Course Specifications
Valid as from the academic year 2019-2020

Advanced Sedimentology (C003816)

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 180 h
- Contact hrs 60.0 h

Course offerings and teaching methods in academic year 2019-2020
- A (semester 1)
  - English
  - on campus group work 15.0 h
  - on campus seminar 12.5 h
  - on campus lecture 25.0 h
  - practicum 15.0 h

Lecturers in academic year 2019-2020
- Bertrand, Sebastien
  - WE13 lecturer-in-charge

Offered in the following programmes in 2019-2020
- Master of Science in Marine and Lacustrine Science and Management
  - 6 crdts
  - A offering

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

(Approved)
This course unit cannot be taken via an exam contract

Teaching methods
- On campus group work, on campus lecture, practicum, on campus 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
- in case of periodic evaluation during the second examination period
  - Written examination, report
- 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%