



Teaching Guide				
Identifying Data				2021/22
Subject (*)	Human Ecology		Code	610G02041
Study programme	Grao en Bioloxía			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	1st four-month period	Fourth	Obligatory	6
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Bioloxía			
Coordinador	Fuentes Lopez, Marcelino	E-mail	marcelino.fuentes@udc.es	
Lecturers	Fuentes Lopez, Marcelino	E-mail	marcelino.fuentes@udc.es	
Web				
General description	People interact among themselves and with the rest of nature in a unique way among all species. This is due to our exceptional, although imperfect, talent for cooperation. In this course we analyze the capacity and limits of humankind to organize and solve social and environmental problems.			
Contingency plan	<p>(I) If lectures are online</p> <p>1. Modifications to the contents. None.</p> <p>2. Methodologies</p> <p>*Teaching methodologies that are maintained. All. Sessions will be by videoconference on Teams.</p> <p>*Teaching methodologies that are modified. None.</p> <p>3. Mechanisms for personalized attention to students. They will all be online: email and chat on Teams.</p> <p>4. Modifications in the evaluation. None.</p> <p>*Evaluation observations: no change.</p> <p>5. Modifications to the bibliography or webgraphy. None.</p> <p>(II) If lectures are face-to-face but the number of students exceeds the capacity of the room, the Department will offer other rooms for some of the students to attend the lectures via Teams.</p> <p>Some students will move to another classroom. The lecture will be transmitted to them on Teams.</p>			

Study programme competences	
Code	Study programme competences
A5	Analizar e caracterizar mostras de orixe humana.
A6	Catalogar, avaliar e xestionar recursos naturais.
A19	Analizar e interpretar o comportamento dous seres vivos.
A23	Avaliar o impacto ambiental. Diagnosticar e solucionar problemas ambientais.
A24	Xestionar, conservar e restaurar poboacións e ecosistemas.
A27	Dirixir, redactar e executar proxectos en Bioloxía.
A28	Desenvolver e implantar sistemas de xestión relacionados coa Bioloxía.
A29	Impartir coñecementos de Bioloxía.
B1	Aprender a aprender.



B2	Resolver problemas de forma efectiva.
B3	Aplicar un pensamento crítico, lóxico e creativo.
B4	Traballar de forma autónoma con iniciativa.
B5	Traballar en colaboración.
B6	Organizar e planificar o traballo.
B7	Comunicarse de maneira efectiva nunha contorna de traballo.
B8	Sintetizar a información.
B9	Formarse unha opinión propia.
B10	Exercer a crítica científica.
B11	Debater en público.
B12	Adaptarse a novas situacións.
B13	Comportarse con ética e responsabilidade social como cidadán e como profesional.
C1	Expresarse correctamente, tanto de forma oral coma escrita, nas linguas oficiais da comunidade autónoma.
C2	Dominar a expresión e a comprensión de forma oral e escrita dun idioma estranxeiro.
C3	Utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida.
C4	Desenvolverse para o exercicio dunha cidadanía aberta, culta, crítica, comprometida, democrática e solidaria, capaz de analizar a realidade, diagnosticar problemas, formular e implantar solucións baseadas no coñecemento e orientadas ao ben común.
C5	Entender a importancia da cultura emprendedora e coñecer os medios ao alcance das persoas emprendedoras.
C6	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.
C8	Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.

Learning outcomes			
Learning outcomes		Study programme competences	
Analyze, predict and change human behavior in relation to environmental problems.	A5	B3	C1
	A6	B9	C3
	A19	B10	C8
	A23	B11	
	A24	B12	
	A27		
	A28		
	A29		
Apply conceptual tools and theoretical knowledge to the resolution of environmental problems.	A19	B1	
	A23	B2	
	A24	B3	
		B4	
		B5	
		B6	
		B7	
		B8	
		B9	
		B10	
		B11	
		B12	
		B13	



