



# HÖGSKOLAN I GÄVLE

## Spatial Analysis for Planning 5 cr

*Spatial analys för samhällsplanering 5 hp*

Set by Faculty of Engineering and Sustainable Development

### Version

Set at

Valid from

8/22/16

HT2017

<b>Level</b>	A1N
<b>Education level</b>	Second cycle
<b>Course identifier</b>	SBA064
<b>Credits</b>	5 cr
<b>Main field of study</b>	Spatial Planning, Geospatial Information Science, Geomatics, Geography
<b>Subject group</b>	Geographic Information Technology and Surveying
<b>Disciplinary domain</b>	Technology 100.0 %

**Learning outcomes** After completion of the course the student shall be able to

1. describe GIS-based spatial analysis for spatial planning and decision making
2. describe basic complexity theory such as topology and scaling hierarchy for spatial planning
3. conduct advanced spatial analysis to understand the underlying morphological structure
4. write a scientific report based on a case study applied to a set of cities.

**Course content**

- GIS-based spatial analysis and modeling
- Topological and scaling ways of thinking for spatial analysis
- Space syntax modeling and urban morphology
- Complex networks modeling for geographic systems
- Agent-based modeling and cellular automata

**Teaching** Lectures, project, practicals, and seminars

**Prerequisites** English language proficiency equivalent to (the Swedish upper secondary school) English course 6/B  
GIS data structures and algorithms, 5 cr, or equivalent

**Examination** Written examination, assignments, seminars, and project work

**Grade** A, B, C, D, E, Fx, F

**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	Written examination	2 cr	Grade: AF
0020	Assignments and seminars	1.5 cr	Grade: UG
0030	Project work	1.5 cr	Grade: AF