HÖGSKOLAN I GÄVLE

Earth Science A 7.5 cr

Geovetenskap A 7,5 hp

Set by Board of Technology and Built Environment

Version

Set at	**Valid from**
3/22/10	VT2008
5/21/14	VT2010
3/10/17	**HT2017**

Level	G1F
Education level	First cycle
Course identifier	SB250A
Credits	7.5 cr
Main field of study	Geography
Subject group	Earth Science and Physical Geography
Disciplinary domain	Technology 100.0 %

Learning outcomes

The student should acquire geoscientific basic knowledge, mainly in geology, physical geography, quartenary geology, climatology and hydrology. Through knowledge of the different geo-systems in time and space, and how these affect and change the planet Earth, together or individually, the student should, on completion of the course, be able to:
- Describe the geological history of Earth, the development of life and the geoscientific methodology on which the knowledge is based.
- Describe the structure and composition of Earth, and the forces governing mountain range formation, volcanism and earthquakes.
- Describe mineral and rock formation processes, and be able to identify the most common rock forming minerals and a selection of common rocks.
- Describe soil types and soil formation processes with focus on Swedish conditions, and be able to identify the most common earth types in Sweden.
- Describe landscape and landform formation processes with focus on Swedish conditions.
- Describe the processes in the atmosphere and the hydrosphere (basic meteorology and climatology) and their connection to current climate and environmental problems.

- Account for our most important geological resources and be able to discuss the role of earth sciences in
society.

Course content

The formation, structure and dynamic development of the planet Earth. Geological history and the development of life. Stratigraphy and geological dating methodology. Mineral and rock formation processes. Knowledge of minerals and bedrocks. Bedrock-geological maps and structural geology.
Quaternary climate and landscape development, with emphasis on the latest ice age and post-glacial time. Mineral and organic soil, their structure, formation and properties. Soil formation processes. Knowledge of soil and and soil-geological maps.
Geomorphology and exogenous forces (weathering, mass movement, erosion, transport and sedimentation). Geo-information, maps and air photos.
The general circulation of the atmosphere. Climate and weather systems. Climate regions and global climate changes.
The movement of water in nature and water renewal, soil and groundwater. Hydrological and hydrogeological maps.
Natural resources and their use. Geodiversity.
Strong emphasis is placed on understanding the relationship between forces, materials and forms. The knowledge acquired from the theoretical parts of the course will be reinforced and illustrated during field trips, exercises and laboratory sessions. The course should constitute the basis for continued studies in geoscientific subjects.

Teaching

Lectures, exercises, laboratory sessions, group assignments, field trip and field exercises. All parts except lectures are compulsory.

Prerequisites

English 6

Examination

Written examination, excercises and laboratory sessions, field trip

Written examination at the end of the course (the grades Fx and F means fail and require re-examination). Approved practical assignments, laboratory sessions and approved field trip are also required.

Grade

A, B, C, D, E, Fx, F

Sustainable environment

The majority of the course content deals with sustainable development..

Module

0030	Written examination	4.5 cr	Grade: AF
0040	Exercises, laborations	2 cr	Grade: UG
0050	Excursion	1 cr	Grade: UG