

## Physical–Chemical Properties of Rocks, Minerals and Materials (I002195)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

**Course size** *(nominal values; actual values may depend on programme)*  
**Credits** 5.0      **Study time** 150 h      **Contact hrs** 45.0 h

### Course offerings in academic year 2021-2022

A (semester 2)      English      Gent

### Lecturers in academic year 2021-2022

Malehmir, Alireza      UPPSALOT lecturer-in-charge

### Offered in the following programmes in 2021-2022

	crdts	offering
<a href="#">International Master of Science in Sustainable and Innovative Natural Resource Management</a>	5	A

### Teaching languages

English

### Keywords

### Position of the course

### Contents

This course is divided into physical and chemical properties. Physical properties include an introduction on rocks and minerals, density, porosity, permeability, elastic and inelastic properties, rock quality and seismic properties, magnetic electric and thermal properties of rocks, in-situ and downhole physical property measurements. Chemical properties include mineral and material structures, composition and alloying, thermodynamics of minerals and materials, investigation of chemical properties by analytical methods.

### Initial competences

### Final competences

- 1 able to: Describe relationships between different physical and chemical properties.
- 2 able to: Compare different types of minerals and rocks and their physical and chemical properties.
- 3 able to: Formulate different systems of symmetries and anisotropic systems associated with each system.
- 4 able to: Relate scale dependencies between various measurements (lab, field and/or downhole).
- 5 able to: Design suitable geophysical and laboratory methods for the exploration and/or processing of a given mineral.

### Conditions for credit contract

This course unit cannot be taken via a credit contract

### Conditions for exam contract

This course unit cannot be taken via an exam contract

### Teaching methods

Lecture, practicum, fieldwork, self-reliant study activities, seminar: practical PC room classes

### Extra information on the teaching methods

Lectures, seminars, solving exercises (homework and computer lab work) and lab and field

measurements.

**Learning materials and price**

**References**

**Course content-related study coaching**

**Evaluation methods**

end-of-term evaluation and continuous assessment

**Examination methods in case of periodic evaluation during the first examination period**

Oral examination, report

**Examination methods in case of periodic evaluation during the second examination period**

Oral examination, report

**Examination methods in case of permanent evaluation**

Oral examination, report

**Possibilities of retake in case of permanent evaluation**

examination during the second examination period is possible in modified form

**Extra information on the examination methods**

Written examination, homework assignments, computer projects and written report.

**Calculation of the examination mark**

Written examination (50 %)

Homework assignments, computer projects and written report (50%)