



Faculty of Social and Life Sciences
Geo-Science

Syllabus

Course Approval

The syllabus was approved by the Faculty Board of Social and Life Sciences on 30 May 2007 , and is valid from the Autumn semester of 2007 at Karlstad University.

Course Code: NGGA23

Geographical Informations Systems I, 7.5 ECTS Credits
(Geografiska informationsystem I, 7.5 Swedish credit points)

Degree Level: Bachelor

Progressive Specialisation: G1F (First cycle, has less than 60 credits in first-cycle course/s as entry requirements)

Language of Instruction

Swedish

Prerequisites

Mathematics D and Cartography (4.5 credits) or the equivalent.

Major Field of Study

MÄT (Surveying and Mapping), NGA (Physical Geography)

Learning Outcomes

Upon completion of the course, students should be able to:

- demonstrate the theoretical knowledge of geographic information processing required for working independently with a vector based geographic information system,
- give an account of the role of technology in society and how it is used in different operations,
- give an account of the infrastructure of geographic information,
- describe what a geographic information system is,
- give an account of the concepts and definitions used in the field,
- use and process geographic data of all formats,
- describe the difference between vector and screen data,
- plan, carry out and present a minor GIS-project.

Content and Form of Instruction

The course includes both theoretical and practical components in the form of course reading and exercises. The course is divided into three parts: theory, exercises, and a project.

The course covers central concepts and definitions. Lectures and course reading is supplemented with an introduction to common GIS software including introductory exercises as well as more advanced exercises designed to help students learn a particular software programme, deepen their knowledge, and apply their knowledge in practice. The course also covers functions and areas of use for advanced vector based GIS (primarily the software programme ArcGIS). In addition, the course focuses on spatial information in databases as well as data quality with regard to accuracy and resolution. Students learn about the structure of geographic

data in various formats, data editing, overlay analyses, buffer zone analyses, and how to present results. Students are also introduced to ongoing processes of development and standardisation in the field. Finally, students undertake a project in which they apply the theoretical knowledge acquired.

Reading List

See separate document.

Examination

Examination is in the form of a written test, assignments, and a written project report. Course components containing computer application are mandatory.

Grades

EITHER one of the grades Pass with Special Distinction (5), Pass with Distinction (4), Pass (3), or Fail (U) OR one of the grades Pass with Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

The local regulations for studies at the Bachelor's and Master's levels at Karlstad University stipulate the obligations and rights of students and staff.

Revised on 3 June 2010 and valid from the spring term 2010.

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