UNIVERSITY OF GOTHENBURG

DEPARTMENT OF EARTH SCIENCES

GVG470 Applied Geophysics, 7.5 credits

Tillämpad Geofysik, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Earth Sciences on 2012-09-27 and was last revised on 2023-09-14 to be valid from 2024-01-15, spring semester of 2024.

Field of education: Science 100%
Department: Department of Earth Sciences

Position in the educational system

The course includes 7.5 credits at Master's level and can be included in a Master's Degree in Earth Sciences. The course is offered as an elective course subject to availability.

The course can be part of the following programmes: 1) Marine Science, Master's Programme (N2MAV) and 2) Master's Programme in Earth Sciences (N2GVS)

Main field of studies	*Specialization*
Earth Sciences	A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

Admission to the course requires completed courses comprising at least 120 credits in the main field of Earth Scinces, of which at least 75% with a passing grade, as well as completed course in geophysics, e.g. GVG350, or equivalent knowledge. Applicants with equivalent education can, after review and approval, be admitted to the course.

Learning outcomes

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

Knowledge and understanding

- describe physical properties of rocks and soils and interpretation theories.
- describe basic mathematical and physical relationships.
- describe application areas for geophyscial measurements in geology, environment, water and exploration for raw materials.

Competence and skills

- handle several geophysical instruments.
- use and compile geophysicla measurements; seismic, gravity, magnetism, electricity, electromagnetism, etc.
- process raw data.
- model and interpret geophysical measurement reults.
- write reports and orally present collected data and interpretations.

Judgement and approach

- define geological problems and plan their own projects.

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 covers physical properties of rocks and soils, basic mathematical and physical relationships, seismicity, gravity, magnetism, electricity and electromagnetism.

Applications in geology, environment, water and mineral exploration. Interpretation theory processing of raw data modeling Field course.

Form of teaching

The teaching consists of lectures, compulsory exercises, compulsory field work and project work.

- Theory
- Exercises
- Field work
- Presentations

Language of instruction: English

Assessment

Component 1: Exercises, 2.5 credits: Fail/Pass

Component 2: Project work, 5 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 cesed/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 (G) and Fail (U).
The grade Pass (G) in the entire course requires that all modules, including compulsory modules, are passed.

Course evaluation

Students are given the opportunity to make a written, anonymous 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 N2GVS Master's Programme in Earth Sciences, are given priority to the course.