Faculty of Engineering and Sustainable Development
Akademin för teknik och miljö

SYLLABUS

HÖGSKOLAN I GÄVLE

GIS Data Structures and Algorithms 5 cr

GIS-datastrukturer och algoritmer 5 hp

Set by Faculty of Engineering and Sustainable Development

Version	**Set at**	**Valid from**
	8/22/16	**HT2017**

Level	G2F
Education level	First cycle
Course identifier	SBG632
Credits	5 cr
Main field of study	Geospatial Information Science, Geomatics, Geography, Surveying Technology
Subject group	Geographic Information Technology and Surveying
Disciplinary domain	Technology 100.0 %

Learning outcomes

After completion of the course, the student shall be able to
1. apply different types of GIS applications
2. demonstrate a deeper understanding on how GIS work
3. perform geographical analyses in raster and vector environments
4. summarise and evaluate scientific literature treating GIT
5. perform a project work
6. describe the structure of computer algorithms and GIS data structures.

Course content

- Integration and conversions of different spatial data
- Integration of spatial and non-spatial data
- Editing and updating methods
- Raster and vector analyses
- Digital elevation models
- Graphical presentation of analysis results

Teaching

Lectures, assignments, seminars, and project.

Prerequisites

Introduction to Studies on Advanced Level in Geospatial Information Science, 5 credits, or equivalent

Examination	Assignments, seminars, project, and written examination.
Grade	A, B, C, D, E, Fx, F
Limitations	The course cannot be included in a higher education degree together with the course GIS raster/vector, 7.5 credits or GIT in Land Management, 7.5 credits.
Other regulations	Degree criteria for final grade will be given by examiner or course responsible latest at the beginning of the course.
Sustainable environment	A minor part of the course content deals with sustainable development.

Module

0010	Assignments and seminars	1 cr	Grade: AF
0020	Project work	2 cr	Grade: AF
0030	Written examination	2 cr	Grade: AF