Courses Specifications
Valid as from the academic year 2016-2017

Advanced Sedimentology (C003816)

Course size
Credit: 6.0
Study time: 180 h
Contact hrs: 60.0 h

Course offerings and teaching methods in academic year 2017-2018
A (semester 1)
practicum: 15.0 h
lecture: 25.0 h
seminar: 12.5 h
group work: 15.0 h

Lecturers in academic year 2017-2018
Bertrand, Sebastien
WE13
lecturer-in-charge

Offered in the following programmes in 2017-2018
Master of Science in Marine and Lacustrine Science and Management
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.

(Approved)
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 Minerva.

**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%