



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 2020-03-26 to be valid from 2020-08-31, autumn semester of 2020.

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 education can, after review and approval, be given access to the course.

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 sequencestratigraphy.
- 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. Field-trip (excursion) (Fältresa (exkursion)), 1 credits

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

On the island of Bornholm, we 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. We are in the field all days that week.

Participation is needed for Pass.

The compulsory field trip to Bornholm (can be substituted with a project agreed with the course coordinator in case the student cannot participate in the field trip).

Form of teaching

The teaching includes 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 failed the same examined element on two occasions, wishes to change examiner before the next examination session, such a request is to be submitted to the department in writing and granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

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, though at most two years after the course has ceased/been changed. The same applies to work experience and 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 at NIGVS Bachelor's Programme in Earth Sciences have precedence for admittance to the course.

The field trip can imply certain additional cost for the students. According to the policy of the department, students who participate in the field trip will pay up to 200 SEK / night for transport and housing.