



## HÖGSKOLAN I GÄVLE

### Natural Hazards and Risk Assessment 7.5 cr

*Naturkatastrofer och riskbedömning 7,5 hp*

Set by Faculty of Engineering and Sustainable Development

**Version**

**Set at**

**Valid from**

9/25/18

**VT2020**

<b>Level</b>	G2F
<b>Education level</b>	First cycle
<b>Course identifier</b>	SBG542
<b>Credits</b>	7.5 cr
<b>Main field of study</b>	Spatial Planning, Geospatial Information Science, Geomatics, Geography
<b>Subject group</b>	Earth Science and Physical Geography
<b>Disciplinary domain</b>	Natural sciences 70.0 % Technology 30.0 %

**Learning outcomes**

At the end of the course the student shall be able to

1. describe and explain the basic processes behind the main natural hazards and disasters
2. link the effects of different hazards to climate and environmental problems and being able to explain where they are likely to occur and how they influence the built environment
3. apply basic methods for vulnerability and risk analysis
4. describe risk monitoring systems for prediction of different types of hazards
5. produce risk maps and reflect upon the resilience of the built environment.

**Course content**

Natural and environmental hazards and risk terminology

Natural disasters and hazards caused by endogenic forces (e.g. volcanism, earthquakes, tsunamis, jökulhlaups)

Natural hazards caused by exogenic forces (e.g. floods, droughts, avalanches, deforestation, landslides and other mass movements, hurricanes, meteorite impacts)

Slow-onset disasters (e.g. melting glaciers and permafrost, sea level changes, soil erosion, desertification)

Natural processes and events versus anthropogenic activity in term of hazards, both in a national and international perspective

Monitoring of natural processes

Measures to prevent or mitigate hazards  
Hazard mapping and risk analysis through GIS  
Awareness, attitudes and preparedness of the society towards natural hazards

<b>Teaching</b>	Lectures, practicals, exercises, seminars and project.		
<b>Prerequisites</b>	Earth Science 7.5 hp or equivalent, and GIS 15 hp		
<b>Examination</b>	Written examination, practical exercises, seminars and project.		
<b>Grade</b>	A, B, C, D, E, Fx, F		
<b>Other regulations</b>	The grading criteria will be identified by the course coordinator or examiner at the start of the course		
<b>Sustainable environment</b>	The majority of the course content deals with sustainable development..		
<b>Module</b>			
0010	Written exam	3.5 cr	Grade: AF
0020	Practicals, exercises	1 cr	Grade: UG
0030	Seminars	1.5 cr	Grade: UV
0040	Project	1.5 cr	Grade: UV