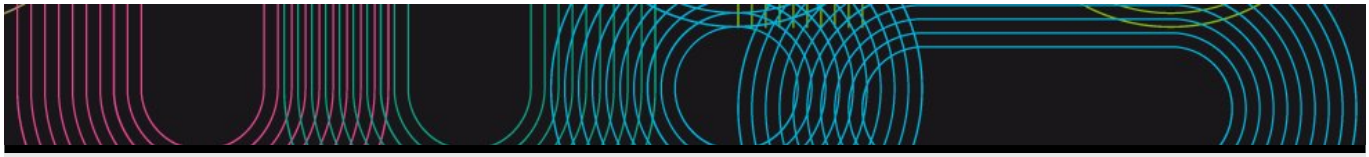

IDENTIFYING DATA				
Geology: Geology				
Subject	Geology: Geology			
Code	V02G031V01103			
Study programme	Grado en Biología			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	1st
Teaching language	#EnglishFriendly Spanish			
Department				
Coordinator	Francés Pedraz, Guillermo			
Lecturers	Alejo Flores, Irene Diz Ferreiro, Paula Francés Pedraz, Guillermo Gil Lozano, Carolina González Villanueva, Rita Pérez Arlucea, Marta María			
E-mail	gfrances@uvigo.gal			
Web	http://bioloxia.uvigo.es/es/			
General description	English Friendly subject: International students may request from the teachers: a) resources and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English. In this matter, the basic functioning of the physical environment in which the current biosphere sits and develops is analysed. Because of that, the sedimentary environments (continental, coastal and marine) are studied from Actualism point of view. It allows laying the foundations for understanding the interaction of living beings with the environment in which they inhabit. From this point of view, the subject provides a primary and complementary knowledge of the concepts developed in other subjects, especially those related to Zoology, Botany and Ecology. Likewise, the introduction of the temporal dimension allows raising the basic questions about the origin and evolution of the Earth System in general, and of the biosphere in particular. These aspects will favour the understanding of the concepts related to biodiversity and organic evolution, as well as with the organisation and evolution of populations and ecosystems. Biology professionals, as well as other sciences, often develop their work in multidisciplinary teams, so the biologist must know the terminology and basic concepts of Geology that apply to different professional skills of these graduates. More specifically, professionals who develop their functions in the field of the environment, agricultural professionals, or those dedicated to information, documentation and dissemination should handle geological concepts that allow them to exchange information with other professionals, understand biological processes from a global point of view and make better decisions. A particular impact of Geology on the biologist's professional profile concerns teaching at the middle level. According to the structure and contents of entrance exams, future teachers must acquire knowledge and skills related to Geology. The schedules can be consulted at: http://bioloxia.uvigo.es/es/docencia/horarios/			

Training and Learning Results	
Code	
A1	Students should prove understanding and knowledge in this study field that starts in the Secundary Education and with a level that, even though it is suppported in advanced books, also includes some aspects that involve knowledge from the vanguard of the study field.
A3	Students should prove ability for information-gathering and interpret important data (usually within their study field) to judge relevant social, scientific or ethical topics.
B1	Developing autonomous learning by identifying their own training need and organizing and planning tasks and time.
B2	Manage scientific-technical information using diverse and reliable sources. Analyze data and documents and interpret them critically and rigorously, including considerations on their social relevance and in the professional field of Biology.
B4	Draft and write reports, documents and projects related to Biology. Proceed to their presentation and debate in the teaching and specialized areas, highlighting the competences of the degree.

C7	Sampling, characterising, cataloguing and managing natural and biological resources (populations, communities and ecosystems).
C8	Describe, assess and plan the physical environment, use bio-indicators and identify environmental problems. Provide solutions for the control, monitoring and restoration of ecosystems.
C12	Writing reports and technical dossiers, as well as directing and executing projects on topics related to biology and its applications.
D3	Commitment to sustainability and the environment. Equal, sensible and efficient use of resources.
D4	Collaborate and work in teams or multidisciplinary groups, promote negotiation skills and the ability to reach agreements.
D5	Communicate effectively and appropriately, including the use of computer tools and English.

