

COURSE SYNTHETIC FORM: GEOLOGY AND SOCIETY

1 – Name, Credits and Functioning	
Course	Geology and Society
Degree(s)	All Degrees in the Scientific Area of Geology (compulsory) Other Degrees in Science (optional)
Level / Positioning in the Curricular Plan	1 / 1st year, 1^o semester
Credits (<i>European Credit Transfer System</i>)	3 (3 of Lectures)
Teaching (during 15 weeks)	22,5 h (1,5 h of Lectures per week)
Contact hours (during 15 weeks)	15 h (1 h per week of open tutorial)
Required time for learning (school semester)	45 h (including the time needed for assessment preparation)
2 – Rationale / Objectives (200 words maximum)	
<p>This discipline is designed in order to illustrate the contribution of Geology to Society, as a coherent body of Knowledge, a “way of see and feel the world”, and an array of professional activities. The proposed programme intends also to better integrate the new students in the Geology Degrees of FCUL, elucidating both on the multiple scientific and applied fields covered by core and optional disciplines that they will contact in future and on the different professional opportunities. Furthermore, the programme introduces the basic geological features of the Portuguese territory, including its geological resources and geo-heritage values.</p>	
3 – Background requirements (70 words maximum)	
<p>There are not specific requirements, besides those that allow the access to university studies.</p>	
4 – Syllabus Plan and Content (250 words maximum)	
<p>Lecture Programme</p> <ul style="list-style-type: none"> • Aim and interfaces of Geology • The profession of geologist (may include the participation of invited geologists working in different sectors of activity) • History of the Geological Reasoning; an outline • Methods of knowledge construction and their use in Geology • The Geological Framework of Portugal; its major features and brief outline of its geodynamic evolution • Geological Resources (water, soil, mineral, coal and hydrocarbons); general features; consumption, production and sustainable management; the situation in Portugal • The contribution of the geological knowledge to environmental studies • Geological Hazards; general features • Geological Heritage; an important value to be preserved • The importance of the geological knowledge in the educational background of (elucidated, responsible and autonomous) citizens. <p>Each topic may be addressed in one or more lectures, independently or combined, and the indicated set of issues represent just a general orientation for the programme.</p>	
5 – Learning Outcomes / Competences ⁱⁱ	
<ul style="list-style-type: none"> • Integrate properly the Geology in the general frame known as “Earth and Live Sciences”, according to the specificity of its goals, methods and achievements. • Be aware of the main stages experienced by the Geological Reasoning along time. • Recognise and appraise the main sectors of activity that required the involvement of geologists • Gain a general understanding of the geological diversity shown by the Portuguese territory and of its geological resources • Be familiar with the foremost interactions between Geology and Environment, particularly with those related to issues concerning the Territory Management / Ordering and Natural Hazards. 	

6 – Indicative reading list (text books and supplementary sources of information)

Major

- National Research Council (1993). *Solid-Earth Sciences and Society*. National Academy Press, Washington D.C., 346 pp.
- Miller G. T. Jr. (2004). *Living in the Environment; Principles, Connections, and Solutions*. 13th Ed. – International Student Edition, Thomson Learning, Inc., Brooks/Cole, 127 pp.

Additional

- Keller E. (1999). *Environmental Geology*. 8th Ed., Prentice Hall, 562 pp.
- Two sets of papers and book chapters of recommended reading and optional consult

7 – Other Elements of Study and Classroom Guiding

Lectures

- Detailed summaries of lectures, study guides and self-evaluation forms

8 – Assessment

	Relative Weight in the Final Grade (%)
Alternative 1 (*)	
• <u>Formative Assessment</u>	
o 5 Self-evaluation forms	40
• <u>Summative Assessment</u>	
o 2 interim tests including multiple choice and constructed (short and long written) responses of questions regarding the lecture programme.	60
Alternative 2	
• Final Examination (**)	100

(*) Continuous assessment and tutorial work that measure the individual student progress during the school semester. In each component, students must demonstrate an acceptable level of achievement of the course outcomes, *i.e.* a threshold criterion of 50% of the respective mark.

(**) It consists of a mixture of selected (multiple choice) and constructed (short and long written) response items.

ⁱ Both Degrees (in *Geology and Natural Resources* and in *Applied Geology and Environment*) have a curricular programme of 8 semesters (4 years long). Disciplines included in these programmes are ordered according to a gradual and coherent sequence of levels (1 to 4) that follow a framework of learning outcomes, recognising a student progression characterised by an increase of its autonomy and of the responsibility that is expected of the learner in the guidance given and the tasks set. Disciplines of level 1 assume no previous knowledge of Geology, thus having an introductory (and transversal) character. Disciplines of level 2 provide an essential grounding in many fundamental concepts and techniques common to all branches of Geology. Disciplines of level 3 offer a core programme of advanced and integrative topics oriented to: (1) the manipulation of relatively complex database and production of simple numerical modelling included in quantitative approaches to common problems in Geology; and (2) the use of key-concepts in solving either transversal problems (eventually as a project work) or specific issues preferentially dealing with questions directly related to the course (Degree) objectives. Disciplines of level 4 are designed in order to favour the consolidation of the professional profile defined for the course (Degree) and should also include advanced themes of synthesis demanding the rational use of the knowledge obtained along the entire learning path.

ⁱⁱ Learning outcomes are here used in the sense given by the glossary of the *Tuning Educational Structures*, *i.e.*: (...) *statements of what learner is expected to know, understand and/or be able to demonstrate (and do) after a completion of a process of learning (...)*. Therefore, competences represent a combination of attributes (broadly referring to aptitude, proficiency, capability, skills and understanding, *etc.*) that reflect the qualification (degree or extent) to which a person is able of performing them.