



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

9/12/13

VT2014

Level	G2F
Education level	First cycle
Course identifier	SBG501
Credits	7.5 cr
Main field of study	Geomatics, Geography
Subject group	Earth Science and Physical Geography
Disciplinary domain	Natural sciences 70.0 % Technology 30.0 %

Learning outcomes

The course treats different types of natural and environmental hazards and their associated processes and consequences, especially in terms of the effects on spatial planning and the built environment. Through the course the student shall acquire knowledge about those processes that create risk and vulnerable conditions for human life and the built environment, as well as knowledge on how to mitigate or prevent such effects.

At the end of the course the student should 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.

Course content

Environmental hazard and risk terminology
Natural 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)
 Creeping disasters (e.g. melting glaciers and permafrost, sea level changes, soil erosion, desertification)
 Natural processes and events versus anthropogenic activity in term of environmental hazards, both in a national and international perspective
 Monitoring of natural processes
 Measures to prevent or mitigate hazards
 Risk analysis and evaluation with GIS
 Awareness, attitudes and preparedness of the society towards natural hazards

Teaching Lectures, practicals, exercises, seminars and project.

Prerequisites Earth Science and Physical Geography 15 hp, and GIS 15 hp

Examination Written examination, practical exercises, seminars and project.

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

Other regulations The grading criteria will be identified by the course coordinator or examiner at the start of the course

Sustainable environment A minor part of the course content deals with sustainable development.

Module			
	0010	Written examination	3.5 cr Grade: AF
	0020	Practicals, exercises	1 cr Grade: AF
	0030	Seminars	1.5 cr Grade: AF
	0040	Project	1.5 cr Grade: AF