



## Teaching Guide

| Teaching Guide      |  |       |        |                               |
|---------------------|--|-------|--------|-------------------------------|
| Identifying Data    |  |       |        | 2017/18                       |
| Subject (*)         | Geology  |       | Code   | 610G02004                     |
| Study programme     | Grao en Bioloxía   |       |        |                               |
| Descriptors         |  |       |        |                               |
| Cycle               | Period   | Year  | Type   | Credits                       |
| Graduate            | 1st four-month period  | First | FB     | 6                             |
| Language            | Spanish  |       |        |                               |
| Teaching method     | Face-to-face   |       |        |                               |
| Prerequisites       |  |       |        |                               |
| Department          | Física e Ciencias da Terra   |       |        |                               |
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| Web                 |  |       |        |                               |
| General description | Esta asignatura pretende que los alumnos adquieran los conocimientos sobre el medio físico que les serán necesarios para el desarrollo de su carrera profesional como biólogos. El medio físico (los procesos geológicos internos y externos y los riesgos asociados) constituye la base física de los ecosistemas, de las comunidades biológicas. |       |        |                               |

## 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.                               |
| B1   | Aprender a aprender.   |
| B2   | Resolver problemas de forma efectiva.  |
| B3   | Aplicar un pensamento crítico, lóxico e creativo.                                |
| 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.  |
| B11  | Debater en público.  |
| B12  | Adaptarse a novas situacións.  |
| 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  | B1  |  |
|  | A22 | B2  |  |
|  | A30 | B3  |  |
|  | A31 | B4  |  |
|  | A32 | B5  |  |
|  |     | B6  |  |
|  |     | B7  |  |
|  |     | B8  |  |
|  |     | B9  |  |
|  |     | B10 |  |
|  |     | B11 |  |
|  |     | B12 |  |
|  |     | B13 |  |
| To know the risks associated with geological processes   | A6  | B1  |  |
|  | A22 | B2  |  |
|  | A31 | B3  |  |
|  | A32 | B4  |  |
|  |     | B5  |  |
|  |     | B6  |  |
|  |     | B7  |  |
|  |     | B8  |  |
|  |     | B9  |  |
|  |     | B10 |  |
|  |     | B11 |  |
|  |     | B12 |  |
|  |     | 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  | B1  |  |
|  | A22 | B2  |  |
|  | A30 | B3  |  |
|  | A31 | B4  |  |
|  | A32 | B5  |  |
|  |     | B6  |  |
|  |     | B7  |  |
|  |     | B8  |  |
|  |     | B9  |  |
|  |     | B10 |  |
|  |     | B11 |  |
|  |     | B12 |  |
|  |     | B13 |  |



|                               |     |     |
|-------------------------------|-----|-----|
| To know the natural resources | A6  | B1  |
|                               | A22 | B2  |
|                               | A30 | B3  |
|                               | A31 | B4  |
|                               | A32 | B5  |
|                               |     | B6  |
|                               |     | B7  |
|                               |     | B8  |
|                               |     | B9  |
|                               |     | B10 |
|                               |     | B11 |
|                               |     | B12 |
|                               |     | B13 |

| Contents                      |   |
|-------------------------------|---|
| Topic                         | Sub-topic   |
| I. The Formation of the Earth | 1. Origin of the Earth<br>2. Earth structure: geochemical model<br>3. Structure of the Earth: dynamic model. Tectonic plates<br>4. Earth Dynamics: Earth's energy<br>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<br>7. The metamorphic rocks. Types of metamorphism.<br>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.<br>10. The Archaic Eon.<br>11. The Proterozoic Eon<br>12. The Phanerozoic Eon I: the Paleozoic<br>13. The Phanerozoic Eon II: the Mesozoic<br>14. The Phanerozoic Eon III: the Cenozoic |
| IV. Complementary Themes      | 15. Human paleontology<br>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 B3 B4 B5 B6 B7 B8      | 8                    | 20                            | 28          |
| Field trip  | A32 A22 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<br>Field trip<br>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 B3 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                     | A32 A22 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.<br>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 |  |
|------------------------|--|
| Basic                  | 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. |



|               |  |
|---------------|--|
| Complementary | <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.