



DEPARTMENT OF EARTH SCIENCES

GVG300 Sedimentology and Stratigraphy, 7.5 credits

Sedimentologi och stratigrafi, 7,5 högskolepoäng

First Cycle

Confirmation

This course syllabus was confirmed by Department of Earth Sciences on 2020-01-17 and was last revised on 2023-01-30 to be valid from 2023-09-28, autumn semester of 2023.

Field of education: Science 100%

Department: Department of Earth Sciences

Position in the educational system

The course includes 7,5 credits at the undergraduate level. The course is offered as an elective course subject to availability.

The course can be part of the following programmes: 1) Marine Science, Bachelor's Programme (N1MAV) and 2) Bachelor's Programme in Earth Sciences (N1GVS)

Main field of studies

Earth Sciences

Specialization

G2F, First cycle, has at least 60 credits in first-cycle course/s as entry requirements

Entry requirements

For admission to the course, at least 60 credits in the main field of Earth Sciences or Marine Science is required. Students with equivalent qualifications may be admitted to the course after review and approval.

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

- define, explain and distinguish basic sedimentological properties that influence or

have been influenced by sedimentary processes: fluid properties, flow velocity, particle size, orientation of grain, geochemistry of depositional environments, etc.

- define, explain and distinguish basic processes in sedimentology: e.g., erosion, weathering, transport and sedimentation.
- acquire a basic knowledge of stratigraphy and stratigraphic nomenclature such as lithostratigraphy, biostratigraphy, chronostratigraphy, and sequence stratigraphy.
- identify, explain and illustrate different depositional environments (delta, flood plain, alluvial fan, reef, etc.) as well as typical characteristics for these.

Competence and skills

- plan and carry out field work, logging as well as measurement of paleo flows in sedimentary sequences and, in the lab, sediment analyses (for example dry and wet sieving, grain size analysis as well as pipette dispersion).

Judgement and approach

- to apply with a scientific approach sedimentological, stratigraphic and geochronological knowledge on different geoscientific issues as well as to give an increased understanding of sedimentology and stratigraphy, as well as the most important dating methods and to be a disciplinary foundation for continued studies in geology.

The course is sustainability-related, which means that at least one of the learning outcomes clearly shows that the course content meets at least one of the University of Gothenburg's confirmed sustainability criteria.

Course content

The course includes four components:

Sub-courses

1. Theory (*Teori*), 4 credits

Grading scale: Pass with Distinction (VG), Pass (G) and Fail (U)

Aim of 1-5 during Knowledge and understanding is examined through written examination - a final exam and 4-6 quizzes. To receive Pass with Distinction on the module, the student may not be failed on one of the 5 aims.

2. Exercises/field exercises (*Övningar/fältövning*), 2.5 credits

Grading scale: Pass (G) and Fail (U)

Aim of 1-4 during Competence and skills is examined through written reports.

3. Excursion (*Exkursion*), 1 credits

Grading scale: Pass (G) and Fail (U)

The aim of the excursion within Scandinavia is to examine and investigate coastal

outcrops of sedimentary rocks from the mesozoic and plaeozoic, as well as observe modern sedimentological processes along the coast and in rivers. The excursion lasts for one week and there will be fieldwork everyday during the week.

Participation in the excursion is required for the grade Pass.

The excursion is compulsory, but can be replaced by a project work if needed and agreed with the course manager in case the student cannot participate in the excursion.

Form of teaching

The teaching consists of lectures, seminars, exercises and field exercises.

Language of instruction: English

Assessment

The student will be examined by:

Components 1 Theory (Theory) 4 credits: Fail/Pass/Pass with distinction.

Components 2 Exercises/field exercises (Exercises/Field exercises) 2.5 credits: Fail/Pass

Components 3 Field trip (Excursion) 1 credits: Fail/Pass

If a student who has twice received a failing grade for the same examination component wishes to change examiner ahead of the next examination session, such a request should be made to the department in writing and should be approved by the department unless there are special reasons to the contrary (Chapter 6 Section 22 of the Higher Education Ordinance).

If a student has received a recommendation from the University of Gothenburg for study support for students with disabilities, the examiner may, where it is compatible with the learning outcomes of the course and provided that no unreasonable resources are required, decide to allow the student to sit an adjusted exam or alternative form of assessment.

In the event that a course has ceased or undergone major changes, students are to be guaranteed at least three examination sessions (including the ordinary examination session) over a period of at least one year, but no more than two years after the course has ceased/been changed. The same applies to internships and professional placements (VFU), although this is restricted to just one additional examination session.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U). For the grade Pass (G) in the course the grade Pass (G) is required for all graded sections. For the grade Pass with Distinction (VG) for the final grade, the grade Pass with Distinction (VG), the grade Pass (G) in all graded sections and the grade Pass with Distinction (VG) for the Theory section (examination) is required.

Course evaluation

The students are given the opportunity to make a anonymous written evaluation of the course.

The results of and possible changes to the course will be shared with students who participated in the evaluation and students who are starting the course.

Additional information

Students admitted to N1GVS Bachelor's Programme in Earth Sciences are given priority for admission to the course.

The field trip may incur additional cost for the students. According to the department's policy , students participating in the excursion should pay a maximum of 200 SEK/night for travel and accommodation.