AG2417 Web and Mobile GIS 7.5 credits

Webb- och mobil-GIS

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for AG2417 valid from Autumn 2021

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Built Environment

Specific prerequisites

Bachelor's degree or equivalent in civil engineering, geography, technical physics, computer science, statistics, economics, or mathematics. At least 3 credits in each programming, linear algebra, univariate analysis, probability theory and statistics

Documented knowledge

In Spatial Databases corresponding to the content in course AG2425 and at least one of the courses:

AG1323 GIS for Built Environment

AG2412 Geovisualisation

AG2414 Spatial Analysis

and Eng B/6 according to the Swedish upper secondary school system.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The aim of the course is to teach students the fundamental theories and technologies for disseminating and processing geographic information by means of Internet and World Wide Web. For this, two specific distributed GIS architectures are studied: the Web-based and the mobile GIS architectures. It is demonstrated through case studies, laboratory exercises, and group projects that these architectures and related technologies allow 1) the creation of dynamic web maps and Internet-based geographic analysis, and 2) the provision of GIS functionality in the field through mobile GIS solutions and in a commercial setting in the form of Location-Based Services (LBSes).
At the end of the course, students should know how to design and implement web maps, Internet-based geographic analysis, and mobile GIS and LBS solutions.

Course contents

• Basics of computer networking, Internet, WWW
• Client/server computing and the distributed component framework
• Open source and commercial (ESRI) Internet mapping software
• Standards for distributed GIS services
• Design and implementation of dynamic maps and geographical analysis via the WWW
• GPS and Mobile GIS concepts
• Professional GPS and mobile devices
• ESRI Mobile GIS software
• Mobile solutions for capturing, storing, updating, analyzing, and displaying geographic information
The course is composed of lectures, laboratory exercises, project and student presentations.

Examination

- LAB1 - Laboration, 3.0 credits, grading scale: P, F
- PRO1 - Project, 4.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

LAB1 - Laboratory Work, 3.0 credits, grade scale: P, F
PRO1 - Project, 4.5 credits, grade scale: A, B, C, D, E, FX, F

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.