



Teaching Guide						
Identifying Data				2016/17		
Subject (*)	Ecoloxía: Ecoloxía II (poboacions e comunidades)		Code	610G02040		
Study programme	Grao en Bioloxía					
Descriptors						
Cycle	Period	Year	Type	Credits		
Graduate	2nd four-month period	Third	Obligatoria	6		
Language	Spanish					
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	Fuentes Lopez, Marcelino Martínez Abraín, Alejandro Rodríguez Roiloa, Sergio Ruiz De la Rosa, Jose Miguel	E-mail	marcelino.fuentes@udc.es a.abrain@udc.es sergio.roiloa@udc.es jose.miguel.ruiz.delarosa@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 situacions.

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



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	Elucidation of possible doubts emerging as the matter is developed.
Seminar	Orientación and tuition to make the most of practicals.
Guest lecture / keynote speech	Orientación and tuition to make the most of seminars.
Objective test	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
<p>Written exam on all aspects of the matter: theory, practicals and seminars (see Assessment comments).</p> <p>By means of this global exam all the degree's specific competencies included in this matter will be evaluated.</p> <p>Objective test. Written exam on all aspects of the matter: theory, practicals and seminars (see Assessment comments).</p> <p>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 &gt; 4/10.</p> <p>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).</p>

Sources of information	
Basic	<ul style="list-style-type: none"><li>- Alstad DN (2001). Basic Populus models of ecology. New Jersey: Prentice-Hall</li><li>- Alstad DN (). www.cbs.umn.edu/populus.</li><li>- Begon M, Harper JL, Townsend CR (1999). Ecología: individuos, poblaciones y comunidades. Barcelona: Omega</li><li>- Begon M, Howarth RW, Townsend CR (2014). Essentials of Ecology. USA: Wiley</li><li>- Krebs CJ (1986). Ecología: el análisis experimental de la distribución y la abundancia. Madrid: Pirámide</li><li>- Molles M (2006). Ecología: Conceptos y Aplicaciones. Madrid: McGraw - Hill</li><li>- Piñol J, Martínez-Vilalta J (2006). Ecología con números. Barcelona: Lynx</li><li>- Piñol J, Martínez-Vilalta J (). www.ecologiaconnumeros.uab.es.</li><li>- Ricklefs RE (1998). Invitación a la ecología: la economía de la naturaleza. Madrid: Panamericana</li><li>- Smith RL, Smith TM (2000). Ecología. Madrid: Pearson</li><li>- Smith TM, Smith RL (2012). Elements of Ecology. USA: Pearson</li></ul> <p>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 disponibles 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.</p>



Complementary	<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>- Odum EP, Barret GW (2006). Fundamentos de ecología. Mexico: Thomson</li></ul> <p>Hai edicions mais recentes destas referencias complementariasHai edicions mais recentes destas referencias complementarias</p>
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**Recommendations****Subjects that it is recommended to have taken before**

Química/610G02001

Matemáticas/610G02003

Estatística/610G02005

Xeografía: Xeografía física/610G02006

Ecoloxía: Ecoloxía I (individuos e ecosistemas)/610G02039

**Subjects that are recommended to be taken simultaneously**

Xenética de poboacións e evolución/610G02021

Fisioloxía Animal: Fisioloxía Animal II/610G02036

**Subjects that continue the syllabus**

Ecoloxía 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.