Expected results from this subject

Expected results from this subject	Training and Learning Results			
Recognize the overall functioning of the Earth system.	A3	B2	C8	D3
Describing the geological cycle.	A3	B2	C8	D3
Define, describe and relate the theory of global tectonics.	A3	B2	C8	D3 D5
Defining the principles of geology.	A3	B2	C8	D5
Recognize the historical dimension of geology.	A3	B2	C8	D3 D5
Identifying external and internal geological processes.	A3	B2	C7 C8	D3
Identifying the fundamental types of rocks and their origin.	A1	B2 B4	C8 C12	D4
Recognize the morphological and sedimentary characteristics of terrestrial, coastal and marine environments.	A3	B2 B4	C7 C8 C12	D3 D4
Relating the abiotic factors of the environment with living beings.	A1 A3	B2 B4	C7 C8 C12	D3 D4 D5
Relating knowledge and techniques of geology to interpret cartography.	A1	B4	C7 C12	D4
Gathering information, reproducing experiments and showing the results in the field of Geology.	A3	B1 B2 B4	C12	D3 D4 D5
Recognize the usefulness of geology and its repercussions on the professional practice of biologists.	A1	B2 B4	C12	D3 D4
Defining and relating the concepts, terminology and scientific-technical instrumentation related to geology.	A1	B2 B4	C8 C12	D4

Contents

Topic	
1. Concept and Principles of Geology	Geology, a Earth science
	Historical and Physical Geology
	Principles of Geology
2. Coordenates in Geología	Spatial coordenates
	Geological time
3. The rocks cycle	Concept
	Classification of rocks and its relationship with the rocks cycle
	External cycle
	Internal cycle
4. The Atmosphere and the Hydrosphere	The Atmosphere: origin, composition, structure and dynamics.
	Ocean water and its dynamics.
	Continental waters: the Hydrological cycle
5. Continental environments	Glacial environment
	Dessert environment
	Alluvial systems
	Lacustrine environment
6. Coastal environments.	Coastal areas: agents and sedimentary processes.
	Erosive coasts.
	Coastal sedimentation: beaches, deltas, estuaries, tidal flats.
7. Marine and ocean regions.	Morphology and distribution of marine bottoms.
	Continental shelf. Reefs
	Deep-sea environments

8. Global Tectonics.	Continental drift
	Internal structure of the Earth
	Seafloor spreading
	Plate Tectonics
9. Practice Sessions	Recognition of rocks and deformation structures.
	Geomorphology and sedimentary environments from South Galicia coastal zone
	Concepts on cartography. Introduction to Geological maps.

Planning			
	Class hours	Hours outside the classroom	Total hours
Introductory activities	0.5	1.5	2
Lecturing	27	45	72
Seminars	1	24	25
Field practice	8	3	11
Presentation	2	13	15
Laboratory practical	9	12	21
Report of practices, practicum and external practices	0	1	1
Essay questions exam	2	0	2
Problem and/or exercise solving	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	
	Description
Introductory activities	Introduction to course: schedule, contents, practices, evaluation.
Lecturing	Presentations in the classroom on the concepts and fundamental contents of the subject. Student participation will be stimulated through questions, group resolution of exercises, etc.
Seminars	Preparation of a report on a subject related to Geology, chosen from a list proposed by the teaching staff. The students have the option of selecting a topic that is of interest to them, but it must be consulted and approved by the faculty. To prepare the report, the students will receive the appropriate advice in a face-to-face session at the beginning of the course and through personalised attention during the rest of the semester.
Field practice	Field trip to recognize different types of rocks, tectonic structures and various sedimentary environments. Learn to use the geological compass. Preparation of an evaluable activity report, which will be uploaded to Moovi.
Presentation	Oral presentation of the contents of the report prepared in the seminars. The students will receive advice on how to structure, prepare a presentation and expose the work through personalised attention sessions
Laboratory practical	Guided resolution of exercises on topography and basic geological cartography. Geological outcrops. Evaluation through a face-to-face test in the classroom.

