



Faculty of Health, Science and Technology  
Geo-Science

## Syllabus

### Geographic Information Systems analysis

<b>Course Code:</b>	NGGC68
<b>Course Title:</b>	Geographic Information Systems analysis <i>GIS analys</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Undergraduate level
<b>Progressive Specialisation:</b>	First cycle, has at least 60 credits in first-cycle course/s as entry requirements (G2F)

**Major Field of Study:**  
NGA (Physical Geography)

#### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2017-03-13, and is valid from the Autumn semester 2017 at Karlstad University.

#### Prerequisites

General admission requirements and attended courses of 90 ECTS credits for the Surveying Technology and Geographical IT engineering programme with 60 ECTS credits completed, including the following courses: Geographic Information Systems II, 7.5 ECTS cr and Raster GIS, 7.5 ECTS cr, or equivalent.

#### Learning Outcomes

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

- describe some application areas in society and research where GIS analysis is used,
- explain why GIS analysis makes it possible to improve the efficiency of activities and operations in society and provides a better understanding of spatial relationships in nature and society,
- present a written report on various methods and results of GIS analysis,
- analyse and model spatial relations and courses of events, and
- write an academic report.

#### Content

Instruction is in the form of lectures and lab work. The course requires previous knowledge and skills in using GIS software, primarily ArcGIS. The course includes analysis and design using GIS software and students are shown various applications of the methods. Much of the lab work consists of data preparation before various analyses are carried out. Forms of analysis covered in the course include: network analysis, spatial analysis, and 3D visualisation, such as accessibility across a roadnet or the importance of topography for different natural processes. Students seek, read and summarise academic articles.

**Reading List**

See separate document.

**Examination**

Assessment is based on individual submission of reports at the end of the course, which are discussed in seminars.

**Grades**

One of the grades Pass with Distinction (5), Pass with Some 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 evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

**Course Certificate**

A course certificate will be provided upon request.

**Additional information**

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