

# Syllabus

for course at advanced level

**Geographic Analysis and Visualization in GIS**  
**Geografisk analys och visualisering i GIS**

**15.0 Higher Education  
Credits**  
**15.0 ECTS credits**

<b>Course code:</b>	GE8013
<b>Valid from:</b>	Autumn 2010
<b>Date of approval:</b>	2010-05-17
<b>Department</b>	Department of Physical Geography
<b>Main field:</b>	Physical Geography and Quaternary Geology
<b>Specialisation:</b>	A1N - Second cycle, has only first-cycle course/s as entry requirements

## Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University 2010-05-17.

## Prerequisites and special admittance requirements

Competence equivalent to at least 90 ECTS credits in Earth sciences or geography or equivalent science or civil engineering competence is required. In addition competence equivalent to the courses GIS and Remote Sensing, 15 ECTS credits (GE4012). Also required is knowledge equivalent to Swedish upper secondary school course English B/English 6.

## Course structure

Examination code	Name	Higher Education Credits
MOM1	Theory	7
MOM2	Project	8

## Course content

a. The course covers spatial analysis, modelling and visualization in GIS. By analysis of geographic data within the framework of a project oriented work provide knowledge of data models, data structures and database management. In the project works also database design and computer cartography are treated for presentations using GIS. The project tasks are picked from needs in research, municipalities, counties and consultancy companies.

b. The course comprises the following elements:

1. Theory 7 credits
2. Project 8 credits

## Learning outcomes

It is expected that the student after taking the course will be able to:

- carry out and assess data collection from maps and other sources for use in GIS
- setting up databases for GIS
- argue how single measurements, measurement series, e.g. with satellite and other remote sensing techniques, can be acquired, assessed, analyzed, transformed and processed for final use in GIS
- explain how modeling in GIS can be used in national and private work as well as for research issues and argue which modeling approaches are suitable
- visualize result and analysis made with GIS by computer aided cartography

**Education**

The education consists of lectures, group tuition, seminars, exercises, project work, and study visits.

Participation in the seminars, exercises, project work, study visits and education associated with this is compulsory. In the event of special circumstances, the examiner may, after consultation with the teacher concerned, grant a student exemption from the obligation to participate in certain compulsory instruction.

**Forms of examination**

a. The course is examined as follows:

- written and/or oral examination
- written and/or oral presentations of independent exercises and project work
- opposition on group work

b. Grading is carried out according to a 7-point scale related to learning objectives:

A = Excellent

B = Very Good

C = Good

D = Satisfactory

E = Sufficient

Fx = Fail

F = Fail

c. Grading criteria for the course will be distributed at the start of the course.

d. A minimum grade of E is required to pass the course, together with:

- pass of element 1 and 2
- completion of all practical laboratory work and all other compulsory education, followed by its presentation and award of a "Sufficient" grade
- participation in all compulsory education

e. Students who have failed have the right to participate in at least four tests for as long as the course is offered. Other mandatory exercises, tasks etc are in this context to be regarded as tests. A student, who has passed a test, or equivalent, may not take the test again in order to raise the grade. A student who has failed twice has the right to apply for another teacher to be appointed to assign the grade for the course. Such an application should be addressed to the Departmental Board.

**Interim**

Students may request that the examination be conducted in accordance with this course plan even after it has ceased to be valid. However, this may not take place more than three times over a two year period after course instruction has ended. Requests must be made to the departmental board.

**Limitations**

The course may not be included in examinations in combination with course Geographic Analysis and Presentation in GIS (NG3620).

**Misc**

The course include teaching in the field, which may entail additional cost for the student. The course is part of Master's Programme in Landscape Analysis with Remote Sensing, GIS and Cartography, but can also be read as a separate course.

**Required reading**

Course literature is decided by the departmental board and is described in an appendix to the syllabus.