Communicate effectively these analyses, using oral and written language and information technologies.		B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12	C2 C4 C5 C6 C7
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Contents	
Topic	Sub-topic
Evolution of cooperation	Cooperation, defection, and environmental problems. Influence of excludability and its costs on environmental problems. Influence of information and its costs: repetition of interactions, observation of others, and environmental problems. Human traits related to cooperation and environmental problems.
Cooperation in human society	Importance of cooperation in human societies and environmental problems. Division of labor and environmental problems. Participation in collective enterprises and environmental problems.
Application	Social and environmental problems.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student's personal work hours	Total hours
Online discussion	A5 A6 A19 A23 A24 A27 A28 A29 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 C1 C2 C3 C4 C5 C6 C7 C8	0	27	27
Guest lecture / keynote speech	A5 A6 A19 A23 A24 A28 B2 B3 B7 B8 B9 B10 B11 B12 B13 C1 C5 C6 C8	30	56	86
Simulation	A19 B3 B10 B11	5	0	5
Directed discussion	A5 A6 A19 A23 A24 A27 A28 A29 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 C1 C2 C3 C4 C5 C6 C8	15	15	30
Personalized attention		2	0	2

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

Methodologies	
Methodologies	Description
Online discussion	Written debates about student essays on Moodle



Guest lecture / keynote speech	Lectures on human social behavior and environmental problems
Simulation	Cooperation games
Directed discussion	Oral debates on student essay topics and any other differences of opinion arising during the course

Personalized attention	
Methodologies	Description
Guest lecture / keynote speech Directed discussion Online discussion	Part-time and attendance-exempt students can choose whether to be graded in the same way as regular students or only with three essays on topics assigned by the teacher and written debates about them in Moodle. In the essays, students must defend ideas that are compatible with the scientific evidence as presented in the keynote speeches and the summaries of them that the teacher will upload to Moodle. Alternatively, students can argue why they disagree with the keynote speeches and their summaries.

Assessment			
Methodologies	Competencies	Description	Qualification
Directed discussion	A5 A6 A19 A23 A24 A27 A28 A29 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 C1 C2 C3 C4 C5 C6 C8	Human behavior and environmental problems	45
Online discussion	A5 A6 A19 A23 A24 A27 A28 A29 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 C1 C2 C3 C4 C5 C6 C7 C8	Human behavior and environmental problems	45
Simulation	A19 B3 B10 B11	Cooperation games	10
Others			

Assessment comments
<p>Each student can submit, singly or in a group, three essays on topics assigned by the teacher for online discussion in Moodle and present them orally for discussion. In the essays, students must defend ideas that are compatible with the scientific evidence as presented in the lectures and the summaries of them that the teacher will upload to Moodle. Alternatively, students can argue why they disagree with the lectures and their summaries. Each essay is worth up to 30 points.</p> <p>Students who do not submit any essay will get a "No show" grade.</p> <p>Participating in each small group session in the assigned schedule is worth 2 points. Points obtained by attending small group sessions are kept for the second and the ahead-of-schedule opportunity.</p> <p>For the second and the ahead-of-schedule opportunity, each student can submit, singly or in a group, three essays, each worth 30 points.</p> <p>Students can get the "Honors" grade in any opportunity, but preferently on the first.</p> <p>Part-time and attendance-exempt students can choose whether to be graded in the same way as regular students or only with three essays as above and written debates about them in Moodle.</p>

Sources of information
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<b>Basic</b>	<ul style="list-style-type: none"><li>- Bowles, S. y Gintis, H. (2013). A cooperative species: human reciprocity and its evolution. Princeton University Press</li><li>- Sigmund, K. (2010). The calculus of selfishness (Princeton series in theoretical and computational biology). Princeton University Press</li><li>- Rosenzweig, M.L. (2003). Win-win ecology: how the Earth's species can survive in the midst of human enterprise. Oxford University Press</li></ul>
<b>Complementary</b>	

Recommendations
<b>Subjects that it is recommended to have taken before</b>
Population Genetics and Evolution/610G02021
Ecology II: Populations and Communities/610G02040
<b>Subjects that are recommended to be taken simultaneously</b>
<b>Subjects that continue the syllabus</b>
<b>Other comments</b>

(\*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.