



Department of Earth and Environmental Sciences

GISN45, GIS: Spatial Data Infrastructure, 7.5 credits

GIS: Infrastruktur för rumsliga data, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Education Board of Faculty of Science on 2024-06-07. The syllabus comes into effect 2024-06-07 and is valid from the spring semester 2025.

General information

The course is an elective course for second-cycle studies for a Degree of Master of Science in geographic information science.

Language of instruction: English

Main field of study

Specialisation

Geographical Information Science

A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is that students should acquire knowledge and skills related to Spatial Data Infrastructures (SDI).

Knowledge and understanding

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

- describe the importance of spatial data for sustainable development as well as issues with spatial data availability, accessibility and usage,
- explain the general SDI model, SDI theories, and main factors influencing the development of SDIs,
- describe a clearinghouse network and its main components, including geoportals and geospatial web services,
- explain Open SDI and its differences with traditional SDIs.

Competence and skills

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

- plan for the requirements that a society sets on SDIs,
- use and develop standards and policies that are required for SDIs,
- design interoperable clearinghouse networks and geoportals for SDIs,
- use an opensource tool to get access to open data, via standard geospatial web services.

Judgement and approach

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

- suggest solutions to create a spatially enabled society,
- evaluate and process SDIs,
- analyse and evaluate clearinghouse networks.

Course content

The course consists of the following practical and theoretical components:

- Existing status for spatial data.
- SDI components and their nature.
- Factors that influence the SDI development.
- Clearinghouse networks and different generations.
- Open SDI.
- Data access using open source tools and standardized geospatial web services
- SDI modelling and evaluation.
- The spatially enabled society.

Course design

The teaching consists of Internet-based video lectures, exercises and a project. The exercises and project are compulsory.

The course is a distance course and is distributed on the Internet. It is assumed that the student has access to a computer with an internet connection and working speakers and microphone and webcam. The institution will provide information on the technical requirements.

The course is flexibly designed giving the student options to carry out the course at full time or half time study tempo.

Assessment

Examination is done by written assignments and through a project conducted during the course. Students who do not pass an assessment will be offered another opportunity for assessment soon thereafter.

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.

Grades

Grading scale includes the grades: Fail, Pass

To pass the whole course, passed written assignments and passed project work are required.

Entry requirements

Entry to the course requires general entry requirements, English B/6 and 90 credits scientific studies, including 30 credits in GIS. Equivalent knowledge acquired in a different way, also gives admission to the course.

Further information

The course cannot be credited in the degree together with GISN25 GIS: Spatial data infrastructure, 5 credits or GISN35 GIS: Spatial data infrastructure, 5 credits.

The course is given by the Department of Physical Geography and Ecosystem Science, Lund University.