



DEPARTMENT OF EARTH SCIENCES

GVG410 Advanced petrology, 7.5 credits

Avancerad petrologi, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Earth Sciences on 2011-10-10 and was last revised on 2024-02-26 to be valid from 2024-12-06, autumn 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 may be offered as an elective course subject to availability.

The course can be part of the following programme: 1) Master's Programme in Earth Sciences (N2GVS)

Main field of studies

Earth Sciences

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

For admission to the course, completed courses of at least 165 credits in the main field of Earth Sciences are required of which 90% should be completed with at least pass.

Furthermore, a passing grade is required in Bachelor's level courses of Mineralogy 7.5 credits (GVG210), Geochemistry, 7.5 credits (GVG380) and Petrology 7.5 credits (GVG270) or equivalent courses.

Learning outcomes

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

Knowledge and understanding

- understand the principles of rock-forming processes.
- describe rock-forming systems by their controlling physical and chemical conditions.
- interpret complex petrological datasets in terms of geodynamic processes.

Competence and skills

- effectively use advanced petrological literature.
- develop research strategies in petrology.
- present Master level results in written and oral form.

Judgement and approach

- evaluate and discuss petrological hypotheses for the origin of rocks.
- critically appraise petrological literature and concepts from a historical context.

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 focuses on deepening the students' appraisal of processes that control the formation of rocks by immersion into one or several specific petrological conundrums.

Through a combination of literature study and hands-on experience with case studies, the students will be delving into the principles of petrology from the field to the laboratory and the physical and chemical conditions that control the origin of various rock types.

Form of teaching

The teaching consists of lectures, group exercises, laboratory work and presentations.

Language of instruction: English

Assessment

Component 1 Project Work (Project assignment), 7.5 credits: Fail/Pass/Pass with Distinction

Active participation in all graded modules is expected.

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 a course grade, a petrological project is required including: literature assignments, exercises, contextual questions, written and oral presentations. All components of the course have equal importance for the final grade.

Course evaluation

The students are given the opportunity for an anonymous written evaluation at the end of the course.

The result 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 the N2GVS Master's Programme in Earth Sciences are given priority to the course.