



Faculty of Science

NGEA18, Physical Geography: Geographical Information Systems - an Introduction, 15 credits

*Naturgeografi: Geografiska Informationssystem - en introduktion,
15 högskolepoäng
First Cycle / Grundnivå*

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2014-03-25 to be valid from 2014-03-25, autumn semester 2014.

General Information

The course is given as a freestanding course

Language of instruction: Swedish

Main field of studies

Physical Geography and Ecosystem
Analysis

*Depth of study relative to the degree
requirements*

G1N, First cycle, has only upper-secondary
level entry requirements

Learning outcomes

The aim of the course is to give basic knowledge about concepts and methods within treatment and analysis of geographic data with geographic information systems (GIS) and an introduction to cartography and geodesy.

Knowledge and understanding

On completion of the course, the student should be able to:

- describe different conceptual models of spatial phenomena
- describe different data models of digital spatial data (raster and vector models) and know how these can be stored in computers
- account for basic spatial analysis methods
- account for basic cartographic methods

- explain different map projections, geodesic reference systems and coordinate systems
- explain simple interpolation methods
- describe basic structure for relational databases

Competence and skills

On completion of the course, the student should be able to:

- organise and handle geographic data with computers
- carry out basic analyses of geographic data in different format by means of standard software for GIS
- plan and present procedure and results of collection and analysis of geographic data in an appropriate manner (particularly as maps) for specialists and laymen
- carry out and present simple evaluations of interpolated spatial data
- use simple database management including SQL
- understand the principle for, and be able to use GPS

Judgement and approach

On completion of the course, the student should be able to:

- be aware about the importance of, and have self-confidence for, use geographic information and analysis within different scientific fields and other applications
- had achieved a critical approach to geographic data, geographic analytical methods and analysis results

Course content

The course gives a broad theoretical and practical ground for wider work with digital geographic data. Understanding of representation and analysis of spatial elements are emphasised. The course also highlights general geographic problems through practical applications within e.g. environment and society. Examples are brought from both Swedish and international settings and vary in scale from local to regional. The course is divided into thematic parts that include theory and practice most often in the form of practical exercises but also theoretical assignments connected to parts of the course occur.

Course design

The course is a distance course and is distributed on the Internet. The study tempo is flexible and the course can be carried out on full, half or part-time basis.

Examination takes place through written take-home examination at the end of the course and via written assignments during the course.

Assessment

Examination takes place through an examination at the end of the course and by all prescribed practical assignments and project reports having been handed in and approved.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

Entry requirements

General requirements for university studies in Sweden

Further information

May not be included in a degree together with the courses NGEA13 and NGEA14. The course can not be included in a higher education qualification together with other courses of the same type independently of at which higher education institution these been studied. Examples of courses at Lund's university are

GISA21 GIS:Geographical Information System- Introduction, 15 credits

NGA05 GIS and remote sensing for environmental science, 15 credits

NGEA11 Geographic Information systems- Basic course, 15 credits

NGEA19 Geographic Information systems- An introduction for teachers, 15 credits

SGEG10 Geographic Information systems for social scientist- introduction with applications 30 credits

Subcourses in NGEA18, Physical Geography: Geographical Information Systems - an Introduction

Applies from H14

1401 Geographical Information Systems - an Introduction, 15,0 hp
Grading scale: Fail, Pass