



Teaching Guide				
Identifying Data				2015/16
Subject (*)	Ecoloxía: Ecoloxía I (individuos e ecosistemas)		Code	610G02039
Study programme	Grao en Bioloxía			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	1st four-month period	Third	Obligatoria	6
Language	SpanishEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Bioloxía Animal, Bioloxía Vexetal e Ecoloxía			
Coordinador	Ruiz De la Rosa, Jose Miguel	E-mail	jose.miguel.ruiz.delarosa@udc.es	
Lecturers	Pardo Carabias, Cristina Rodríguez Roiloa, Sergio Ruiz De la Rosa, Jose Miguel	E-mail	cristina.pardo.carabias@udc.es sergio.roiloa@udc.es jose.miguel.ruiz.delarosa@udc.es	
Web				
General description	Distribution patterns : the individual and the environment. The ecosystem.			

Study programme competences / results	
Code	Study programme competences / results
A1	Recoñecer distintos niveis de organización nos sistemas vivos.
A17	Realizar bioensaios e diagnósticos biolóxicos.
A20	Muestrear, caracterizar e manexar poboacións e comunidades.
A21	Deseñar modelos de procesos biolóxicos.
A24	Xestionar, conservar e restaurar poboacións e ecosistemas.
A26	Deseñar experimentos, obter información e interpretar os resultados.
A30	Manexar adecuadamente instrumentación científica.
B4	Traballar de forma autónoma con iniciativa.
B6	Organizar e planificar o traballo.
B7	Comunicarse de maneira efectiva nunha contorna de traballo.
B8	Sintetizar a información.
B12	Adaptarse a novas situacións.

Learning outcomes			
Learning outcomes		Study programme competences / results	
To describe ecological concepts at the individual, population, community and ecosystem level.		A1	
		A24	
To discuss ecological concepts by critically considering the evidences in support.			B8
To face with some success the specialised literature.		A30	
To use some basic techniques from the vast ecological methodology.		A17	B4
		A20	B6
		A21	B7
		A26	B12
		A30	

Contents	
Topic	Sub-topic



Section 1. Introduction and evolution	Unit 1. Introduction and evolution. Ecology: definition, scope and study. Basic concepts on evolution.
Section 2. Distribution patterns: individuals and environment	Unit 2. Generalities. Unit 3. Responses and adaptations to the abiotic environment: temperature, water and light. Unit 4. Other responses to environmental variations.
Section 3. The Ecosystem	Unit 5. The ecosystem and its functioning. Unit 6. Production. Unit 7. Flow of energy. Unit 8. Cycles of matter. Unit 9. Decomposition and nutrients regeneration. Unit 10. Global cycles.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student's personal work hours	Total hours
Guest lecture / keynote speech	A1 A17 A20 A21 A24 A26 A30 B4 B6 B7 B8 B12	24	62.4	86.4
Laboratory practice	A1 A17 A20 A21 A24 A26 A30 B4 B6 B7 B8 B12	15	15	30
Seminar	A1 A17 A20 A21 A24 A26 A30 B4 B6 B7 B8 B12	8	20.8	28.8
Objective test	A1 A17 A20 A21 A24 A26 A30 B4 B6 B7 B8 B12	3	0	3
Personalized attention		1.8	0	1.8
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	Oral presentations to transfer knowledge and ease learning. Most of the graphical support of presentations is available in the virtual campus (Moodle).
Laboratory practice	For the students to learn effectively through the completion of practical activities in the field and/or in the laboratory.
Seminar	Demonstration and study of numerical models for a better understanding and resolution of ecological problems. Most models will be worked with Faculty PCs if students have no portables.
Objective test	Written exam on all aspects of the matter: theory, practicals and seminars.

