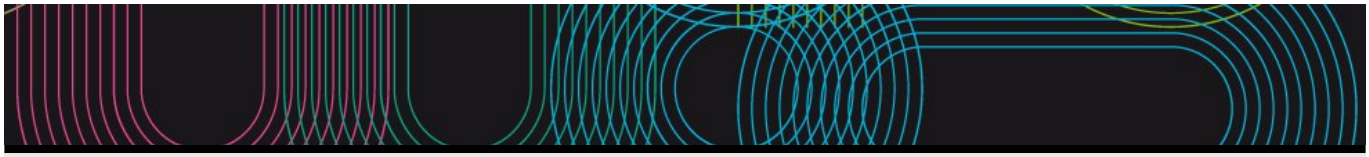

IDENTIFYING DATA				
Ecology II				
Subject	Ecology II			
Code	V02G031V01306			
Study programme	Grado en Biología			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	3rd	2nd
Teaching language	Spanish			
Department				
Coordinator	Pardo Gamundi, Isabel María			
Lecturers	Aranguren Gassis, María Delgado Núñez, Cristina Pardo Gamundi, Isabel María Sobrino Garcia, Maria Cristina			
E-mail	ipardo@uvigo.es			
Web				
General description	Ecology is the science that studies the response of organisms to environmental variations and relationships to each other, from individuals to the ecosystem level. This course aims to provide basic knowledge of Ecology of communities and ecosystems. English Friendly subject: International students may request from the teachers: a) resources and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English. The schedules of the matter can be consulted in the link: http://bioloxia.uvigo.es/es/docencia/horarios			

Training and Learning Results	
Code	
A2	Students should know how to apply their knowledge to their work or vocation in a professional way. They also should have the competences that are usually proved through the elaboration and defence of arguments and the resolution of problems within their study field.
A3	Students should prove ability for information-gathering and interpret important data (usually within their study field) to judge relevant social, scientific or ethical topics.
A4	Students should able to communicate information, ideas, issues and solutions to all audiences (specialist and unskilled audience).
B2	Manage scientific-technical information using diverse and reliable sources. Analyze data and documents and interpret them critically and rigorously, including considerations on their social relevance and in the professional field of Biology.
B4	Draft and write reports, documents and projects related to Biology. Proceed to their presentation and debate in the teaching and specialized areas, highlighting the competences of the degree.
B6	Develop analysis and synthesis, critical reasoning and argumentation skills, applying them in Biology and other scientific-technical disciplines.
C7	Sampling, characterising, cataloguing and managing natural and biological resources (populations, communities and ecosystems).
C8	Describe, assess and plan the physical environment, use bio-indicators and identify environmental problems. Provide solutions for the control, monitoring and restoration of ecosystems.
C9	Identify resources of biological origin and assess their efficient and sustainable use in order to obtain products of interest. Propose and implement improvements in production systems.
C10	Identify biological and biotechnological processes and their potential applications, in particular in health, agri-food and environmental fields.
D3	Commitment to sustainability and the environment. Equal, sensible and efficient use of resources.
D5	Communicate effectively and appropriately, including the use of computer tools and English.

Expected results from this subject	
Expected results from this subject	Training and Learning Results

Understand models of ecosystem development (ecological succession) and disturbance, stability and dynamic of ecosystems.	A3	B4 B6	C7 C8	D3
Apply the knowledge of the ecology to isolate, identify, handle and analyse specimens and environmental samples	A2 A3	B2 B4	C7 C10	D3
Apply knowledges and own methodologies of the ecology in different processes related with the management of the environment	A3 A4	B2 B4 B6	C8	D3 D5
Apply knowledges and relative methodologies to the ecology in appearances related with the production, exploitation, analysis and diagnostic of processes and biological resources	A3	B4 B6	C9 C10	D5
Obtain information, develop experiments and interpret results	A3	B2 B4 B6	C7 C8	D3
Comprise the social projection of the ecology and his repercussion in the professional exercise, as well as know use his contents to give teaching and do divulging	A4	B2 B4	C8	D3 D5
Know and handle the concepts, terminology and scientific instrumentation-technical relative to the ecology	A2	B4	C7 C8	D5

Contents

Topic	
I. Structure and organisation of communities	1. The nature of the community. 2. Physical structure. 3. Biological structure. 4. Effect of the perturbations on the composition and structure of the communities.
II. Flow of Energy and circulation of matter in the ecosystem	5. Introduction to the operation of the ecosystems. Trophic chains 6. Primary production. 7. Factors that limit the primary production. 8. Secondary production. 9. Decomposers and detritivores. 10. The circulation of matter in the ecosystems. 11. Biogeochemical cycles
III. Change in the ecosystem	12. Global change 13. Succession

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	31	64	95
Seminars	3	1	4
Debate	2	1	3
Laboratory practical	12	12	24
Report of practices, practicum and external practices	0	22	22
Objective questions exam	1	0	1
Objective questions exam	1	0	1

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	Exhibition by part of the professor of the contents related with the matter.
Seminars	Face-to-face work guided by the destined professor to deepen in subjects related with the matter given in the lectures or complementary to this. They will study and they will analyse, by means of specific questions designed by the professor, 3 scientific articles classical of Ecology that will treat related or complementary subjects to the subjects given in the lectures. The articles are written in English. Seminars: 1. Trophic chains. 2. River Ecology: Introduction to practical classes 3. Ecological succession
Debate	Open talk between groups of students. Centred in a subject of the contents of the previously tackled matter in previous lectures. Debate on the climate change

Laboratory practical	Practical work allocated to familiarise to the student with some of the technicians and methodologies employed in Ecology. Practices: 1. Exit of field for the obtaining of data for practices. 2 and 3. Fluvial metabolism. Transport and retention of solutes and particuilate materials in rivers. Relation between consumers and resources.

