



LUND
UNIVERSITY

Faculty of Science

MNXG02, Bedrock Geology of Sweden, 3 credits *Sveriges berggrundsgeologi, 3 högskolepoäng* First Cycle / Grundnivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2022-11-30 to be valid from 2022-11-30, autumn semester 2023.

General Information

This is an elective first cycle course. The course is an interdisciplinary course at the Faculty of Natural Sciences and is open to students from all faculties.

Language of instruction: Swedish

Main field of studies

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Depth of study relative to the degree requirements

G1N, First cycle, has only upper-secondary level entry requirements

Learning outcomes

The overarching aim of the course is that the student should acquire basic knowledge of the large-scale bedrock geology of Sweden. Major emphasis is placed on the regional distribution, ages, formation processes and composition of different bedrock types. A minor part of the course introduces the societal relevance of geological materials and how Swedish public authorities handle bedrock-related geological resources. The course addresses those who have an interest in Swedish bedrock geology, geological materials, minerals, rocks and fossils.

Knowledge and understanding

On completion of the course, the students shall be able to:

- at a general level account for the main features of Swedish rock types; the igneous and metamorphic bedrock, the sedimentary strata and the rocks of the Scandes mountain range, with regard to formation, geographic distribution and general age.
- account for the differences between igneous, metamorphic and sedimentary

rocks.

- at a general level account for, and understand the fundamentals of, plate-tectonic processes and the geological time scale.
- at a general level account for the public authorities that are responsible for questions related to geological resources and how Swedish geology is made available to the public through geoparks.

Competence and skills

On completion of the course, the students shall be able to:

- use fundamental geological terminology.
- discuss the main features of the composition of Swedish bedrock.
- search, collect and integrate knowledge of Swedish bedrock, particularly based on information provided by relevant public authorities.

Judgement and approach

On completion of the course, the students shall be able to:

- critically discuss issues that concern society's dependency on Swedish bedrock.
- provide arguments for the importance of knowledge of Swedish bedrock geology for a sustainable development.

Course content

The course starts with a basic overview of the Fennoscandian shield terrain and an introduction to the geological time scale as well as the concept of palaeogeography. Thereafter, the course focuses on the large-scale composition of the bedrock structure of Sweden (litho-tectonic units), mineral groups and general rock types (igneous, metamorphic and sedimentary). The knowledge is based on examples from different parts of the country. Processes that have contributed to the bedrock structure of different regions are treated at a general level. To a minor extent, important geological resources (geosystem services) and society's dependency on knowledge of Swedish bedrock are treated.

Course design

The teaching consists of lectures and seminars in digital form. Participation in seminars and associated components is compulsory.

The course is offered as a distance learning course using an online learning platform and digital tools. Students are required to participate under these conditions, and to have access to a computer with an internet connection as well as functioning speakers, microphone and web camera. The department will provide information about the technical requirements.

Assessment

Examination takes place continuously during the course through written, digital multiple-choice tests and orally in the form of seminars and associated compulsory components.

Students who do not pass a regular assessment will be offered another opportunity for assesment soon thereafter.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

To pass in the whole course, passed digital multiple choice tests, passed seminars, and passed compulsory components are required.

Entry requirements

General requirements for university studies in Sweden

Further information

The course cannot be included in a Higher Education Diploma with geology as the main field of study.

The course is offered at the Department of Geology, Lund University.

Subcourses in MNXG02, Bedrock Geology of Sweden

Applies from H23

- 2301 Digital Multiple Choice Tests, 2,0 hp
Grading scale: Fail, Pass
- 2302 Seminars, 1,0 hp
Grading scale: Fail, Pass
- 2303 Mandatory Learning Activities, 0,0 hp
Grading scale: Fail, Participated