



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:** NGGA27

**Introduction to Geographic Information Technology Engineering and Surveying and Mapping, 7.5**

**ECTS Credits**

**(Introduktionskurs till GIS och mät och kartteknik, 7.5 Swedish credit points)**

**Degree Level:** Bachelor

**Progressive Specialisation:** G1N (First cycle, has only upper-secondary level entry requirements)

### Language of Instruction

Swedish

### Prerequisites

General admission requirements

### Major Field of Study

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

## Learning Outcomes

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

- give examples of Geographic Information Technology (GIT) with a view to applications in society,
- demonstrate the ability to present information in oral and written form,
- demonstrate the ability to work in groups,
- reflect over their present and future roles as students and professionals,
- describe the structure and function of a computer,
- describe the basics of cartography,
- explain the theory of map projection and reference systems,
- describe the public maps produced in Sweden and use Internet-accessible information to interpret them,
- create a digital map on the basis of collected data,
- give an account of the basics of photogrammetry and stereo-mapping.

## Content and Form of Instruction

The course is an introduction to the study programme in Geographic Information Systems (GIS) and is intended to give students:

- an opportunity to think about their future studies and professional careers,
- the requisite knowledge for successful further studies within the programme.

### Introduction to the Profession:

The course presents the professional role and ethics of the GIS engineer. Active engineers give an introduction to the profession.

### Introduction to the Studies:

Students describe themselves and their learning styles and reflect on what is required to succeed with their studies. Students are also given an introduction to oral and written presentation techniques, study skills and project work. The course includes a general introduction to computer science.

#### Introduction to the Field:

The course provides a general introduction to the field of Geographic Information Technology (GIT), primarily with a view to subsequent training in the use of Geographic Information Systems (GIS). Basic concepts of cartography are discussed, e.g. projection and coordinate systems. Certain types of maps, especially those represented in Swedish series, will be studied in practical exercises, while digital cartography and computer-aided map-drawing will be discussed in lab sessions.

#### Reading List

See separate document.

#### Examination

Examination is in the form of written tests, assignments, and a written project report. Other types of examination may occur. All course components except lectures are obligatory.

#### Grades

One of the grades Pass with Special Distinction (5), Pass with Distinction (4), pass (3), 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 course NGGA27 cannot be included in the same degree programme as the courses GGI100 and NGGA21.

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.

The course is mandatory for the GIS-engineering programme and the survey and mapping programme.

The syllabus is revised to include the Surveying and Mapping Technique Programme 120 ECTS cr. The revision is valid from the autumn of 2008.

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