



## Teaching Guide

Identifying Data					2018/19
Subject (*)	Geology		Code	610G02004	
Study programme	Grao en Bioloxía				
Descriptors					
Cycle	Period	Year	Type	Credits	
Graduate	1st four-month period	First	Basic training	6	
Language	Spanish				
Teaching method	Face-to-face				
Prerequisites					
Department	Física e Ciencias da Terra				
Coordinador	Grandal D' Anglade, Aurora		E-mail	aurora.grandal@udc.es	
Lecturers	Bao Casal, Roberto Grandal D' Anglade, Aurora Sanjurjo Sanchez, Jorge Taboada Castro, Maria Teresa		E-mail	roberto.bao@udc.es aurora.grandal@udc.es jorge.sanjurjo.sanchez@udc.es teresa.taboada@udc.es	
Web					
General description	The students will acquire the basic knowledge about the physical environment that they will need to develop their career as biologists. The physical environment (the internal and external geological processes and the risks associated to them) constitutes the basis of ecosystems and biological communities.				

## Study programme competences / results

Code	Study programme competences / results
A6	Catalogar, avaliar e xestionar recursos naturais.
A22	Describir, analizar, avaliar e planificar o medio físico.
A30	Manexar adecuadamente instrumentación científica.
A31	Desenvolverse con seguridade nun laboratorio.
A32	Desenvolverse con seguridade no traballo de campo.
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.
B13	Comportarse con ética e responsabilidade social como cidadán e como profesional.

## Learning outcomes

Learning outcomes	Study programme competences / results		
To acquire basic knowledge about internal and external geological processes	A6	B4	
	A22	B5	
	A30	B6	
	A31	B7	
	A32	B8	
		B9	
		B10	
		B13	



To know the risks associated with geological processes	A6 A22 A31 A32	B4 B5 B6 B7 B8 B9 B10 B13
To know the history of the Earth and within it the evolution of life and its relation to the great changes in the physical environment	A6 A22 A30 A31 A32	B4 B5 B6 B7 B8 B9 B10 B13
To know the natural resources	A6 A22 A30 A31 A32	B4 B5 B6 B7 B8 B9 B10 B13

Contents	
Topic	Sub-topic
I. The Formation of the Earth	1. Origin of the Earth 2. Earth structure: geochemical model 3. Structure of the Earth: dynamic model. Tectonic plates 4. Earth Dynamics: Earth's energy 5. Origin and evolution of the Hydrosphere. Origin and early evolution of the atmosphere
II. The rocks of the Earth	6. Magmatic rocks: plutonic and volcanic 7. The metamorphic rocks. Types of metamorphism. 8. Sedimentary rocks: detrital, chemical and biological.
III. Historical Geology	9. Stratigraphy and chronostratigraphy. The weather in Geology. Absolute and relative chronology. The geochronological scale. Eons, eras and periods. 10. The Archaic Eon. 11. The Proterozoic Eon 12. The Phanerozoic Eon I: the Paleozoic 13. The Phanerozoic Eon II: the Mesozoic 14. The Phanerozoic Eon III: the Cenozoic
IV. Complementary Themes	15. Human paleontology 16. Climate change

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student's personal work hours	Total hours
Guest lecture / keynote speech	A22 B8 B9	24	60	84



Seminar	A22 B4 B5 B6 B7 B8	8	20	28
Field trip	A6 A22 A32 B9	5	5	10
Laboratory practice	A22 A30 A31	10	15	25
Objective test	A22 B3 B4 B6 B8 B9 B10 B13	2	0	2
Personalized attention		1	0	1

(\*)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	Classroom lectures of 50 minutes. In the first hour of class will explain the program of the subject and the teaching method to be used. The following hours will be dedicated to impart the theoretical contents of the program.
Seminar	Approach and resolution of problems and issues directly and indirectly related to the topics developed in the lectures, under the direction of the teacher.
Field trip	Study of outcrops of rocky bodies and their forms and interpretation of their genesis and representation. Study of present and fossil geological processes and forms of relief
Laboratory practice	Development of the practical agenda with observations on selected material, use of classification criteria. Conceptual exercises
Objective test	Exercise consisting of a list of questions about any content of the subject.

Personalized attention	
Methodologies	Description
Seminar Field trip Laboratory practice	The personalized attention in relation to these methodologies is conceived as moments of face-to-face work for students with the teacher, which implies a compulsory participation for the students. The form and the moment in which they will be developed will be indicated in relation to each activity throughout the course according to the work plan of the subject. The solution of practical problems in workshops will serve to verify and guide the contents of the subject and its assimilation by the students taking place in small groups. This monitoring can also take place in small groups during laboratory and field practices. Personalized attention can be carried out in a non-presential way through e-mail or the virtual campus. This non-presential modality will be developed mainly for students with part-time dedication or dispensation of assistance

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Seminar	A22 B4 B5 B6 B7 B8	Continuous assessment of the ability to obtain, select and understand information. Processing and synthesis of the same.	10
Field trip	A6 A22 A32 B9	The observations and attention will be evaluated, as well as the application of the knowledge when interpreting the observations by means of a Field Report.	10
Laboratory practice	A22 A30 A31	The evaluation will come from the assistance and performance of the practices as well as practical tests during the same.	10
Guest lecture / keynote speech	A22 B8 B9	Topics will be presented in the initial 40-45 minutes, and sessions with interactive activities will be finalized to reflect the students about the contents presented. The evaluation will consist of a written test.	70

Assessment comments



Attendance at 80% of all scheduled activities is mandatory. To pass the subject it is necessary to have a 5 out of 10 as a global grade. To calculate the average mark, it is necessary to obtain at least 4.5 out of 10 in each activity. In order to obtain the grade of not presented (NP) it suffices not to take the ordinary final exam.

Students with part-time

dedication or exemption from attendance. These students must compensate

for non-attendance to activities by: -For laboratory activity: a practical work on rock recognition, remotely tutored. -For the field activity: if the attendance (strongly recommended) is not possible, a bibliographical work on the study area, tutored at a distance. -For the seminar activity: the same work as the students face-to-face but tutored at a distance.

## Sources of information

<b>Basic</b>	Recomendaranse textos durante o curso a medida que se necesiten durante a explicación teórica. Os textos recomendados son os que traten o tema de Xeoloxía xeral existentes na biblioteca da Facultade de Ciencias. Tratarase de proporcionar información específica sobre temas concretos durante a exposición teórica ben nas clases maxistras ben nos grupos reducidos.
<b>Complementary</b>	<a href="http://ocw.innova.uned.es/cartografia/indice_general.htm">http://ocw.innova.uned.es/cartografia/indice_general.htm</a> (Página sobre prácticas de Cartografía geológica de la UNED)

## Recommendations

Subjects that it is recommended to have taken before

Subjects that are recommended to be taken simultaneously

Subjects that continue the syllabus

Physical Geography/610G02006

Paleobiology/610G02043

Other comments

(\* )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.