Faculty of Science

GISN35, GIS: Spatial Data Infrastructure, 5 credits

GIS: Infrastruktur för rumsliga data, 5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2021-05-05 to be valid from 2021-05-05, spring semester 2022.

General Information

The course is an elective course for second-cycle studies for a Degree of Master of Science (120 credits) in geographic information science.

Language of instruction: English

Main field of studies	*Depth of study relative to the degree requirements*
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 Infrastructure.

Knowledge and understanding

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

- describe the importance of spatial data for planning, decision making and sustainable development
- describe the current status/problems for spatial data in terms as availability, accessability, applicability and usability,
- describe the general concepts and the aims for SDI and the importance of data exchange,
- in detail, explain and give an account of the main components of SDI,
- describe the factors that influence the development of SDI and the nature of these factors,

- at a general level describe the concepts clearinghouse networks and geoportals,
- in detail explain the different generations of clearinghouse networks, the main components of these networks, interoperability of these systems, the available standards to achieve interoperability and the principles of service orchestration,
- explain the cartographic aspects for geoportals
- give an account of concepts and technologies for modelling and evaluation of SDIs
- describe and discuss what is meant with a society that is spatially enabled.

Competence and skills

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

- plan for the requirements that a society sets on SDI,
- use and develop the standards and specifications that are required for SDI,
- use and suggest policy that are needed for SDI,
- design interoperable clearinghouse networks and geoportals for SDIs
- suggest solutions to create a spatially enabled society,
- evaluate and process SDIer.

Judgement and approach

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

- assess and discuss scientific publications in the subject critically and based on such material be able to summarise a given current research issue.

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
- Clearinghouses of different generations.
- Interoperability and international standards for spatial data.
- Introduction to service orchestration.
- Cartographic aspects of geo-portals.
- SDI modelling and evaluation.
- The spatially enabled society

Course design

The teaching consists of Internet distributed lectures, seminars and exercises. Participation in seminars and exercises, and thereby integrated other teaching is compulsory, but the lectures contain information that is not included directly in textbook and other listed literature so it is recommended that all lectures are attended.

The course is a distance course and is distributed on the Internet. It is flexibly designed giving the student options to to carry out the course at full time or half time study tempo.

Assessment

Examination takes place in writing in the form of a take-home examination at the end of the course and through individual exercises that are presented through written assignments continuously 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.

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, passed exercises and participation in all compulsory parts 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 included in qualification together with GISN25 GIS: Spatial data infrastructure, 5 credits.

Subcourses in GISN35, GIS: Spatial Data Infrastructure

Applies from V22

2201 Exam and exercises, 5,0 hp
Grading scale: Fail, Pass