Course Specifications

Valid as from the academic year 2020-2021

Geology of Building Stones (C003995)

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 6.0 Study time 176 h Contact hrs 52.0 h

Course offerings and teaching methods in academic year 2020-2021

A (semester 1)	English	Gent	fieldwork	15.0 h
			lecture	22.5 h
			practicum	15.0 h
			online lecture	0.0 h

Lecturers in academic year 2020-2021

Cnudde, Veerle	WE13	lecturer-in-charge

Offered in the following programmes in 2020-2021	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
International Master of Science in Sustainable and Innovative Natural Resource Management	6	A
Exchange programme in Geology (master's level)	6	A

Teaching languages

English

Keywords

natural stone, macro- and microscopical characteristics, technical characteristics, techniques, weathering

Position of the course

This course covers the use, technical properties, geological background and the weathering of natural stones in general. The main local and imported building stones in Belgium are treated in specific detail.

Contents

The main building stones in Belgium: geology, macroscopic and microscopic properties, petrophysical properties, weathering, historic use, etc.
Tests for characterization and durability and international standardisation.
Weathering and conservation of natural stone: weathering processes, techniques for conservation and restoration.
Case-studies on application and damage.

Initial competences

basic knowledge of optical mineralogy and petrography

Final competences

1 Recognizing the main used building stones in Belgium based on macroscopic and microscopic properties.
2 Knowledge of natural stone in historic buildings: geology, macroscopic and microscopic properties, technical properties, weathering and potential replacement stones.
3 Knowledge of tests for characterization and durability and international standards.
4 Developing a research plan for the identification of natural building stones, the characterization of their properties and damage assessment.
5 Report scientific results and evaluate them in an uncertain context.

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, practicum, fieldwork, online lecture

Extra information on the teaching methods

Practicals: Petrography of natural stones used in Belgium (hand specimens and microscopy); petrophysical testing.
Microteaching: presentation of building stones or case studies.

Learning materials and price

Syllabus (mainly based on standard works, a.o. see references)
Estimated cost excursions: 14 euro (when using bus)

References

Publications BBRI
Natuursteen in Vlaanderen, versteend verleden. Dusar, M., Dreesen, R., De Naeyer, A., 2009. Wolters Kluwer, Mechelen. ISBN:9783642451553 978-3-642-45155-3
Gent...Steengoed!, Cnudde et al., 2009. Academia press, 416 p.
Stone in Architecture: Properties, Durability. Siegesmund, S., Snethlage, R., 2014. Springer, 550 pp. ISBN: 9789046523674

Course content-related study coaching

Interactive support by Ufora (e-mail); personal contact after appointment.

Evaluation methods

end-of-term evaluation and continuous assessment

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

Written examination with open questions, skills test

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

Written examination with open questions, skills test

Examination methods in case of permanent evaluation

Participation, skills test, job performance assessment

Possibilities of retake in case of permanent evaluation

not applicable

Extra information on the examination methods

Periodic evaluation: written exam + practical exam petrography.
Participation to the practical exercises is obligatory. The student is evaluated weekly during the practical excercises as well as on the content and quality of any assignment.

Calculation of the examination mark

- Written exam 60% of the final mark
- Practical exam + assignment(s) 40% of the final mark

Not attending the practical courses, without a justified reason can lead to a failure