects (species, habitats and ecosystems), and the applicable legislation.
(4) To recognize environmental impacts and introduce students to procedures that assist in decision making that minimize the environmental impact.
(5) To be aware of the main mitigating measures of impacts.

Skills
• Adopt an ethical stance.
• Apply ICT resources pertaining to this field of study.
• Carry out services and processes related to environmental biology.
• Describe, analyse and assess the natural environment.
• Develop a sensibility towards environmental issues.
• Direct, draft and execute projects in environmental biology.
• Focus on quality.
• Make decisions.
• Participate in environmental impact assessments regarding the biological medium.
• Perform biological diagnoses.
• Solve problems.

Learning outcomes

1. Adopt an ethical stance.
2. Apply ICT resources pertaining to this field of study.
3. Correctly process information on biological aspects to support environmental impact studies and environmental assessments.
4. Describe and assess the biotic components affected by a project.
5. Develop a sensibility towards environmental issues.
6. Establish the conceptual content and the methodological requirements for solving a specific environmental problem.
7. Focus on quality.
8. Identify effects of human interventions on species and their habitats.
9. Make decisions.
11. Solve problems.

Content

Valoració d'espècies i ecosistemes: General contents of the subject 2018-2019

0. Introduction to Valoració d'espècies i ecosistemes. Justification of the program and the proposed activities. Organization and structure of the program. Relationships with other subjects of the degree. Activities and their evaluation. Bibliography.

A. Environmental assessment as a scientific activity


B. Restoration Ecology


3. What should we have in mind when designing a restoration? Foundations and current objectives of the restoration. Introduction to ecosystem processes and theories. Ecosystem services and their preservation. Case studies.


C. Environmental assessment as a normative instrument.


D. Selection of alternatives.


E. Mitigating measures.


F. Further theory but for which practices?

10. What theoretical foundations would help tomorrow's managers to sustain healthy ecosystems?

Methodology

The methodology used to achieve the learning process is based on the students working on the information relevant to the subject. The role of the teacher is to guide the students in their learning, stimulating reflection and discussion. Depending on the case, the teacher provides the necessary information directly or indicates where to find it. The class combines lectures, group discussions, assignments and practical classes:

(1) Lectures, where concepts and methods of the discipline are presented and explained. It will alternate with text discussion, usually by groups, on articles and documents (environmental impact assessments), with subsequent team presentations. The lectures will highlight and address the most complex and important points for each didactic unit, and case studies will be analyzed. Subsequently, the student, based on that conceptual map, can supplement it with bibliographic information during his/her independent work. Lectures will last 50 minutes, making the audiovisual material prepared by the teacher available in the Virtual Campus.

(2) Assignments to be conducted by students, will be oriented to apply to practical cases, concepts and methods explained in lectures.

(3) Computer-based labs models for evaluating species reintroduction actions will be used.

(4) Field trips: visits to places where ecological restoration actions have been carried out.

Activities

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<thead>
<tr>
<th>Title</th>
<th>Hours</th>
<th>ECTS</th>
<th>Learning outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Directed</td>
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</table>
### Evaluation

The course will be evaluated according to the following parts:

**Final written tests** (50% of the total score). Obtained from the average evaluation of the two mid-term written tests. Written tests will also evaluate the topics covered during the practical sessions.

**Critical analysis of an EIA** (35% of the total score) applying the concepts and methods explained in the theory. This activity will be scored as follows:

- 5% - student review of the critical analysis draft made by other students
- 10% - evaluation of the critical analysis draft made by the student (under evaluation). Review comments for later implementation to be provided by the teacher.
- 20% - evaluation of the final version of the work, with all proposed changes in implemented. A comment sheet explaining how comments have been implemented in the final version must be provided.

**Other Aap** (Learning activities: case study resolution and preparation of discussion, 15% of the mark) - This part will assess: 1) each of the resolutions of the case study analysis sessions (2 in total) that corresponds of 5% of the final mark (10%), and 2) the participation and resolution of the debate proposal that will correspond to the last 5% of the evaluation.

In order to pass the student's grade, weighted as stated above, needs to be at least 5 (over 10), and the average for both mid-term exams (3 and 4) not less than 4 (over 10). If the average for both mid-term exams does not reach 4 the student will have the possibility to do a final exam (that corresponds to 50% of the grade if the score if more than 4 over 10). To be eligible for the retake process, the student should have been previously evaluated in a set of activities equaling at least two thirds of the final score of the course or module. Thus, the student will be graded as "No Avaluable" if the weighting of all conducted evaluation activities is less than 67% of the final score". For the rest of assessment activities, you do not need to obtain any minimum mark to make an average.

Attendance to practical sessions (or field trips) is mandatory. Students missing more than 20% of programmed sessions will be graded as "No Avaluable.

The non-delivery of any of the assignments within the established period implies a zero score for that activity.

Students who are unable to attend an individual test for a justified reason (such as illness, accident or death or grave illness or accident of a first-degree relative) and provide the official documentation to the Degree Coordinator, will be entitled to take the test at a different date.

### Evaluation activities

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<tr>
<th>Type: Supervised</th>
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<tbody>
<tr>
<td>Classroom lectures and discussions</td>
<td>35</td>
<td>1.4</td>
<td>4, 7, 8, 10, 6, 9, 11, 5, 3</td>
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<tr>
<td>Computer lab</td>
<td>3</td>
<td>0.12</td>
<td>2, 8, 11</td>
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<tr>
<td>Field trips</td>
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<td>0.64</td>
<td>10, 11, 5, 3</td>
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<td><strong>Analytical work of an EIA</strong></td>
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<td>2</td>
<td>2, 7, 8, 9, 11, 5, 3</td>
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<tr>
<td>1. First mid-term exam</td>
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<tr>
<td>2. Second mid-term exam</td>
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<td>3. Critical analysis of an EIA</td>
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<td>0</td>
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<tr>
<td>4. Case study resolutions and other assignments, preparation and</td>
<td>15</td>
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<tr>
<td>participation in discussions</td>
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**Bibliography**

**SUGGESTED LITERATURE**

(A) Experimental design and criteria to detect effects in the environment


(B) Ecological restoration and restoration ecology


(C) Environmental assessment


(D) Value assignment


**Others books and documents**
Environmental assessment


Guía para la elaboración de Estudios Ambientales de proyectos con incidencia en el medio natural. [Són 8 guies, numerades 0 a 7]. Dirección General de Medio Natural de la


Suggested Webs on environmental assessment

1. Asociación Española de Evaluación de Impacto Ambiental - www.eia.es
2. Banc de dades d’avaluació ambiental - mediambient.gencat.cat/ca/05_ambits_dactuacio/avaluacio_ambiental/participacio_publica/banc_de_dades_dav;
3. Consejería de Industria y Medio Ambiente de la Región de Murcia - www.ambiental-sl.es/descargas
4. Departament de Territori i Sostenibilitat (Generalitat de Catalunya) --> Medi ambient i sostenibilitat --> Empresa i avaluació ambiental -> Avaluació ambiental de plans, programes i infraestructures
6. International Association for Impact Assessment - www.iaia.org

Scientific journals

Impact Assessment and Project Appraisal - www.tandfonline.com/toc/tiap20/current


Restoration ecology


**Webs on Restoration**

3. CIREF: Centro Ibérico de Restauración Fluvial - www.cirefluvial.com
4. European Centre for River Restoration - www.ecrr.org

**Scientific journals on restoration**


**other scientific journals**


