

Field Course: Geology of Basins and Orogens (C003567)

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	<i>(nominal values; actual values may depend on programme)</i>		
Credits 6.0	Study time 150 h	Contact hrs	90.0 h

Course offerings and teaching methods in academic year 2022-2023

A (year)	English	Gent	excursion	20.0 h
			fieldwork	60.0 h
			lecture	10.0 h

Lecturers in academic year 2022-2023

De Grave, Johan	WE13	lecturer-in-charge
De Batist, Marc	WE13	co-lecturer

Offered in the following programmes in 2022-2023

	crdts	offering
Master of Science in Teaching in Science and Technology (main subject Geology)	6	A
Master of Science in Geology	6	A
Master of Science in Geology	6	A

Teaching languages

English

Keywords

Tectonics, Orography, Mountain building, Petrology, field relations, depositional processes, geochemistry, divergent and convergent plate margins, Structural Geology, Alpine regional geology

Position of the course

This is an advanced field course in tectonics and mountain building, following on from introductory (Bachelor-levels) courses in petrology, sedimentology, stratigraphy and isotope geology, and structural geology. Students will acquire an in-depth understanding of tectonic, sedimentary and petrological processes and will be able to independently apply this knowledge at a level that is foreseen in the Master's thesis.

The field course takes place in "week 0" or "week -1" (one of the three last weeks of September) of the academic schedule.

Contents

Field relationships between rocks and structures in the framework of mountain building and deformation processes and (plate) tectonics.

Petrology of magmatic, metamorphic and sedimentary rocks

Relationships between deformation and metamorphism

Tectonic setting of magmatic, metamorphic and sedimentary rocks

Dating of sedimentary, magmatic and metamorphic rocks.

Initial competences

The student should have successfully completed courses in petrology, sedimentology, stratigraphy, isotope geology and structural geology, comparable to those given in the Bachelor's programme in Geology, and still possesses the end competences set forth for these

courses. The student should have a Bachelor's degree.

Final competences

- 1 To be able to describe rocks and their characteristics as studied in the field.
- 2 To accurately describe and identify igneous, sedimentary and metamorphic rocks in the field.
- 3 To understand the connection between geochemistry, mineralogy, petrology, structures and plate tectonics, deformation and mountain building.
- 4 To develop sampling strategies for geological research.
- 5 To critically evaluate existing tectonic models, based on field data.
- 6 To communicate scientific ideas and results in oral and written reports.

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

Excursion, lecture, fieldwork

Learning materials and price

Field guide. Powerpoint and other files (Ufora). Articles and literature.

Contribution to the travel and living expenses by the student. Estimated cost: 350 EUR

References

Course content-related study coaching

Personal contact with professors and assistants during the excursion. Support via e-mail and Ufora during report writing.

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

Oral examination, assignment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Calculation of the examination mark

Level of activity and input in the field 1/6

Insights and understanding gained on the field 1/6

Presentation during excursion 1/6

Report and oral exam 3/6