



## Teaching Guide

Identifying Data				
Subject (*)			Geology	Code
Study programme			Grao en Bioloxía	610G02004
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 Blanco Calvo, Luis Alejandro Grandal D' Anglade, Aurora Sanjurjo Sanchez, Jorge Taboada Castro, Maria Teresa		E-mail	roberto.bao@udc.es alejandro.blancoc@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

Code	Study programme competences
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		
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	Ordinary class hours	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 we 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	Description	Qualification
Seminar	A22 B4 B5 B6 B7 B8	Continuous assessment of the ability to obtain, select, understand, process and summarize information.	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 lab course.	10
Guest lecture / keynote speech	A22 B8 B9	Topics will be presented in the initial 40-45 minutes, and sessions will be finalized with interactive activities that promote the students' reflection about the contents presented. The evaluation will consist of a written test.	70

Assessment comments
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Attendance to 80% of all scheduled activities is mandatory. To pass the course it is necessary to obtain a grade of 5 points out of 10. A minimum of 4.5 points in all activities is necessary to pass the course. In order to qualify as not presented (NP), it is enough not to take the ordinary final exam.

Students with part-time

dedication or exemption from attendance. These students must compensate

for non-attendance to the different activities by: -For the laboratory course: 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, remotely tutored. -For the seminar activity: the same work as the ordinary students, but remotely tutored.

## 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.