

Regional Geomorphology (C000264)

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 and teaching methods in academic year 2020-2021

A (semester 1)	Dutch	Gent	lecture	20.0 h
			seminar: coached exercises	6.25 h
			fieldwork	23.75 h

Lecturers in academic year 2020-2021

Dondeyne, Stefaan WE12 lecturer-in-charge

Offered in the following programmes in 2020-2021

	crdts	offering
Master of Science in Teaching in Science and Technology (main subject Geography)	5	A
Master of Science in Geography	5	A

Teaching languages

Dutch

Keywords

Geomorphological system, landscape genesis, interactions man-physical environment, quaternary, geomorphology of NW Europe, Geomorphological regions of Belgium, tropical geomorphology

Position of the course

The course "Regional geomorphology" aims to let the students acquire insight in specific characteristics of geomorphological regions of (a) Belgium and the NW European continent and (b) the Horn of Africa, with focus on lithology and geology, relief, climate and the changes therein, quaternary stratigraphy, soils, and human impact on the physical environment. Discussion of the influence of endogenic and exogenic factors influencing the genesis, the relief building phenomena and the age of geomorphological regions.

This course contributes to the following learning outcomes of the programme of Masters in Geography and Geomatics: 1.1 – 1.2 – 1.3 – 1.4 – 1.5 – 1.6 – 1.7 – 1.10 – 1.14 – 1.17 – 1.18 – 1.19 – 2.1 – 2.4 – 2.5 – 2.6 – 3.1 – 4.1 – 4.3 – 4.4 – 5.1 – 5.2 – 5.3 – 6.1.

Contents

A. Regional Geomorphology of Belgium within the north-west European continent (in Dutch)

General characteristics of Belgium and NW Europe with regard to physical geography and geomorphology: climate, geology, lithology, altitude, relief, soils. Landscape forming genetic parameters. Classification, description and explanation of the different regional geomorphological regions of Belgium.

B. Regional Geomorphology of the Horn of Africa (in English)

Geology and climate; climate and other environmental changes since the late Quaternary; current slope processes and driving forces; land degradation and desertification; human reactions on desertification

C. Three days of field excursion in Belgium and adjacent areas

D. Practicals regarding geomorphological aerial photo interpretation

Initial competences

Bachelor in Geography and Geomatics or equivalent; succeeded for courses
Introduction to Physical Geography and Geomorphology

Final competences

- 1 To have an integrated vision on the forces and processes that modelled the landscape in NW Europe and in the Horn of Africa, in a complex multiscalar context.
- 2 To know some characteristic examples of geomorphological regions of NW Europe and the Horn of Africa.
- 3 To be able to independently apply advanced geomorphological methods, including map analysis and interpretation, aerial photo interpretation, presenting results by use of maps.
- 4 To have a critical overview of (inter)national research in geomorphology.
- 5 To be able to independently analyse and interpret complex geomorphological phenomena at varying spatial and temporal scales.
- 6 To be able to analyse and interpret the role of endogenous and exogenous forces in the formation and evolution of the physical landscape and the development of human activities.
- 7 To recognise the influence of Quaternary climate changes and of human impact in changes to the physical environment.
- 8 To be able to use models for research on geomorphological problems.
- 9 To make critical use of data sources of various origins.
- 10 To be able to make written reports in the usual format of scientific writing and referencing.
- 11 To have the ability of intra- and interdisciplinary scientific cooperation.
- 12 To understand effects for society generated by scientific developments in geomorphology.
- 13 To comprehend the impact of societal changes on research and developments of geomorphological research.
- 14 To adopt a scientific and ethical attitude with regard to geomorphological issues in society.

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, seminar: coached exercises

Extra information on the teaching methods

- Lectures illustrated with Powerpoint presentations.
- Literature exercises, interpretation of aerial photographs and maps.
- Three-day excursion to High Belgium and adjacent areas in Luxembourg, Germany and Netherlands. Estimated cost: 85 euro.

Learning materials and price

- Course notes at cost price
- Nyssen, J., Poesen, J., Moeyersons, J., Deckers, J., Mitiku Haile, Lang, A., 2004. Human impact on the environment in the Ethiopian and Eritrean Highlands – a state of the art. *Earth Science Reviews*, 64/3-4: 273-320. (to be downloaded from <http://www.sciencedirect.com/science/journal/00128252>)
- Powerpoint slideshow will be freely made available via Ufora.
- Total estimated cost: 10 EUR
- Cost / excursion: 7 EUR

References

- Pissart, A. (ed.) 1976. *Géomorphologie de la Belgique*. Université de Liège, Laboratoire de Géologie et de Géographie Physique, 224 p.
- Demoulin, A. (ed.) (1995) - *L'Ardenne. Essai de géographie physique*. Département de Géographie Physique et Quaternaire, Université de Liège: 238 pp.
- Denis J. (ed.) (1992) - *Geografie van België*. Gemeentekrediet, Brussel: 623 pp.
- Scientific articles regarding the geomorphology of the Horn of Africa: <http://scholar.google.be/scholar?q=ethiopia+geomorphology&hl=nl&lr=&start=0&sa=N>
A selection (with hyperlinks) will be made available.

Course content-related study coaching

Interactive support during lectures, field work, excursion, via Ufora, Geoweb and consultation hours.

Coaching with regard to practicals is done by the practical assistants.

Evaluation methods

end-of-term evaluation and continuous assessment

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

Oral examination

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

Oral examination

Examination methods in case of permanent evaluation

Participation, assignment, report

Possibilities of retake in case of permanent evaluation

examination during the second examination period is not possible

Extra information on the examination methods

Periodical evaluation: oral examination with written preparation (including reporting on fieldwork and excursions).

Non-periodical evaluation : participation in and written report of the exercises

Calculation of the examination mark

Periodical evaluation (2/3 of the final mark) + non-periodical evaluation (1/3 of the final mark). One-off evaluation for the non-periodical part, i.e. marks of the non-periodical evaluation are carried over to the 2nd examination period. Students must take part in all parts of the examination.