Advanced Sedimentology (C003816)

Course Specifications
Valid as from the academic year 2019-2020

Course size

<table>
<thead>
<tr>
<th>Credits</th>
<th>Study time</th>
<th>Contact hrs</th>
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<tbody>
<tr>
<td>6.0</td>
<td>180 h</td>
<td>60.0 h</td>
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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

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

(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 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%