

Syllabus

for course at advanced level

Applied Remote Sensing and GIS for Landscape Analysis
Tillämpad fjärranalys och GIS för landskapsanalys

**15.0 Higher Education
Credits**
15.0 ECTS credits

Course code:	GE7088
Valid from:	Autumn 2021
Date of approval:	2021-01-11
Department	Department of Physical Geography
Main field:	Physical Geography and Quaternary Geology
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This course syllabus was approved by the Board of Science at Stockholm University on 11/01/2021.

Prerequisites and special admittance requirements

Admission to the course requires knowledge equivalent to 120 ECTS credits of completed courses, of which 90 credits has to be in one of the following subjects: biology-earth sciences, geography, Earth sciences, environmental sciences, physical geography, or urban and regional planning. Or 120 ECTS credits completed courses, of which 90 credits in biology including at least 15 credits in ecology. Alternatively 30 ECTS credits from one of the Master Programmes at the Department of Physical Geography. Swedish upper secondary school course English 6 or equivalent.

Course structure

Examination code	Name	Higher Education Credits
DEL1	Remote Sensing	7.5
DEL2	GIS	7.5

Course content

a. The course covers the theory and application of spatial analysis and visualization of remote sensing and GIS for landscape analysis. During the course training is provided in data management, and using algorithms as processing and visualization methods for scientific work.

b. The course consists of the following modules:

1. Remote Sensing (Fjärranalys) 7.5 credits
2. GIS (GIS) 7.5 credits

Learning outcomes

After completing the course, the student is expected to be able to:

- to critically evaluate research findings by reproducing and analyzing selected portions of published research (module 1, module 2)
- to use remote sensing and GIS in physical geographical analyses (module 1, module 2)
- to formulate and carry out independent projects with the use of remote sensing and GIS (module 1, module 2)
- to extract and process quantitative geo- and biophysical measurements from geodata (module 1, module 2)

Education

Instruction consists of lectures, seminars, exercises and project work.

The course is offered in English.

Forms of examination

a. The course is examined in the following manner:

Assessment of module 1 and 2 takes place through written exams, written and oral exams of individual project work.

The examiner can decide on adapted or alternative examination formats for students with disabilities.

Late submission of the individual project work has consequences for the final grade of the course. These consequences are described in detail in the grading criteria of the course.

The examination will be conducted in English.

b. A passing final grade requires participation in seminars and exercises. If special reasons exist, following consultation with the teacher involved, the examiner may grant the student exemption from the obligation to participate in certain compulsory instruction.

c. Grading: The course's final grade is set according to a seven-point criterion-referenced scale:

A = Excellent

B = Very good

C = Good

D = Satisfactory

E = Adequate

Fx = Failed, some additional work is required

F = Failed, much additional work is required

Grades of module 1 and module 2 will be set according to a seven-point criterion-referenced scale.

A passing final grade requires passing grades on all included parts.

The final grade of the course is determined by weighing the grades from all course modules, where each grade is weighed in relation to the scope of the course modules.

d. The course's grading criteria are handed out at the start of the course.

e. Students who receive a failing grade on a regular examination are allowed to retake the examination as long as the course is still provided. The number of examination opportunities is not limited. Other mandatory course elements are equated with examinations. A student who has received a passing grade on an examination may not retake the examination to attain a higher grade. A student who has failed the same examination twice is entitled to have another examiner appointed, unless there are special reasons to the contrary. Such requests should be made to the department board. The course includes at least three examination opportunities per academic year the course is offered. For the academic years that the course is not offered, at least one examination opportunity is offered

f. There is no possibility to improve the grade Fx to a pass grade in this course.

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 the course was discontinued. Requests must be made to the departmental board. The provision also applies in the case of revisions of the course syllabus and revisions of the required reading.

Limitations

This course may not be included in a degree together with the courses Applied Remote Sensing, GIS and Cartography for Landscape Analysis 15 credits (GE7048), Applied Remote Sensing and GIS for Landscape Analysis (GE7062) or with equivalent courses.

Misc

This course is part of the Master's Programme in Geomatics with Remote Sensing and GIS and the Master's Programme in Landscape Ecology but can also be read as a separate course.

Required reading

The required reading is decided by the department board and published on the Department of Physical Geography's website at least 2 months before the start of the course.