

26444 - Mineral Deposits

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	296 - Degree in Geology
ECTS	5.0
Course	4
Period	Second semester
Subject Type	Optional
Module	---

1. Basic info

1.1. Recommendations to take this course

1.2. Activities and key dates for the course

2. Initiation

2.1. Learning outcomes that define the subject

2.2. Introduction

3. Context and competences

3.1. Goals

3.2. Context and meaning of the subject in the degree

3.3. Competences

3.4. Importance of learning outcomes

4. Evaluation

5. Activities and resources

5.1. General methodological presentation

This matter has an eminently practical character, therefore the proposed activities are focused on the application of the acquired knowledge. For this reason, this knowledge acquired in lectures will complement each other with the practical activities of laboratory and seminars, where the student will have to demonstrate his knowledge to identify and to characterize different types of deposits, to quantify their economic value and to determine if the exploitation is viable. The seminars will serve to explain and to prepare in group the economic evaluation of a deposit.

The monitoring of the learning process will be favoured through conventional tutoring and more specific tutoring related to the report that the students have to do in practical sessions. In addition, resource material will be uploaded on the Internet

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(<https://moodle.unizar.es>).

5.2.Learning activities

Activity 1:Participatory Lectures: 28 hours

Activity 2:Laboratory Practices: 8 hours

Activity 3:Practical Sessions: 8 hours

Activity 4:1-day Field Trip (6 hours)

Field practice could be coordinate with other subjects

5.3.Program

Theoretical Program: Acquisition of the theoretical knowledge on mineral deposits, genesis and distribution patterns.

T1.- Introduction and important definitions and compilations. Classifications most usually used in mineral deposits.

T2.- Metallogeny through time: continental growth rates, crustal evolution and plate tectonics.

T3.- Divergent margins and metallogeny

T4.- Convergent margins and metallogeny

Practical Program: The attendance to practices is required .

1.- Identification of several mineral deposits with polarized microscopy.

2.- Interpretation of simple geological maps for mineral exploration. Field techniques.

3.- Ore reserve calculation and economic viability estimations.

4.- Field practices

5.4.Planning and scheduling

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The course will consist of 28 lectures that will be held on the classroom 3 of the Building C, on Monday from 8.00 to 10.00. Practical sessions (8 practices of 2 hours each) will be held on Monday from 18.00 to 20.00 on laboratories 12 and 15 from Crystallography and Mineralogy and classroom 3.

At the end of each practice, students ought to give the own report.

Exam dates will be approved by the Faculty of Sciences.

5.5. Bibliography and recommended resources

In support there is a Moodle course on this subject (<http://moodle.unizar.es>) with the syllabus of the classes, practical guides for seminars, field guide and the references used for each lesson.

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|-----------|--|
| BB | Pohl , W.L.. Economic Geology. Principles and Practice. Wiley-Blackwell Publication. 2005 |
| BB | Robb, Laurence.. Introduction to ore-forming processes / Laurence Robb. . Malden (Massachusetts) : Blackell Publishing , 2005. |
| BB | Sawkins , F.J.. Metal deposits in relation to plate tectonics. 2nd Springer-Verlag. 1990 |

LISTADO DE URLs:

Apuntes Depósitos Minerales. Dr. Wolfgang Griem -
[<http://www.geovirtual2.cl/depos/000Historia01.htm>]

INSUGEO (Instituto Superior de Correlación Geológica). Miscelanea nº 18. Capítulo 2: Clasificación y nomenclatura de las rocas ígneas -
[http://www.insugeo.org.ar/libros/misc_18/02.htm]

USGS. Central Mineral and Environmental Resources Science Center. Current

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Projects -

[<http://minerals.cr.usgs.gov/projects/>]