Faculty of Science

GISA24, GIS: Geographical Information Systems - Introduction 2, 7.5 credits

GIS: Geografiska informationssystem - introduktion 2, 7,5 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2021-06-08 to be valid from 2021-06-08, spring semester 2022.

General Information

The course is a freestanding course that is given as an introduction to the subject. Together with the course GISA23 (7.5 credits) the course provides entry to further studies in the area geographic information science. The course is given as distance-learning via the internet.

Language of instruction: English

Main field of studies	Depth of study relative to the degree requirements
Geographical Information Science	G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is that the student together with the knowledge that has been acquired in the course GISA23, should acquire supplementary basic theoretical and practical knowledge of concepts and methods for 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 shall be able to:

- describe the raster data model for digital spatial data, describe how these are stored digitally and which advantages and disadvantages that with this data

model
- give an account of basic spatial analytical methods of raster data
- give an account of basic cartographic methods with raster data
- describe basic structures for relevant databases

Competence and skills

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

- organise and handle digital geographic data
- independently carry out basic analyses of geographic data in raster format using standard software for GIS
- carry out and present basic statistical evaluations of spatial data
- Use simple database management systems (basic SQL)
- search for and collect public geographic data

Judgement and approach

On completion of the course, the students shall be able to

- demonstrate an understanding of a critical approach to geographic data and analysis result

Course content

The course gives a broad theoretical base to wider work with digital geographic data. Understanding of representation and analysis of spatial elements are emphasised. The course also highlights general geographic problems within environment and society through practical GIS-applications. These treat both Swedish and international conditions and vary in scale from local to regional. The components in GIS - the technology that is treated like this includes basic cartography including projections, reference systems, geographic data in digital form (maps, images and tables) and basic analysis of geographic data in raster and vector format as well as cartographic and graphical presentation of digital map materials. In the course, training in oral and written communication is also included. Special emphasis is placed on cartographic presentation of digital geographic data.

Course design

The course is distributed via the internet without time synchroned components. This imply that the student may study the course material when it fits the student best. It is flexibly designed to facilitate for the student to choose between to carry out it with 100 % or 50 % study tempos. The course is divided into thematic modules that cover the intended learning outcomes. The theoretical sections are composed by recorded video lectures and text material that is distributed via a digital virtual learning environment. Each theoretical section contains theoretical and practical written assignments, where the student demonstrates her/his understanding and trains her/his proficiencies. All written assignments are compulsory.

Assessment

Examination takes place in writing in the form of a take-home examination at the end of the course and through written reports and written assignments during the course. For students who have failed the regular examination, an additional occasion in close connection to this is offered.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

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

Grades

Marking scale: Fail, Pass.
To pass the entire course, approved examination and passed written assignments and reports are required.

Entry requirements

Entry to the course requires GISA23 Geographic information systems - introduction 1, 7.5 credits or the equivalent knowledge acquired in a different way.

Further information

The course cannot be included in qualification in Geographic information science together with NGEA05 GIS and remote sensing with focus on the Environment 15 credits, NGEA11 Geographic information systems, basic course, 15 credits, GISA21 geographic information systems, introduction, 15 credits or other course with equivalent contents.

Subcourses in GISA24, GIS: Geographical Information Systems - Introduction 2

Applies from V22

2201   Geographical Information Systems - Introduction 2, 7,5 hp
       Grading scale: Fail, Pass