



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Webb-GIS

Web GIS

EXTN10, 7,5 credits, A (Second Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED L

Date of Decision: 2023-04-20

General Information

Elective for: L4-fr, L4-gi

Language of instruction: The course will be given in English

Aim

Students who have completed the basic courses are already acquainted with desktop GIS. The aim of this course is to learn about the techniques in a client-server environment for creating web GIS solutions as well as spatial data infrastructures. Part of the course deals with web cartography.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- be able to analyze the possibilities and limitations of handling geographic information in a client-server environment
- be able to explain the theory of web cartography
- be able to describe techniques for distributing geographic information via the Internet, as well as describing the advantages and disadvantages of these techniques
- be able to describe user areas for web GIS
- be able to describe basic programming methods and markup languages for web GIS
- be able to describe web GIS standards
- be able to describe geoportals and spatial data infrastructures (SDI)
- be able to exemplify important aspects of implementation of web GIS in an organisation.

Competences and skills

For a passing grade the student must

- be able independently to create a web GIS service
- be able to create a web GIS service with good cartographic properties
- have basic skills in tailoring a web GIS service by using markup language coding and script programming.

Judgement and approach

For a passing grade the student must

- understand the implications of web GIS in its entirety, and
- be familiar with the relevant laws and ethical rules of conduct that should be taken into consideration in web GIS applications.

Contents

The lectures deal with the most important techniques in web GIS. The major part of the exercises concerns the creation of web GIS services using interoperable standards well as markup language coding and script programming. Part of the course deal with rules for cartographic visualization on computer screens. The course ends with project work; in this project the students create their own web GIS service.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: Assessment takes the form of a written examination, and evaluation of project work. Approved on all exercises and participation on all compulsory activities.

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.

Admission

Admission requirements:

- L: EXTF80 Geographic Information Technology and EDAA20 Programming (and Databases); LTH: EDAA01 Programming - Second Course

The number of participants is limited to: No

The course overlaps following course/s: GISN09, TEK240

Reading list

- Course compendium and articles.
- Stefanakis, Emmanuel: Web Mapping and Geospatial Web Services: An introduction. North Charleston : CreateSpace Independent Publishing Platform, 2015, ISBN: 1514757559.

Contact and other information

Course coordinator: Ali Mansourian, ali.mansourian@nateko.lu.se

Course administrator: Karin Larsson, karin.larsson@nateko.lu.se

Course homepage: <http://www.nateko.lu.se/extn10>

Further information: The course is a master level course (NGEN07) at the Faculty of Science.