Personalized assistance

Methodologies	Description
Lecturing	The assistance to students can be individualised and/or in groups either face-to-face or by telematic means (email, virtual campus, videoconference, Moovi forums, ...). Students have to request an apointment. Schedule of assistance: Isabel Pardo: Tuesday and Wednesday 11.00-13:00 pm; Cristina Sobrino: Tuesday and Thursday 12:00-14:00 pm.
Laboratory practical	The assistance to students can be individualised and/or in groups either face-to-face or by telematic means (email, virtual campus, videoconference, Moovi forums, ...). Students have to request an apointment. Schedule of assistance: Isabel Pardo: Tuesday and Wednesday of 11.00-13:00 pm; Cristina Delgado: Monday and Wednesday 10:30-12:30 pm Cristina Sobrino: Tuesday and Thursday 12:00-14:00 pm.
Seminars	The assistance to students can be individualised and/or in groups either face-to-face or by telematic means (email, virtual campus, videoconference, Moovi forums, ...). Students have to request an apointment. Schedule of Assistance: Cristina Sobrino: Tuesday and Thursday of 12:00-14:00 pm. Isabel Pardo: Tuesday and Wednesday 11:00-13:00 pm.
Debate	The assistance to students can be individualised and/or in groups either face-to-face or by telematic means (email, virtual campus, videoconference, Moovi forums, ...). Students have to request an apointment. Schedule of Assistance: Isabel Pardo: Tuesday and Wednesday 11.00-13:00 pm.
Tests	**Description**
Report of practices, practicum and external practices	The assistance to students can be individualised and/or in groups either face-to-face or by telematic means (email, virtual campus, videoconference, Moovi forums, ...). Students have to request an apointment. Schedule of Assistance: Isabel Pardo: Tuesday and Wednesday 11.00-13:00 pm; Cristina Delgado: Monday and Wednesday 10:30-12:30 pm Cristina Sobrino: Tuesday and Thursday 12:00-14:00 pm.

Assessment

	Description	Qualification	Training and Learning Results			
Seminars	Participation and preparation of the works proposed by the professor for the specific subject of each seminar.	7	A3	B2	C8	D5
Debate	Preparison, assistance and participation in the debate	5	A2 A3 A4	B2 B4 B6	C9	D5
Laboratory practical	Assessment of the performance in field and laboratory work, and of the methods employed during the practices as well as of the capacity for the work in group.	1	A3	B2	C7	D3
Report of practices, practicum and external practices	Written, defence and discussion of the results obtained in practices. It will be valued the quality and depth of the work and analysis of data, the graphic quality and clarity, and the participation in the discussions.	24	A2 A3	B2 B4 B6	C7 C8 C10	D3 D5
Objective questions exam	This first part, which will be done in writing in March, will consist of a series of objective questions related to the first part of content (Topics 1-7) taught during the master classes.	30	A2	B2 B6	C9 C10	D5
Objective questions exam	This second part, which will be carried out in writing at the end of the four-month period with classes, will consist of a series of objective questions related to the second part of the two contents (Topics 8-13) taught during the master classes.	33	A2	B2 B6	C9 C10	D5

Other comments on the Evaluation

Students who opt for continuous assessment must take two partial written exams, the first in March (30% of the final grade) and the second in June (33% of the final grade). If you fail the first partial, you must go to the final exam in June with the two partials. Said test will include two exams, one of each part. The July exam (2nd opportunity) will be related to the theoretical subject not passed during the 1st opportunity. (first, second or both sets).

The practices (including the presentation of the report), as well as the activities related to the Seminar and Debate, must be carried out compulsorily, regardless of the chosen evaluation modality.

Students who opt for the global evaluation modality, and who have attended and carried out the Practices, the Seminar, and the Debate, must sit a final test in June that will include questions related to the theoretical contents evaluated in the two integrated partials. in continuous evaluation. In all the exams (first partial, second partial and the July exam) the same criteria will be followed: a grade of 4.5 must be passed in all of them so that the grade of the other evaluable sections in the subject can be added (seminars, report practices, debate...).

In case of failing the subject on the second opportunity, the practical and seminar notes will be saved for the following academic year 2024/25.

A student will appear as "not submitted" when they do not take the 1st and/or 2nd opportunity written exams.

The final exam schedule can be consulted at the following link: http://bioloxia.uvigo.es/es/docencia/examenes

Sources of information

Basic Bibliography

Begon, M., Harper, J.L. y Townsend, C.R., **Ecología. Individuos, poblaciones y comunidades**, 1999,

Krebs, C.J., **Ecología. Análisis experimental de la distribución y abundancia**, 1985,

Molles, M.C., **Ecology: concepts and applications**, 2016,

Schlesinger, W.H., **Biogeoquímica. Un análisis del cambio global**, 2000,

Complementary Bibliography

Dajoz, R, **Tratado de Ecología**, 2002,

Margalef, R, **Ecología**, 1982,

Odum, E.P, **Fundamentos de ecología**, 2006,

Odum, E.P., **Ecología: el puente entre ciencia y sociedad**, 1998,

Odum, E.P., **Ecología. Peligra la vida**, 1997,

Pomeroy, L.R. y Alberts, J.J. (eds.), **Concepts of Ecosystems Ecology. A Comparative View**, 1988,

Ricklefs, R.E., **Ecology**, 1990,

Rodríguez, J., **Ecología**, 2016,

Smith, R.L. y Smith, T.M., **Ecología.**, 2007,

Recommendations

Subjects that continue the syllabus

Environmental analysis and diagnosis/V02G030V01902
Biodiversity: management and conservation/V02G030V01905
Management and Conservation of spaces/V02G030V01910

Subjects that it is recommended to have taken before

Ecology I/V02G030V01501