Personalized attention	
Methodologies	Description



Objective test	Preparation, explanation and revision of exams. Elucidation of possible doubts emerging as the matter is developed.
Guest lecture / keynote speech	Orientation and tuition to make the most of practicals.
Laboratory practice	
Seminar	Orientation and tuition to make the most of seminars.
	HELP YOURSELF AND WE'LL GIVE YOU A HAND.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Objective test	A1 A17 A20 A21 A24 A26 A30 B4 B6 B7 B8 B12	Written exam on all aspects of the matter: theory, practicals and seminars (see Assessment comments).	100
Others			

Assessment comments
<p>One and only exam (but 2 opportunities) on all and every part: theory, practicals (P) and seminars (S).</p> <p>Weight proportional to contribution to time planning: 60%, 20% y 20% (respectively). All 3 parts are to be passed simultaneously, but compensation possible if one part &gt; 4/10.</p> <p>Attendance not compulsory, but for P and S it'll be recorded.</p> <p>Students can voluntarily present at the exam a paper personal copybook on the work developed in all 8 S and/or all 3 P classes; main text must be manuscript (by hand) and the whole should be easily readable. Guides will be available in Moodle and the marks on these workbooks may help overcome insufficiencies in the corresponding exam.</p> <p>Copybooks can be drafted in pairs or groups, but the final result is not to be cloned: they must reflect individual work and interpretation.</p> <p>Both copybooks are needed to get the top mark (Honours).</p>

Sources of information	
<b>Basic</b>	<ul style="list-style-type: none"> <li>- Alstad DN (2001). Basic Populus models of ecology. New Jersey: Prentice-Hall</li> <li>- Alstad DN (). <a href="http://www.cbs.umn.edu/populus">www.cbs.umn.edu/populus</a>.</li> <li>- Begon M, Harper JL &amp; Townsend CR (1999). Ecología: individuos, poblaciones y comunidades. Barcelona: Omega</li> <li>- Krebs CJ (1986). Ecología: el análisis experimental de la distribución y la abundancia. Madrid: Pirámide</li> <li>- Piñol J &amp; Martínez-Vilalta J (2006). Ecología con números. Barcelona: Lynx</li> <li>- Piñol J &amp; Martínez-Vilalta J (). <a href="http://www.ecologiaconnumeros.uab.es">www.ecologiaconnumeros.uab.es</a>.</li> <li>- Ricklefs RE (1998). Invitación a la ecología: la economía de la naturaleza. Madrid: Panamericana</li> <li>- Rodríguez J (1999). Ecología. Madrid: Pirámide</li> <li>- Smith RL &amp; Smith TM (2000). Ecología. Madrid: Pearson</li> </ul> <p>Unha das referencias básicas para os seminarios é a de Piñol &amp; Martínez-Vilalta (EC-650). Os modelos contidos no CD que inclúe o libro están tamén dispoñibles na súa web. Do enlace de Alstad pódese descargar libremente o programa "Populus", con modelos de bioloxía xeral e para algúns seminarios en particular. Inclúe un PopulusHelp.PDF (parcialmente en castelán) que foi editado como libro en 2001 (EC-505). Hai edicións mais recentes das demais referencias básicas.</p>
<b>Complementary</b>	<ul style="list-style-type: none"> <li>- Gotelli NJ (1995). A primer of ecology. Sunderland: Sinauer</li> <li>- Margalef R (1974). Ecología. Barcelona: Omega</li> <li>- Molles MC (2006). Ecología: conceptos y aplicaciones. Madrid: McGraw-Hill</li> <li>- Odum EP, Barret GW (2006). Fundamentos de ecología. Mexico: Thomson</li> </ul> <p>Hai edicións mais recentes destas referencias complementarias.</p>



## Recommendations

### Subjects that it is recommended to have taken before

Química/610G02001

Matemáticas/610G02003

Estatística/610G02005

Xeografía: Xeografía física/610G02006

### Subjects that are recommended to be taken simultaneously

Fisioloxía vexetal aplicada/610G02029

Fisioloxía Animal: Fisioloxía Animal I/610G02035

### Subjects that continue the syllabus

Ecología: Ecología II (poboacións e comunidades)/610G02040

Ecología humana/610G02041

Ecotoxicoloxía/610G02042

Análise de datos en Bioloxía/610G02044

### Other comments

Understanding rather than memorization is favored.

(\*)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.