SUBJECT TEACHING GUIDE

G1557 - Teaching the Earth Sciences and Earth Systems

Degree in Primary Education Teaching

Academic year 2018-2019

1. IDENTIFYING DATA					
Degree	Degree in Primary Education Teaching			Type and Year	Optional. Year 3
Faculty	School of Teacher Training				
Discipline	Speciality in Experimental Sciences Module: Complementary or Specialised Training				
Course unit title and code	G1557 - Teaching the Earth Sciences and Earth Systems				
Number of ECTS credits allocated	6	Term		Semester based (1)	
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS DE LA TIERRA Y FISICA DE LA MATERIA CONDENSADA
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Other lecturers	

3.1 LEARNING OUTCOMES
- To recognize the structure and composition of the Earth and the different systems (spheres) that compose (atmosphere, hydrosphere, solid earth, edafosphere).
- Understand the role of Plate Tectonics in the functioning of internal processes.
- Understand the role of climate and gravity in the generation of external processes.
- Design protection plans to face natural hazards in the school setting.
- Develop educational proposals concerning the interaction of Earth Sciences and their techniques, with society and sustainable development.
- Propose problematic situations and design activities in the field of Earth Sciences teaching, to resolve problems related to this topic.
- Integrate the content of these sciences in our natural, social and cultural context.
- Develop teaching resources, appropriate to the stage, and promote significant learnings related to Earth Sciences.
- Training teachers for promoting school research.

4. OBJECTIVES
To know the role of Earth Sciences in the primary education curriculum.
To know the importance of scientific literacy in Earth Sciences as the basis of personal training for their application in the classroom.
Awaken or encourage scientific curiosity and general interest in Earth Sciences.
Learn the importance of teaching Earth Sciences and terrestrial systems outside the classroom.
Integrate the Earth Sciences' contents within our natural, social and cultural context.
Understand the basic principles of geology and know the different periods of geological time, as well as the dating methods.
Understand the functioning of Earth planet, internally and externally.
Distinguish different types of rocks and landscapes associated with different rock substrates and soils.
Understanding the causes of climate change and climate evolution throughout Earth's history.
Propose actions that help the students to know how to face to natural disasters.
To promote schoolar research in the field of Earth Sciences.

6. COURSE ORGANIZATION	
CONTENTS	
1	Principles of geology. The time in Geology. Teaching examples.
2	Structure and Earth's composition: atmosphere, hydrosphere and edafosphere. Teaching models.
3	Plate tectonics and internal processes. Teaching of geological internal processes.
4	The external processes. Teaching of geological external processes.
5	Geological resources: minerals, rocks, landscape, etc. Teaching examples.
6	Climate evolution over the past. Teaching models.
7	Natural hazards. Risk protection practices in the school setting.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Written exam: 50% of the total rating. The written test will consist of brief questions about the theoretical and practical aspects developed during the course.	Written exam	Yes	Yes	50,00
Team work: 20% of the total rating. The work will consist of an oral presentation by all group members and delivering a report. Both, the oral statement and the report will be evaluable.	Work	No	No	20,00
Classroom and laboratory practices: 30 % of the total rating. Students must submit, at the end of this period, a portfolio including all practices to be evaluated by the teacher.	Laboratory evaluation	No	No	30,00
TOTAL				100,00

Observations

When the subject is not approved, because it has not reached the minimum qualification required in one or more parts of the evaluation, the final quantitative score that will get the student and therefore included in the minutes will reflect their performance on the set of different assessment tests.
In addition to laboratory practices, whenever possible, external activities practices related to the subject, such as field trips or educational visits, will be developed.

SPELLING RULES, PLAGIARISM AND CITATION RULES THAT WILL BE CONSIDERE IN THE DIFFERENT TASKS DONE BY STUDENTS

SPELLING:
It is understood that university students have assumed linguistic abilities in relation to oral and written expression. Therefore, orthographic correction (spelling, accentuation and punctuation), grammar and lexical in the works and exams carried out as essential to overcome the subject is essential.

PLAGIARISM:
Regarding the fraudulent performance (plagiarism) of the evaluation tests, the qualification will be adjusted to the established in the article 54.1 of the Regulation of the evaluation processes in the University of Cantabria: 'The fraudulent realization of the tests or activities evaluation will directly involve the grade of '0' in the subject '.

CITATION RULES:
Finally, the School Board approved that the Faculty assumes the APA RULES for all academic work as citation criteria. Although these standards have different editions, as an initial reference we attach the BUC link, hoping that this will be helpful and a reference for its development: http://web.unican.es/buc/recursos/guias-y-tutoriales/guia ? g = 28

Observations for part-time students

Students with partial tuition, must complete the final exam, in which they must also answer questions related to the practices that have been carried out. On the other hand, they must perform a substitute work of the group work.

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Cañal, P. (coord.) (2011) - Biología y Geología: complementos de formación disciplinar. Editorial Graó Barcelona: 208 pp.
Cañal, P. (coord.) (2011) - Biología y Geología: investigación, innovación y buenas prácticas. Editorial Graó Barcelona: 191 pp.
Cañal, P. (coord.) (2011) - Didáctica de la biología y la geología. Editorial Graó Barcelona: 175 pp.
Carenas, M.B., Giner, J.L., González, J., y Pozo, M. (2014) - Geología. Ediciones Paraninfo, Madrid: 487 pp.
Luffiego, M. (coord.) (2005) - Ciencias de la Tierra y del Medio Ambiente. Consejería de Educación del Gobierno de Cantabria, Santander: 337 pp.
Monroe, J.S., Wicander, R. y Pozo, M. (2008) Geología. Dinámica y evolución de la Tierra. Paraninfo Cengage Learning, Madrid: 726 pp.
Tarbuck, E.J. y Lutgens, F.K. (2005) Ciencias de la Tierra. Una introducción a la geología física. Pearson Education, Madrid: 710 pp.