

## Advanced Sedimentology (C003816)

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

Credits	6.0	Study time	180 h	Contact hrs	60.0 h
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Course offerings and teaching methods in academic year 2019-2020

A (semester 1)	English	group work	15.0 h
		seminar	12.5 h
		lecture	25.0 h
		practicum	15.0 h

Lecturers in academic year 2019-2020

Bertrand, Sebastien	WE13	lecturer-in-charge
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Offered in the following programmes in 2019-2020

	crdts	offering
<a href="#">Master of Science in Marine and Lacustrine Science and Management</a>	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, lecture, practicum, seminar

Learning materials and price

Course notes, hand-outs, and scientific articles available on Ufora.

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.

Evaluation methods

end-of-term evaluation

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

Written examination, report

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

Written examination, report

Examination methods in case of permanent evaluation

Written examination, report

Possibilities of retake in case of permanent evaluation

not applicable

Calculation of the examination mark

Theoretical exam, including conception, presentation, and discussion of sediment-based mock research project: 75%

Group project report: 25%