

## 3D Geological Modeling and Mapping (I002883)

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** 50.0 h

### Course offerings in academic year 2021-2022

A (semester 1)      English      Gent

### Lecturers in academic year 2021-2022

Burchardt, Steffi      UPPSAL01      lecturer-in-charge  
Jeanneret, Pauline      UPPSAL01      co-lecturer

### 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

#### Georesource Exploration and Characterisation

This course introduces state-of-the art geological mapping and modelling methods that are currently used by for instance the mining and building industry. These methods include data acquisition with UAVs (unmanned aerial vehicles, i.e. drones), digital outcrop construction, construction of 3D geological maps, and data analysis and modelling. The course will give the opportunity to explore the possibilities of these methods by working on example projects where new data will be collected and combined with existing data. The course mainly uses examples from the mining industry.

### Contents

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### Initial competences

### Final competences

- 1 Construct 3D digital outcrops model from acquired field photographs
- 2 Combine a range of existing and new data from different sources
- 3 Construct, analyse, and interpret 3D geological maps
- 4 Acquire and analyse quantitative data from digital outcrops model and 3D geological maps
- 5 Discuss sources of uncertainty and errors of different methods
- 6 Discuss how modern mapping techniques contribute to make exploration and mining more sustainable
- 7 Present results in a way relevant to potential industry employers.

### 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**

Excursion, group work, lecture, seminar, seminar: coached exercises

**Extra information on the teaching methods**

Lectures, seminars, case based learning and practical exercises, Fieldtrip (only if the conditions permit). The participation in group sessions is compulsory.

**Learning materials and price**

Syllabus

**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**

Written examination, oral examination, participation, report

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

Written examination, oral examination, participation, report

**Examination methods in case of permanent evaluation**

Written examination, oral examination, participation, 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**

Examination during or at the end of the course. Seminar presentation (3 credits) and a written report (2 credits).

**Calculation of the examination mark**