

## Geological Mapping A (C003388)

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 87.5 h

### Course offerings and teaching methods in academic year 2020-2021

A (semester 2)	Dutch	Gent	fieldwork	80.0 h
			lecture	7.5 h

### Lecturers in academic year 2020-2021

De Batist, Marc WE13 lecturer-in-charge

### Offered in the following programmes in 2020-2021

	crdts	offering
<a href="#">Bachelor of Science in Geology</a>	5	A
<a href="#">Preparatory Course Master of Science in Geology</a>	5	A

### Teaching languages

Dutch

### Keywords

Sediments, mapping, logging, field techniques

### Position of the course

Geological mapping A aims at acquainting the student with the different techniques used during field work in consolidated and non-consolidated sedimentary rocks. Both direct and indirect observation techniques are considered, aimed at the reconnaissance and the description of the lithological characteristics of sedimentary rocks and at the construction of a litholog (a detailed log as well as a composite log). After learning the required techniques, the student will conduct in an independent way or in a small group (and under supervision) a mapping and logging exercise in a well-defined area. A detailed report has to be submitted that contains the constructed logs and reference to the acquired knowledge and the techniques used.

### Contents

- Use of cartographic material (geological and geographical), co-ordinates, literature
- Reconnaissance study
- Study, observation and measuring of exposures
- Overview observations, spatial reconstruction of sediment bodies (architecture), general characteristics of sediment bodies (boundaries, texture, sedimentary structures), use of field tools.
- Detailed observations, profile cleaning, observation grid, sedimentary structures, sediment characteristics, sampling, photos, sketching
- Structural mapping
- Independent mapping and logging
- Geological logging (quarries, outcrops, road cuts, strike and dip, structural and geological mapping)

### Initial competences

'Geological mapping A' is mainly aimed at observing and interpreting sedimentary sequences, both in consolidated and non-consolidated rocks, and at producing a sedimentary log, in various degrees of detail. 'Geological mapping B' will follow up on this, with a focus on combining this type of geological data in 3 dimensions and on producing a geological map. 'Geological mapping A' is based on a number of elements that are introduced in 'Introduction to Petrology', 'Geology of Belgium' and 'Structural Geology with Exercises on Geological Maps'. The student is expected to have already followed these courses or to be following them in parallel.

## Final competences

- 1 The student is able to perform in an independent way geological field observations and to produce a litholog in a region that is characterised by the occurrence of consolidated or non-consolidated sedimentary rocks with a relatively simple geological structure.
- 2 He/she knows which appropriate and necessary technical means and mapping methods are to be used.
- 3 Interpretation of data with inclusion of their spatial distribution is detailed in a synthetic report that is based on the student's own observations completed with data from the literature.

## Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

## Conditions for exam contract

This course unit cannot be taken via an exam contract

## Teaching methods

Lecture, fieldwork

## Extra information on the teaching methods

Theory lectures (whether or not in the field) supported by figures and maps, reports. Practical sessions in the field completed by exercises at home and in classroom or team (report with cartographic presentation of collected data). Complementary electronic study and documentation material on the Ufora website of the UGent. Teaching methods may need to be adjusted, should the COVID19 situation demand this.

## Learning materials and price

Photocopied documentation. Estimated cost: 15 Euro.

Excursion (transportation, accommodation, lunch packs). Estimated cost for the student: 70 EUR.

## References

- Coe, A.L., 2010. Geological Field techniques, 1st Edition, Wiley Blackwell.  
Barnes, J.W. & Lisle, R.J., 2006. Basic Geological Mapping, 4th Edition, Wiley Blackwell.  
Stow, D.A.V., 2005. Sedimentary Rocks in the Field - A Colour Guide. Manson Publishing.  
Tucker, M.E., 2011. Sedimentary Rocks in the Field, 4th Edition, Wiley Blackwell.

## Course content-related study coaching

Theory: discussion on questions and problems after appointment and during the rehearsal week. Practical exercises: continuing assistance by assistants and scientific staff during practical sessions.

## Evaluation methods

continuous assessment

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

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

## Examination methods in case of permanent evaluation

Participation, report

## Possibilities of retake in case of permanent evaluation

not applicable

## Extra information on the examination methods

Evaluation of degree of participation, input and understanding on the field.

Written report.

Evaluation methods may need to be adjusted, should e.g. it not be possible to go into the field due to the COVID19 situation.

## Calculation of the examination mark

Evaluation on the field: 50 %

Written report: 50 %

In case the field component has to be cancelled (due to COVID19), the final score will be based entirely on the written report.