

## Advanced Sedimentology (C003816)

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

**Credits 6.0** **Study time 180 h**

**Course offerings and teaching methods in academic year 2024-2025**

A (semester 1)	English	Gent	lecture
			seminar
			group work

**Lecturers in academic year 2024-2025**

Van Daele, Maarten	WE13	lecturer-in-charge
Wils, Katleen	WE13	co-lecturer

**Offered in the following programmes in 2024-2025**

<a href="#">Master of Science in Marine and Lacustrine Science and Management</a>	<b>crdts</b>	<b>offering</b>
	6	A

**Teaching languages**

English

**Keywords**

Sediment sampling equipment, analytical techniques in sedimentology, sedimentological case-studies

**Position of the course**

This course is focused on the use of sediments for research purposes. It builds on the general principles of sediment production, transport, and deposition that were introduced at the Bachelor level.

**Contents**

Sediment sampling techniques, in-situ sediment monitoring instruments, coring equipment.  
Analytical techniques in sedimentology.  
Core logging instrumentation: Multi-sensor core loggers, XRF and CT core scanners.  
Interpretation of multi-proxy sediment records, including age-depth modeling.  
Recent advances in sedimentology.  
Case-studies (seminars given by guest speakers).

**Initial competences**

The student knows the basic concepts of sedimentology and stratigraphy, such as sediment production, transport and deposition. He/she knows the main depositional environments.

**Final competences**

- 1 The student can design a research project based on sediments and sedimentary archives.
- 2 He/she is able to select the most appropriate techniques to analyze sediments for specific purposes.
- 3 He/she can combine and interpret data obtained using several independent techniques.

**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**

Group work, Seminar, Lecture

**Study material**

None

## **References**

Specific scientific articles given during the course.

## **Course content-related study coaching**

Discussion of problems and questions during and after the lectures and seminars. Continued support by teaching assistants during the practical 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**

Presentation, Assignment

## **Possibilities of retake in case of permanent assessment**

examination during the second examination period is not possible

## **Calculation of the examination mark**

- Theoretical exam: 75%
- Group report (age depth modelling): 15%
- Presentation (and discussion) of paper: 10%