Course guides
330435 - ROR - Ornamental Rocks

Last modified: 14/07/2020

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.
Degree: BACHELOR’S DEGREE IN MINING ENGINEERING (Syllabus 2016). (Optional subject).
Academic year: 2020  ECTS Credits: 6.0  Languages: Catalan

LECTURER

Coordinating lecturer: Maria Pura Alfonso

Others:

PRIOR SKILLS

No requerements.

TEACHING METHODOLOGY

Directed learning will be combined with active learning, in which the student learns by doing. Directed learning consists of teaching theoretical classes to convey the basic concepts of the subject. These classes will be carried out through an orderly presentation in such a way that in each session, face-to-face or online, the index of the topic to be discussed will be explained first, the objectives to be achieved with the development of the topic, the body of the topic and finally, the conclusions drawn. All the presentations that will be exposed in the theoretical classes will be available to the student, through the Athena, since in this subject a very important part of the presentations are made up of graphic material. The possibility that students previously have the presentations of the theoretical classes facilitates their attention during the teacher’s explanation, which can be in person or online. The practical classes will be held in person, will be coordinated with the theoretical ones and will be held during the periods in which the students attend the educational center. The particular nature of practical teaching requires small groups of students. Throughout these classes, the dialogue and monitoring of the student is easier and allows the teacher to establish closer contact with the students, making it easier for them to appreciate and value the degree of assimilation of these. The practical classes include both laboratory practices, with the recognition of rocks, and field trips. Visits to quarries and industrial mineral and rock processing facilities will be made.

LEARNING OBJECTIVES OF THE SUBJECT

a) To acquire the basic technical and scientific knowledge of the discipline of industrial rocks:
- Know the current situation of the subsector of ornamental rocks a Catalonia, Spain and the world.
- To know the different types of ornamental rock sites
- To know the properties, test regulations and applications of ornamental rocks
- Acquisition of notions about the degradation processes of natural stone
b) To acquire a work methodology. Achieve procedures and mythologies for the study and use of ornamental rocks.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group</td>
<td>60,0</td>
<td>40.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
## CONTENTS

### 1. Introduction to industrial rocks

**Description:**
Definition of industrial rocks and minerals. Classifications. Most important industrial rocks and minerals.

**Related activities:**
Activity 3 and 4

**Full-or-part-time:** 6h  
Theory classes: 6h

### 2. Introduction to ornamental rocks

**Description:**

**Related activities:**
Activity 4

**Full-or-part-time:** 2h  
Theory classes: 2h

### 3. Techniques for characterizing ornamental rocks

**Description:**

**Related activities:**
Activities 1 and 4

**Full-or-part-time:** 4h  
Theory classes: 4h

### 4. Ornamental rocks of igneous origin

**Description:**

**Related activities:**
Activities 2, 3 i 4

**Full-or-part-time:** 3h  
Theory classes: 3h
## 5. Ornamental rocks of sedimentary origin

### Description:

### Related activities:
Activities 5, 6 i 7

### Full-or-part-time: 3h
Theory classes: 3h

## 6. Ornamental rocks of metamorphic origin

### Description:

### Related activities:
Activities 5, 6 i 7

### Full-or-part-time: 3h
Theory classes: 3h

## 7. Elaboration of ornamental rocks

### Description:

### Related activities:
Activity 7

### Full-or-part-time: 3h
Theory classes: 3h

## 8. Alteration and restoration of ornamental rocks

### Description:

### Related activities:
Activity 7

### Full-or-part-time: 2h
Theory classes: 2h
9. Exploration and exploitation of ornamental rocks

Description:

Related activities:
Activity 7

Full-or-part-time: 4h
Theory classes: 4h

GRADING SYSTEM

A continuous assessment of the student will be carried out through a follow-up based on the practical work. In addition, there will be two exams on theoretical and practical topics, one in the middle and the other at the end of the course. The final grade NF will be:

\[ N_f = 0.5 \cdot N_{ex} + 0.3 \cdot N_{pr} + 0.2 \cdot N_{tr} \]

where:
- \( N_{ex} \) = tests on theoretical concepts
- \( N_{pr} \) = tests on practical concepts
- \( N_{tr} \) = note of the monographic work

EXAMINATION RULES.

Attendance at field trips is mandatory.
All tests must be passed with a minimum of 4 points and the final average must be at least 5 points.

BIBLIOGRAPHY

Basic: