



Teaching Guide

Teaching Guide				
Identifying Data				2019/20
Subject (*)	Ecology II: Populations and Communities		Code	610G02040
Study programme	Grao en Bioloxía			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Third	Obligatory	6
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Bioloxía			
Coordinador	Rodríguez Roiloa, Sergio	E-mail	sergio.roiloa@udc.es	
Lecturers	Barrientos De La Llana, Sara Fuentes Lopez, Marcelino Rodríguez Roiloa, Sergio	E-mail	sara.barrientos@udc.es marcelino.fuentes@udc.es sergio.roiloa@udc.es	
Web				
General description	Population ecology. Species interactions. Communities			

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.
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		
Describe ecological concepts at individual, population, community and ecosystem level.	A1 A24		
Analytical discussion of ecological concepts.		B8	
Managing scientific literature.	A30		
Using basic techniques in ecology.	A17 A20 A21 A26 A30	B4 B6 B7 B12	

Contents

Topic	Sub-topic
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Section 1. Populations	Unit 1. Size, structure and life cycles. Unit 2. Population growth models. Unit 3. Growth in natural populations. Unit 4. Metapopulations.
Section 2. Species interactions	Unit 5. Competition. Unit 6. Predation. Unit 7. Mutualism.
Section 3. Communities	Unit 8. Community structure. Unit 9. Patterns in species richness. Unit 10. Ecological succession, trophic structure and stability.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	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
Laboratory practice Seminar Guest lecture / keynote speech Objective test	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. Preparation, explanation and revision of exams.



Assessment

Methodologies	Competencies	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). 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

The final qualification will be obtained from only one exam including questions on the three components of the subject (theory, seminars and practicum). The weight of each section on the final mark will be proportional to its time contribution to the subject (60%, 20%, 20% respectively). In order to pass the subject it is necessary to pass simultaneously each and every component. A failed mark in one of the three components will be considered as ?compensable mark? (i.e. an overall mean will be calculated) if it is at least 4 over 10.

Attendance to both seminars and practicum is not compulsory but it will be recorded. Students have the option to hand a notebook summarizing the work developed during seminars and practicum. Deadline for notebooks will be the day of the first call for the final exam. Notebooks should be handwritten, except for tables and graphs, with and easy-to-read calligraphy. They will be prepared following the directions specified in the Moodle platform. Its qualification can contribute to offset possible shortcomings in the corresponding part of the exam.

It is advisable to keep a copy of the notebook as the original copy will be retained by the professors until the end of the following academic year. However, students will be able to get their notebooks back in order to improve them and study for the second final exam call in July. In case of introducing some changes in the notebooks during this period these should be clearly highlighted.

Notebooks can be prepared in pairs or groups but they must be original work. Notebooks are individual work. Notebooks handed in during the first exam call can help improve the final mark. Those handed in during the second exam call will not help improve the final qualification, but they can help to get a ?compensable mark? in case seminar or practicum sections have been failed in the exam. The notebook qualification obtained during the first exam call will only be valid until the second exam call.

Handing in all notebooks is a prerequisite in order to obtain an Honours qualification, for those students with a top mark in the final exam.

Sources of information

Basic	- Alstad DN (2001). Basic Populus models of ecology. New Jersey: Prentice-Hall - Alstad DN (). www.cbs.umn.edu/populus. - Begon M, Harper JL, Townsend CR (1999). Ecología: individuos, poblaciones y comunidades. Barcelona: Omega - Begon M, Howarth RW, Townsend CR (2014). Essentials of Ecology. USA: Wiley - Krebs CJ (1986). Ecología: el análisis experimental de la distribución y la abundancia. Madrid: Pirámide - Molles M (2006). Ecología: Conceptos y Aplicaciones. Madrid: McGraw - Hill - Piñol J, Martínez-Vilalta J (2006). Ecología con números. Barcelona: Lynx - Piñol J, Martínez-Vilalta J (). www.ecologiaconnumeros.uab.es. - Ricklefs RE (1998). Invitación a la ecología: la economía de la naturaleza. Madrid: Panamericana - Smith RL, Smith TM (2000). Ecología. Madrid: Pearson - Smith TM, Smith RL (2012). Elements of Ecology. USA: Pearson Unha das referencias básicas para os seminarios é Piñol e Martínez-Vilalta (EC-650). Os modelos contidos no CD que inclúe o libro están tamén dispoñíbles 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 que foi editado como libro en 2001 (EC-505). Hai edicións mas recentes das demais referencias básicas.
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Complementary	- Gotelli NJ (1995). A primer of ecology. Sunderland: Sinauer - Margalef R (1974). Ecología. Barcelona: Omega - Odum EP, Barret GW (2006). Fundamentos de ecología. Mexico: Thomson Hai edicions mais recentes destas referencias complementariasHai edicions mais recentes destas referencias complementarias
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Recommendations

Subjects that it is recommended to have taken before

Chemistry/610G02001
Mathematics/610G02003
Statistics/610G02005
Physical Geography/610G02006
Ecology I: Individuals and Ecosystems/610G02039

Subjects that are recommended to be taken simultaneously

Population Genetics and Evolution/610G02021
Animal Physiology II/610G02036

Subjects that continue the syllabus

Human Ecology/610G02041
Ecotoxicology/610G02042
Data Analysis in Biology/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.