Universidad Zaragoza

Academic Year/course: 2022/23

25266 -

Syllabus Information

Academic Year: 2022/23
Subject: 25266 -
Faculty / School: 201 - Escuela Politécnica Superior
Degree: 571 - Degree in Environmental Sciences
ECTS: 6.0
Year:
Semester: First Four-month period
Subject Type: Optional
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

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

This course offers the possibility of continuous evaluation, for which attendance to at least 80% of the face-to-face activities is recommended. In this case, it will be essential to complete the following assessment activities:

- Two face-to-face written tests on the theoretical part of the program of the subject, which will be averaged (70% of the grade). The minimum grade of 4.5 out of ten must be obtained in each one of them. Each test may include short-answer and essay questions. Each of the tests will evaluate approximately half of the course syllabus.

- Elaboration of a report of the practical sessions (30%).

In order to pass the course by means of the continuous evaluation, it will be necessary to have passed, at least, the theoretical part and the practical part.

The practical part will be kept for the final exam will be kept for the final exam in case the student does not pass the theoretical part.

Complementary activities may be carried out to improve the overall grade. In any case, all students have the right to take the overall written and face-to-face exam at the end of the course according to the EPS exam calendar.

The global evaluation test will consist of the following activities:

- Presentation of a general report of the practices as a whole (25%) that will include the following sections:

- Written and face-to-face test at the end of the course according to the EPS exam calendar (75% of the grade). Each test may include short answer and essay questions.

The evaluation criteria for both types of evaluation are the following:

- Correct and fluent expression of ecological and ecological restoration concepts.

- The ability to relate the concepts acquired in practice and theory.

- The ability to integrate and synthesize ecological and ecological restoration information.

- Ability to integrate information from the subjects of the module "Interpretation of the Environment as a System" and the knowledge of ecological restoration.

The evaluation activities will include exercises or questions specifically related to the goals (15.1, 15.2, 15.3) of goal 15 of the United Nations Sustainable Development Goals.

Success rates in previous courses:

18-19	19-20	21-22

No students	100,00%	100,00%

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

Theoretical sessions:
The teacher will make a lecture of each topic asking for the participation of the students. The student will have bibliographic material and the powerpoint slides of each topic.
On the other hand, there will be conference sessions given by external experts.
Practical sessions:
Practical activities will focus on the study and analysis of completed restoration projects visited during the field trips. At the end, the students will prepare a report giving an opinion on some of them. Workshop sessions will be developed to guide students in the preparation of the report.

4.2. Learning tasks

The program offered to the students to help them to achieve the expected results includes the following activities:

Theory sessions in the classroom:

The teacher providea presentation, as well as additional bibliographic material for each session. Available on the Moodle platform, which must be previously studied, at least by the students with continuous assessment.

The sessions will include interventions of the students and lectures by the teacher. Others will correspond to participations of invited experts and and seminars prepared by the students.

Field trips:

We will take two field trips. One of two days (Friday and Saturday) and another of one day (8 hours). We will visit several restoration projects to meet with some stakeholdres in each project. For these visits, bibliographic material will be available at moodle. A booklet will be provided with activities to be carried out during and after the fieldtrips. Students must submit a report.

Practice sessions:

Three two-hour practice sessions will be held to guide students.

Tutorials:

To monitor the theory and practice activities, the students are invited to take part in personalized tutorials both individually or in groups.

4.3. Syllabus

Theory:

Module I. Introduction to the restoration of degraded ecosystems.

Module II. Scientific bases of the restoration

Module III. Restoration techniques

Module IV. Analysis of practical cases

Practice:

Contents and structure of a restoration project

Keys to the execution, management and development of a restoration project

Analysis of restoration projects in the field of mining, agroecosystems, forests and pastures, wetlands, urban environments and linear infrastructures.

