Teaching Guide				
Identifying Data				2014/15
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	Spanish			
Prerequisites				
Department	Bioloxía Animal, Bioloxía Vexetal e Ecoloxía			
Coordinador	Ruiz De la Rosa, Jose Miguel	E-mail	jose.miguel.ruiz.delarosa@udc.es	
Lecturers	Rodríguez Roiloa, Sergio Ruiz De la Rosa, Jose Miguel	E-mail	sergio.roiloa@udc.es jose.miguel.ruiz.delarosa@udc.es	
Web				
General description	Patróns de distribución: o individuo e o medio. O ecosistema.			

Study programme competences	
Code	Study programme competences
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.
A27	Dirixir, redactar e executar proxectos en Bioloxía.
A29	Impartir coñecementos de Bioloxía.
A30	Manexar adecuadamente instrumentación científica.
A31	Desenvolverse con seguridade nun laboratorio.
A32	Desenvolverse con seguridade no traballo de campo.
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			
Subject competencies (Learning outcomes)	Study programme competences		
To describe ecological concepts at the individual, population, community and ecosystem level.	A1 A24 A29		
To discuss ecological concepts by critically considering the evidences in support.		B3 B8 B9 B10 B11 B13	C1 C2 C4 C5 C6 C7 C8
To face with some success the specialised literature.	A27 A30	B1	C3
To use some basic techniques from the vast ecological methodology.	A17 A20 A21 A26 A30 A31 A32	B2 B4 B5 B6 B7 B12	

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	Ordinary class hours	Student?s personal work hours	Total hours
Guest lecture / keynote speech	24	62.4	86.4
Laboratory practice	15	15	30
Seminar	8	20.8	28.8
Objective test	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 Guest lecture / keynote speech Laboratory practice Seminar	Preparation, explanation and revision of exams. Elucidation of possible doubts emerging as the matter is developed. Orientation and tuition to make the most of practicals. Orientation and tuition to make the most of seminars. HELP YOURSELF AND WE?LL GIVE YOU A HAND.

Assessment		
Methodologies	**Description**	**Qualification**
Objective test	Written exam on all aspects of the matter: theory, practicals and seminars (see Assessment comments). By means of this global exam all the degree's specific competencies included in this matter will be evaluated (A1, A17, A20, A21, A24, A26, A27, A29, A30, A31, A32).	100
Others		

Assessment comments
One and only exam (but 2 opportunities) on all and every part: theory, practicals (P) and seminars (S). 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 > 4/10. Attendance not compulsory, but for P and S it?ll be recorded. 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. Copybooks can be drafted in pairs or groups, but the final result is not to be cloned: they must reflect individual work and interpretation. Both copybooks are needed to get the top mark (Honours).

Sources of information

Basic	- Alstad DN (2001). Basic Populus models of ecology. New Jersey: Prentice-Hall - Smith RL & Smith TM (2000). Ecología. Madrid: Pearson - Rodríguez J (1999). Ecología. Madrid: Pirámide - Piñol J & Martínez-Vilalta J (2006). Ecología con números. Barcelona: Lynx - Krebs CJ (1986). Ecología: el análisis experimental de la distribución y la abundancia. Madrid: Pirámide - Begon M, Harper JL & Townsend CR (1999). Ecología: individuos, poblaciones y comunidades. Barcelona: Omega - Ricklefs RE (1998). Invitación a la ecología: la economía de la naturaleza. Madrid: Panamericana - Alstad DN (). www.cbs.umn.edu/populus. - Piñol J & Martínez-Vilalta J (). www.ecologiaconnumeros.uab.es.
Complementary	- Gotelli NJ (1995). A primer of ecology. Sunderland: Sinauer - Margalef R (1974). Ecología. Barcelona: Omega - Molles MC (2006). Ecología: conceptos y aplicaciones. Madrid: McGraw-Hill - Odum EP, Barret GW (2006). Fundamentos de ecología. Mexico: Thomson

Recommendations
Subjects that it is recommended to have taken before
Ecoloxía: Ecoloxía II (poboacions e comunidades)/610G02040 Ecoloxía humana/610G02041 Ecotoxicoloxía/610G02042 Análise de datos en Bioloxía/610G02044
Subjects that are recommended to be taken simultaneously
Fisioloxía vexetal aplicada/610G02029 Fisioloxía Animal: Fisioloxía Animal I/610G02035
Subjects that continue the syllabus
Química/610G02001 Matemáticas/610G02003 Estatística/610G02005 Xeografía: Xeografía física/610G02006
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.