

25211 - Ecology I

Información del Plan Docente

Academic Year	2018/19
Subject	25211 - Ecology I
Faculty / School	201 - Escuela Politécnica Superior
Degree	277 - Degree in Environmental Sciences 571 - Degree in Environmental Sciences
ECTS	6.0
Year	2
Semester	First Four-month period
Subject Type	Compulsory
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

This subject is offered in the [English Friendly](#) form

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

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

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, laboratory sessions, fieldwork and tutorials.

4.2.Learning tasks

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This course is organized as follows:

- **Lectures.** The student will be provided with references and presentations of each topic of the course before the lectures. During them, some students chosen by the teacher will present their view on the topic, based on their own knowledge and the information provided by the teacher. This information should have been previously studied by them. External experts will give specific **conferences**. A presentation of each lesson will be provided, as well as additional references, both available on Moodle platform. This information has to be studied previous to the lecture by the students.
- **Practice sessions.** The practical part will consist in: (i) a full day **fieldwork** devoted to ecosystem recognition and (ii) the elaboration of several ecology reports of a field area near Huesca. These reports will be supervised by the teacher. They will consist in regular team **tutorials**. Both practical activities will be completed with: (i) **computer sessions** in order to learn to manage ecologic models, and (ii) lab sessions dedicated to perform different analysis and experiments.
- **Tutorials.** Individual and in groups.
- **Assignment.** Different ecology and environmental topics will be proposed to the students. They should develop them with teacher's support and present a final report.
- **Assessment.** The evaluation of the theory will be completed with two tests (Continuous Evaluation).

4.3.Syllabus

This course will address the following topics:

- **Unit 1. Introduction to Ecology**
 - o 1 The concept of Ecology. Study object. History
 - o 2 Non-equilibrium perspective. Social context
 - o 3 The scientific method. System theory. Ecosystem concept. Gaia
 - o 4 Ecology and Environment
- **Unit 2. Physical Environment and Organisms**
 - o 1 Resource and conditions. Limiting factors
 - o 2 Astronomic and geologic context
 - o 3 Atmosphere - Oceanic circulation system
 - o 4 Climates and microclimates
 - o 5 Organisms and radiation
 - o 6 Organisms and Temperature
 - o 7 Organism and water availability. Ecohidrology
 - o 8 Abiotic factors in water and terrestrial environments
 - o 9 Terrestrial environments: geomorphology and soil
 - o 10 A synthesis on the importance of abiotic factors. Ecology niche concept
 - o 11 Time evolution response
 - o 12 History biogeography
- **Unit 3. Populations**
 - o 1 Population and metapopulation. Conceptual basis
 - o 2 Primary and secondary parameters. Tabulation
 - o 3 Life cycles
 - o 4 Intraspecific competition
 - o 5 Population dynamics
 - o 6 Growth regulation

4.4.Course planning and calendar

Calendar of face-to-face lectures and report presentations

The amount of time that an average student should dedicate to this 6 ECTS course is about 150 hours.

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Activity/Week	1	2	3	4	5	6	7	8	9	10
Face-to-face										
Lectures	2	2	2	2	2	1	2	2	2	1
Fieldwork			7				7			
Fieldwork tutorials										
Lab										
Computer practice				2	2	2				
Evaluation						1				1
Autonomous work and study										
Academic work						3	2	3	2	
Study	4	4	5	5	5	3	3	3	3	5
TOTAL	6	6	14	9	9	10	14	8	7	7

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Activity/Week	11	12	13	14	15	16	17	18	19	TOTAL
Face-to-face	2	2	2	2	1					27
Lectures										14
Fieldwork	3			3						6
Fieldwork tutorials		2	2							4
Lab										6
Computer practice					1			2		5
Evaluation										
Autonomous work and study										10
Academic work	4	5	5	5	4	6	6			75
Study	9	9	9	10	6	6	6	2	0	147
TOTAL										

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the Faculty of Sciences website and Moodle.

4.5. Bibliography and recommended resources

The references of each course will be updated and can be consulted from the library's web.

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- BB** ; traducido por Miquel Riba Rovira, Raymond Salvador Civ
ed. Barcelona : Omega, D.L.1999
Smith, Thomas Michael. Ecología / Thomas M. Smith, Rob
Smith . - 6a. ed. Madrid [etc.] : Pearson Addison-Wesley, D
2007
- BC** Díaz Pineda, Francisco. Ecología I : ambiente físico y orga
vivos / Francisco Díaz Pineda . - 2ª reimp. Madrid : Síntesis
(reimp. 1996)
- BC** Margalef, Ramón. Planeta azul, planeta verde / Ramón Ma
- [1a. ed.] Barcelona : Prensa Científica, 1992
- BC** Rodríguez, Jaime. Ecología / Jaime Rodríguez Madrid : Pir
D.L.1999
- BC** Terradas, Jaume. Ecología de la vegetación : de la ecofisi
de las plantas a la dinámica de comunidades y paisajes / J
Terradas. Barcelona : Omega, D.L. 2001

The updated recommended bibliography can be consulted in:
<http://psfunizar7.unizar.es/br13/egAsignaturas.php?id=10973>