



HÖGSKOLAN I GÄVLE

Master Programme in Geomatics 60 cr

Magisterprogram i geomatik 60 hp

Set by NT-board

Version

Set at	Valid from
11/30/06	ST07
12/12/14	HT14
9/22/16	HT17
11/13/19	HT20

Education level	Second cycle
Programme code	TAGEM
Credits	60 cr
Diary number	2006-11-30

Programmespecific objectives

Particular objectives for the programme

The student shall obtain good knowledge, understanding and problem solving ability which means deepening and /or broadening of previous university studies.

After studies the student shall have the ability and skills for work which is largely autonomous and independent and that will be required to be able to be employed as an expert in geomatics related fields and/or for continued PhD studies.

The education shall have a high international standard and the degree received should be attractive internationally.

Ability and understanding

On completion of the education the student shall show

- ability and understanding within the field of geomatics with deepened knowledge in at least one of the fields geographic information technology (GIT) or geodesy,
- insight in relevant research and development within the field of Geomatics, and
- knowledge of advanced methods for managing and analysis of geographical data.

Skills and ability

On completion of the education the student shall be able to

- integrate knowledge from the field of geomatics and independently analyse, judge and manage complex problems,
- apply advanced methods,

- within a given time independently identify and formulate theoretical questions as well as plan and carry through advanced projects,
- both orally and in writing critically summarise the knowledge situation within the field of geomatics and neighbouring fields, including the latest results of research, and thereby give a correct and well balanced mixture of methods, results, conclusions and possible future application fields, and
- orally and through report writing on completed project work and in dialogue with both practitioners and academics make clear the usefulness of the results.

Assessment ability and attitude

On completion of the education the student shall show,

- the ability to judge the effects of different methods from a technical and an environmental perspective,
- awareness of the ethical aspects of research and development work, and
- an attitude towards knowledge and life long learning which is characterised by an ability to be able to identify the need for further knowledge and a continued development of competence.

Target

A Degree of Master of Arts/Science (60 credits) degree is awarded after the student has completed the courses required to gain 60 credits with a defined specialisation determined by each higher education institution itself, of which at least 30 credits are for specialised study in the principal field (main field of study) of the study programme. In addition the prior award of a Degree of Bachelor's degree, Degree of Bachelor's degree in fine arts, professional or vocational qualification of at least 180 credits or a corresponding qualification from abroad is required.

The requirement of the prior award of a qualification may be waived for a student admitted to the programme without the basic entry requirement in the form of a qualification. This does not, however, apply if a waiver was granted during admission pursuant to the second paragraph of Section 28 of the Chapter 7 of the Higher Education Ordinance (1993:100) on the grounds that the qualification had not yet been issued.

Knowledge and understanding

For a Degree of Master of Arts/Science (60 credits) degree the student shall have:

- demonstrate knowledge and understanding in the main field of study, including both an overview of the field and specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in the main field of study.

Skills and abilities

For a Degree of Master of Arts/Science (60 credits) degree the student shall

- demonstrate the ability to integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
- demonstrate the ability to identify and formulate issues autonomously as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames
- demonstrate the ability in speech and writing to report clearly and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and
- demonstrate the skills required for participation in research and development work or employment in some other qualified capacity.

Judgement and attitudes

For a Degree of Master of Arts/Science (60 credits) degree the student shall

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Content and structure

Main Field of Study of Geomatics

Geomatics is the collective name for individual academic disciplines, for example:

photogrammetry, geodesy, land surveying, cartography, GIT, and remote sensing. The courses in this discipline are sometimes identical with courses in for example geography and spatial planning. Specialisation within the programme mainly deals with advanced uses or preparation for research courses in GIT and geodesy.

The programme consists of courses at both basic and advanced level. The breadth in the choice of courses offered allows for specialisation at an advanced level in one or two of the disciplines within geomatics. The courses given at basic level have two purposes. The first is to offer the opportunity for progression, that is students with insufficient knowledge in one of the disciplines in geomatics are given the possibility to catch up at basic level at the beginning of the programme and afterwards continue at advanced level. The other purpose is to offer students the chance to broaden knowledge in one or other of the subject's disciplines.

Other degree

Independent project (degree project)

A requirement for the award of a Degree of Master of Arts/Science (60 credits) is completion by the student of an independent project (degree project) for at least 15 credits in the main field of study.

Degree title

Master of Arts/Science (60 Credits)

Prerequisites

A completed Bachelor's degree, corresponding to a Swedish Bachelor's degree (180 ECTS), or equivalent academic qualifications from an internationally recognised university.

Major in Geomatics (90 ects) or equivalent (e.g. geography or geology including GIS).

English language proficiency equivalent to (the Swedish upper secondary school) English course 6.

Other

Miscellaneous

Credit transfer of courses passed is done in consultation with the Programme Director and the Subject Supervisor concerned.

Transition stipulations

A student admitted to the programme in a previous year follows the curriculum that was in force at that time.

For a student admitted to a later part of the programme or a student having had an interruption of studies, a special curriculum is drawn up by the Programme Director in consultation with the student and, when need arises, the Study Counsellor or the Director of Studies.

Year 1

Period	Identifier	Title	Level	Credits	Field
1:1	SBG632	<i>GIS Data Structures and Algorithms</i>	G2F	5 cr	Geospatial Information Science, Geomatics, Geography, Surveying Technology
1:1	SBG612	<i>Introduction to Studies on Advanced Level in Geospatial Information Science</i>	G2F	5 cr	Geospatial Information Science, Geomatics
1:1	SBG622	<i>Thematic and Web Cartography</i>	G2F	5 cr	Geospatial Information Science, Geomatics,

					Geography
1:2	SBA064	<i>Spatial Analysis for Planning</i>	A1N	5 cr	Spatial Planning, Geospatial Information Science, Geomatics, Geography
1:2	SBA034	<i>Satellite Sensors and their Applications in Geospatial Information Science</i>	A1N	5 cr	Geospatial Information Science, Geomatics, Geography, Surveying Technology
1:2	SBA014	<i>Remote Sensing</i>	A1N	5 cr	Geospatial Information Science, Geomatics, Geography, Surveying Technology
1:3	SBA024	<i>GIScience Seminar</i>	A1N	5 cr	Geospatial Information Science, Geomatics, Geography
1:3	SBA004	<i>Spatial Databases and SDI</i>	A1N	5 cr	Geospatial Information Science, Geomatics, Computer Science
1:3	SBA305	<i>Spatial Multicriteria Decision Analysis</i>	A1F	5 cr	Geospatial Information Science, Geomatics, Geography, Surveying Technology
1:4	SB299D	<i>Degree project for a MSc of science/technology with major in geomatics</i>	A1E	15 cr	Geomatics