GHENT UNIVERSITY

Course Specifications

Valid in the academic year 2025-2026

Methods: Microscopy (C004577)

Course size *(nominal values; actual values may depend on programme)*

Credits 5.0 **Study time 150 h**

Course offerings in academic year 2025-2026

A (semester 1)	Dutch	Gent

Lecturers in academic year 2025-2026

Cnudde, Veerle	WE13	lecturer-in-charge
Buyse, Florian	WE13	co-lecturer

Offered in the following programmes in 2025-2026	**crdts**	**offering**
Bachelor of Science in Geology	5	A
Preparatory Course Master of Science in Geology	5	A
Preparatory Course Master of Science in Geology	5	A

Teaching languages

Dutch

Keywords

Microscopy, mineralogy, petrography, petrology

Position of the course

Acquiring theoretical and practical knowledge and understanding of the optical behaviour of minerals.
Learning to identify the most important rock-forming minerals by using a petrographical microscope.
Learning to recognise and describe microtextural characteristics of sedimentary and crystalline rocks.

Contents

Importance of optical mineralogy and petrography in the earth sciences
Preparation of grain mounts and thin sections
Optical behaviour of minerals
Determination of optical properties of minerals
Relationship between optical and crystallographic orientations
Study of minerals in grain mounts
Study of minerals in rock thin sections
Textural features of magmatic and metamorphic rocks
Textural features of sedimentary rocks
Special optical techniques

Initial competences

Basic knowledge of mineralogy, crystallography and petrology: the student should have followed the courses “Earth Materials: Minerals” and “Earth Materials: Rocks”.

Final competences

1 Using a petrographical microscope for the study of the most important rock-forming minerals and the most common rock types.
2 Identifying the common rock-forming minerals in thin section.
3 Insight in the relationships between chemical, crystallographic and optical characteristics of minerals.
4 Accurately describing and interpreting structures and textures.
5 Making the link between petrogenetic processes on the one hand, and mineralogical and textural characteristics of rocks on the other.

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, Practical, Independent work

Extra information on the teaching methods

Exercises: study of grain mounts and thin sections using a petrographical microscope.

Study material

Type: Syllabus

Name: Course notes
Indicative price: Free or paid by faculty
Optional: no
Available on Ufora : Yes

Type: Slides

Name: Slides
Indicative price: Free or paid by faculty
Optional: no
Available on Ufora : Yes

References

MacKenzie, W.S. & Adams, A.E., 1993. A colour atlas of rocks and minerals in thin section. Manson Publishing, London, 192 pp.
Melgarejo, J.C., 1997. Atlas de asociaciones minerales en lamina delgada. Edicions Universitat de Barcelona, Barcelona, 1076 pp.

Course content-related study coaching

Intensive guidance of students during microscopy exercises.
Availability of reference works during microscopy exercises.

Assessment moments

end-of-term and continuous assessment

Examination methods in case of periodic assessment during the first examination period

Written assessment with open-ended questions

Examination methods in case of periodic assessment during the second examination period

Written assessment with open-ended questions

Examination methods in case of permanent assessment

Professional practice, Participation, Assignment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

Weekly evaluation (during practice and based on ufora activity). Attenting the weekly practice course is obliged.

Calculation of the examination mark

The student must pass both the theoretical (40% of the total score) as well as the practical exam (60% of the total score) in order to be succesfull and to meet the final competences.
When the student scores less than 10/20 for at least one of the components, he/she can no longer pass the entire course unit. If the total score is a mark of ten or more out of twenty, then this is reduced to the highest failing mark (9/20).