

Academic Year/course: 2022/23

66708 - Evaluation of environmental effects and restoration

Syllabus Information

Academic Year: 2022/23

Subject: 66708 - Evaluation of environmental effects and restoration

Faculty / School: 103 - Facultad de Filosofía y Letras

Degree: 328 - Master's in Land and Environmental Planning

ECTS: 6.0

Year: 1

Semester: Annual

Subject Type: Optional

Module:

1. General information

1.1. Aims of the course

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1.2. Context and importance of this course in the degree

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1.3. Recommendations to take this course

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2. Learning goals

2.1. Competences

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2.2. Learning goals

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2.3. Importance of learning goals

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3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

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4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The course combines theoretical conceptual parts with case examples and practical work.

The practice coursework allows to strengthen the use of analysis tools and diagnostics and teamwork.

The analysis of specific and complex cases is done by the teachers, who have selected a set of examples of various subjects and application results, some of which are visited in the field practices.

In the development of training activities, the theory and practice sessions are interspersed with case presentations, always following a consistent thread with the two main course sections: impact and restoration. This organization leads to better learning outcomes and enables students to continue developing their study and teamwork.

4.2. Learning tasks

The course includes the following learning tasks:

- Theory sessions (25 hours): They are used to present the basic concepts of *Environmental Impact Assessment and Environmental Restoration*. There are 10 sessions of 2.5 hours.
- Practical activities (23 hours): aimed at the realization of different phases that are included in *Environmental Impact Assessment* projects and studies. Theory and practice sessions will alternate.
- Field work (12 hours): Two field trips will be made in the course as a essential complement of the development of practical activities in Environmental Impact Assessment and Environmental Restoration projects.
- Autonomous work and study (84 hours).
- Assessment tasks (6 hours). There are three assessment activities:
 - Written exam of the theory topics (only for global assessment). Only the written test needs a specific time to do (about one hour).
 - Preparation of an Environmental Impact Assessment,
 - Design and implementation of a system for evaluating actions in environmental Restoration Projects

4.3. Syllabus

The course will address the following topics:

Theory sessions

Topic 1. Introduction and environmental impact general concepts.

- 1.1. Introduction.
- 1.2. General concepts.
- 1.3. Main principles of Environmental Impact Assessment.
- 1.4. Levels of Environmental Impact Assessment.
- 1.5. Typology of impacts.

Topic 2. Legal and administrative framework on Environmental Impact Assessment.

- 2.1. Background.
- 2.2. The Community legislation.
- 2.3. State and Aragonese legislation.
- 2.4. Projects subject to Environmental Impact Assessment.
- 2.5. The administrative procedure in Environmental Impact Assessment.

Topic 3. Methodology for preparing Environmental Impact Assessments.

- 3.1. Minimum contents of the Strategic Environmental Study.
- 3.2. Minimum contents of the Environmental Impact Assessment.
- 3.3. Structure of the Environmental Impact Assessment.
- 3.4. Environmental Impact Assessment development methodology.
- 3.5. Corrective measures and environmental surveillance.

Topic 4. Ecological concepts, general concepts and environmental restoration rules and regulations.

- 4.1. General concepts.
- 4.2. Environmental restoration rules and regulations.
- 4.3. Ecological and environmental principles.

Topic 5. Methodology for restoration projects.

- 5.1. Restoration process planning.
- 5.2. Restoration process structure.
- 5.3. Restoration techniques and examples of projects.

Topic 6. Monitoring and evaluation of restoration projects.

Practice sessions

In these classes the activities performed are:

1. Review of legislation.
2. Internet access servers with environmental information.
3. Revision of examples of environmental impact assessments.
4. Design and production different sections of an environmental impact assessment (project description, environmental inventory, environmental factors tree, selection of alternatives, evaluation of alternatives, identification and assessment of impacts).
5. Revision of examples of environmental restoration projects.
6. Design of a system of assessment of environmental restoration actions.

4.4. Course planning and calendar

Sessions run during February and March. The academic activity of the course finishes after the written test of the theoretical part. Lecture sessions and practical activities take place in a classroom with capacity for 18 students, computers with Internet access, projector and blackboard. Field trips will be held in different parts of the Aragonese geography.

| Session | Topic | Activities |
|---------|-------|---------------------------------------------------------------------------------------------------------------------------|
| 1 | 1 | Lecture sessions, practical activities: Internet access servers, Revision of examples of environmental impact assessments |
| 2 | 2 | Lecture sessions, practical activities: Review of legislation |
| 3 | 3 | Lecture sessions, practical activities: Design and production of an environmental impact assessment |
| 4 | 3 | Lecture sessions, practical activities: Design and production of an environmental impact assessment |
| 5 | 3 | Lecture sessions, practical activities: Design and production of an environmental impact assessment |
| 6 | 3 | Lecture sessions, practical activities: Design and production of an environmental impact assessment |
| 7 | 3 | Lecture sessions, practical activities: Design and production of an environmental impact assessment |
| 8 | 3 | Lecture sessions, practical activities: presentation and case assessment |
| 9 | 3 | Lecture sessions, practical activities: presentation and case assessment |
| 10 | 4 | Lecture sessions, practical activities: Design of a system of assessment of environmental restoration actions |
| 11 | 4 | Lecture sessions, practical activities: Design of a system of assessment of environmental restoration actions |
| 12 | 4 | Lecture sessions, practical activities: Design of a system of assessment of environmental restoration actions |
| 13 | | Field work |
| 14 | 5 | Lecture sessions, practical activities: study cases presentation |
| 15 | 5 | Lecture sessions, practical activities: study cases presentation |
| 16 | 5 | Lecture sessions, practical activities: study cases presentation |
| 17 | | Field work |
| 18 | 5 | Lecture sessions, practical activities: Applying a system of assessment in restoration projects |
| 19 | 6 | Lecture sessions, practical activities: Applying a system of assessment in restoration projects |
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4.5. Bibliography and recommended resources

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- Manual de restauración de terrenos y evaluación de impactos ambientales en minería / [realizado por Francisco Javier Ayala Carcedo...[et ali.] . 2a. ed. Madrid : Instituto Geominero de España, D.L. 1989
- Gestión y restauración de humedales / [texto: Antoni Canicio... (et al.)] . Madrid : Fundación Santander Central Hispano, D. L. 200
- Canter, Larry W. Manual de evaluación de impacto ambiental: técnicas para la elaboración de estudios de impacto / Larry W. Canter ; traducción, Ignacio Español Echániz...[et al.]; revisión técnica, José Vicente López Alvarez, José María Casillas Barral, Rosa María Gómez Alonso . 1a ed. en español Madrid [etc.]: McGraw-Hill, D.L. 1997
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- Gómez Orea, Domingo. Recuperación de espacios degradados / Domingo Gómez Orea. Madrid: Ediciones Mundi-prensa, 2004
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- Restauración hidrológico forestal de cuencas y control de la erosión: ingeniería medioambiental / [dirección, Filiberto López Cadenas de Llano; colaboradores, Gonzalo Fernández Tomás...(et al.)] . 2ª ed., rev. y amp. Madrid: TRAGSA : TRAGSATEC : Ministerio de Medio Ambiente : Mundi-Prensa, 1998
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