GHENT UNIVERSITY

# Course Specifications

Valid as from the academic year 2021-2022

## Micropaleontology and Paleo-environmental Reconstruction (C002607)

**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 150 h** **Contact hrs** 50.0 h

**Course offerings and teaching methods in academic year 2022-2023**

| | | | | |
|---|---|---|---|---|
| A (semester 1) | English | Gent | practicum | 30.0 h |
| | | | lecture | 20.0 h |

**Lecturers in academic year 2022-2023**

| | | |
|---|---|---|
| Louwye, Stephen | WE13 | lecturer-in-charge |
| Speijer, Robert | KUL | co-lecturer |
| Wong Hearing, Thomas | 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 |
| Exchange programme in Geology (master's level) | 6 | A |

**Teaching languages**

English

**Keywords**

Palaeobiology, fossil micro-organisms, morphology, evolution, palaeoenvironment, palaeogeography

**Position of the course**

Knowledge and insight of the most important groups of fossil micro-organisms and their evolution over Earth's history. Their use for biostratigraphy and as proxies for the reconstruction of the palaeoenvironment, palaeogeography and palaeoclimate.

**Contents**

The palaeobiology of fossil micro-organisms over Earth's history: acritarchs, prasinophytes, dinoflagellates, chitinozoans, diatoms, silicoflagellates, radiolaria, calcareous nannoplankton, foraminifers, scolecodonts, ostracods, conodonts. Detailed review of the morphology and general characteristics, life strategies, palaeoproductivity, fossilisation and taphonomy, diversity and palaeogeography, evolution, radiation and extinctions. Fossil microorganisms as proxies for the palaeo-environment: principles and selected case studies.

**Initial competences**

Basic knowledge of paleontology, more specifically of fossil single-celled organisms.

**Final competences**

1 In-depth knowledge of the morphology of microfossils with calcareous, siliceous and organic walls, and their evolution.
2 In-depth knowledge of the applicability of microfossils with calcareous, siliceous and organic walls for relative dating and as a proxy in paleoenvironmental studies.
3 Insight in the contribution that micropaleontology can provide for other geological subdisciplines.

4 Insight in the applicability of practical micrpaleontological research in industry.
5 Develop the aptitude to discriminate between local, regional and global signals provided by microfossils.

**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

**Extra information on the teaching methods**

Lecture, practicum, seminar: coached exercises
because of COVID19, modified forms of work can be rolled out if this proves necessary

**Learning materials and price**

Microfossils. H.A. Armstrong & M.D. Brasier, Blackwell Publishing, ISBN 0-632-05279-1
Cost: approx. 44 euro

**References**

Microfossils. H.A. Armstrong & M.D. Brasier, Blackwell Publishing, ISBN 0-632-05279-1

**Course content-related study coaching**

Possibility to ask questions about the oral teaching classes by email, via personal contact and during the practical excercises. Supervision during practical excercises by teachers and assistants.

**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

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

Written examination with open questions

**Examination methods in case of permanent evaluation**

Assignment

**Possibilities of retake in case of permanent evaluation**

examination during the second examination period is not possible

**Extra information on the examination methods**

Extra information on the examination methods: form and contents of the examination are explained at the end of the course. A test evaluates whether students have internalized the final objectives.

**Calculation of the examination mark**

Permanent evaluation 10%, periodic evaluation 90%