Personalized assistance	
Methodologies	**Description**
Lecturing	Resolution of doubts through individualised or group tutorials, both face-to-face and remote or by email. It is recommended that students contact the teaching staff by email sufficiently in advance to make an appointment.
Introductory activities	Resolution of doubts through individualised tutorials. It is recommended that students contact the teaching staff by email, sufficiently in advance to make an appointment
Field practice	In situ instructions for the management of the geological compass, criteria for rock recognition, identification of sedimentary environments in current environments
Laboratory practical	Explanation and advice for solving simple geological cartography exercises in small groups. For tutorials, it is recommended that students contact the faculty by email, sufficiently in advance to make an appointment.
Seminars	Detailed instructions on how to file a report. Consultation of specialized databases. Advice on the choice of a theme to develop in the report. Resolution of doubts through individualised tutorials. It is recommended that students contact the teaching staff by email sufficiently in advance to make an appointment.
Presentation	Detailed instructions on organising an oral presentation and the resources available. Resolution of doubts through personalised tutorials. It is recommended that students contact the teaching staff by email sufficiently in advance to make an appointment.
Tests	**Description**

Report of practices, practicum and external practices	Detailed instructions on the content and how to submit a report. Presentation of data through tables and figures. Search information in the net. Resolution of doubts through individualised tutorials.
Essay questions exam	Resolution of doubts through personalized tutorials
Problem and/or exercise solving	Resolution of doubts through individualised tutorials. It is recommended that students contact the teaching staff by email sufficiently in advance to make an appointment.

Assessment

	Description	Qualification	Training and Learning Results			
Seminars	The written report on a subject related to the subject chosen by each group of students is evaluated. The content, the inclusion of additional documentation, the presentation, graphics, diagrams, photographs, etc., are valued. The evaluation criteria will adjust to the contents of the rubric of the TFG proposed by the faculty (not to the percentages).	20	A3	B1 B2 B4	C12	D3 D4 D5
Presentation	Items to evaluate: Structure and quality of the presentation. Adjust to the set time. Use of language with scientific rigor. Attitude during the presentation	20	A3	B2 B4	C8 C12	D3 D4 D5
Report of practices, practicum and external practices	They are evaluated in a similar way to the contents of the TFG rubric proposed by the faculty: The structure and quality of the presentation. Stick to the set time. The use of language with scientific rigour. The attitude during the presentation. The quality of the responses to the questions posed.	10	A3	B4	C8 C12	D3 D4 D5
Essay questions exam	Written exam of a theoretical-practical nature on the fundamental contents of the subject.	35	A1 A3	B2 B4	C8 C12	D3
Problem and/or exercise solving	A test will be carried out to solve one or several practical exercises.	15	A1 A3	B2	C12	D5

Other comments on the Evaluation

It is recalled that attendance at face-to-face activities is mandatory.
As a general rule, the evaluation at the first opportunity will be continuous. To pass the subject it will be necessary to achieve a score of at least 40% of the individual evaluation of the seminars, the presentation and the examination of development questions. In case of not reaching said 40% in any of these three tests, the final mark will be equal to the final weighted average, multiplied by 0.5.
GLOBAL EVALUATION METHOD: It must be requested by each student in the form and term indicated by the center. It will consist of a single theoretical-practical exam that will account for 100% of the evaluation.
SECOND CHANCE EVALUATION: It will consist of a single theoretical-practical exam that will account for 100% of the evaluation.
Students who take this subject are required to behave responsibly and honestly (See Title VII of the Regulations on the evaluation, qualification and quality of teaching and the student learning process).
Dates of the tests and delivery of reports, according to the official calendar of the faculty: https://bioloxia.uvigo.es/es/docencia/horarios/ and https://bioloxia.uvigo.es/es/docencia/examenes/

Sources of information

Basic Bibliography

Pozo, M., González, J. y Giner, J., **Geología Práctica**, 1, Pearson, 2004

Monroe, J.S., Wicander, R. y Pozo, M., **Geología. Dinámica y Evolución de la Tierra**, 4, Paraninfo, 2008

Tarbuck, E.D., Lutgens, F.K., Tasa, D., **Ciencias de la Tierra. Una introducción a la Geología Física**, 10, Pearson, 2013

Reolid, M., **La Tierra: un lugar privilegiado para la vida**, 1, Aula Magna Proyecto clave McGraw Hill, 2020

Wicander, R. & Monroe, J.S., **Geology: Earth in Perspective**, 3, CENGAGE, 2019

Complementary Bibliography

Recommendations