4.4. Course planning and calendar

Type of activity / Week	1	2	3	4	5	6	7	8
	15-17 sep	20-24 sep	27 sep-1 oct (1)	4-8 oct	11-15 oct	18-22 oct (2)	25-29 oct	2-5 nov
					Non-school			

					Oct 11 (Mon) Holiday Oct 12 (Tuesday)			
Face-to-face activity								
Theory	2	2	4	2		2	2	2
Problems								
Lab practices								
Group working		2						
Salidas de prácticas								8
Tutorías ECTS								
Evaluación								
No Face-to-face activity								
Individual work	5	4	5	5	5	2,5	4	
Group work						1,5		
TOTAL	7	8	9	7	5	6	6	10

4.5. Bibliography and recommended resources

BB Ecological restoration : a global challenge / edited by Francisco A. Comin. Cambridge : Cambridge University Press, 2010 (reimp. 2011)

BB Gibson, Paul J. Introductory remote sensing, principles and concepts / Paul J. Gibson ; with contributions to the text by Clare H. Power and Website development by John Keating. [London] : Routledge, 2000

BB Gómez Orea, Domingo. Recuperación de espacios degradados / Domingo Gómez Orea. 2ª ed. Madrid : Ediciones Mundi-prensa, 2014

BB Handbook of ecological restoration. Vol. 1, Principles of restoration / edited by Martin R. Perrow and Anthony J. Davy.Cambridge : Cambridge University Press, 2002

BB Handbook of ecological restoration. Vol. 2, Restoration in practice / edited by Martin R. Perrow and Anthony J. Davy. Cambridge : Cambridge University Press, 2002

BB Harris, James A. Land restoration and reclamation : principles and practice / James A. Harris, Paul Birch and John P. Palmer. Harlow (Essex) : Longman, 1996 (reimp. 1998)

BB Reclaimed land : erosion control, soils and ecology / editor Martin J. Haigh. Rotterdam : A. A. Balkema, 2000

BB Restauración de ecosistemas mediterráneos : [ponencias presentadas en el simposio ?Restauración de ecosistemas en ambientes mediterráneos. Posibilidades y limitaciones?, 20 y 21 de septiembre de 2001,

Alcalá de Henares] / Asociación Española de Ecología Terrestre ; José Ma. Rey Benayas, Tíscar Espigares Pinilla, José Manuel Nicolau Ibarra (editores). [Alcalá de Henares] : Universidad de Alcalá, Servicio de Publicaciones, D.L. 2003

BB Restoration ecology : the new frontier / edited by Jelte van Andel and James Aronson. 2nd ed. Oxford : Wiley-Blackwell, cop. 2012

BC Castro Díez, Pilar. Plan de restauración del bosque de ribera en la Reserva Natural de los Galachos (Zaragoza) / Pilar Castro Díez, Joaquín Guerrero Campo, Miguel Angel Muñoz Yanguas. [Zaragoza] : Consejo de Protección de la Naturaleza de Aragón, 2001

BC Catalán Bachiller, Gabriel. Semillas de árboles y arbustos forestales / Gabriel Catalán Bachiller. Madrid : ICONA, D.L. 1991

BC Restauración hidrológico forestal de cuencas y control de la erosión / [dirección y coordinación, Filiberto López Cadenas de Llano ; colaboradores, Gonzalo Fernández Tomás ... et al.]. Madrid : TRAGSA : TRAGSATEC : Mundi-Prensa, 1994

LISTADO DE URLs:

Mansourian, S., Wallauri, D., Dudley, N. (2005). Forest restoration in landscapes. New York: Springer and WWF [https://www.agrifs.ir/sites/default/files/Forest%20Restoration%20in%20Landscapes,%20Beyond%20Planting%20Trees%20]

Restauración de ecosistemas. Web con contenidos de restauración [https://www.restauraciondeecosistemas.com/]

Valladares, F., Gil, P., Forner, A. (2017): Bases científico-técnicas para la estrategia estatal de infraestructura verde y de la [https://www.miteco.gob.es/es/biodiversidad/temas/ecosistemas-y-conectividad/basescientifico-tecnicaseeivcre_tcm30-479

The updated recommended bibliography can be consulted in:http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=25266