Faculty of Science

NAGIV, Master's Programme in Geographical Information Science, 120 credits

Masterprogram i geografisk informationsvetenskap, 120 högskolepoäng

Second cycle degree programme requiring previous university study / *Program med akademiska förkunskapskrav och med slutlig examen på avancerad nivå*

Decision

The syllabus was approved by Study programmes board, Faculty of Science on 03-06-2013 (N 2013/399) and was last revised on 17-12-2025 by The Board of Faculty of Science (STYR 2025/936). The revised syllabus comes into effect 19-01-2026 and is valid from the spring semester 2026.

Programme description

The programme for a degree of Master in Geographical Information Systems, comprises 120 credits and leads to a degree of Master (120 credits) with a major in Geographical Information Systems,comprises.

The programme is based on scholarship and is closely linked to research conducted at the Lund University Faculty of Science. The operations at the faculty uphold academic credibility and good research practice and are arranged to ensure that high standards are attained in courses and study programmes. Furthermore, the operations promote sustainable development, equality between women and men and understanding of other countries and international circumstances. These aspects are integrated in the degree outcomes of the programme.

Second-cycle courses and study programmes in the main field of Geographical Information Systems are fundamentally based on the knowledge acquired by students during first-cycle courses and study programmes.

Second-cycle courses and study programmes in the main field of Geographical Information Systems involve the acquisition of specialist knowledge, competence and

skills in relation to first-cycle courses and study programmes, and in addition to the requirements for first-cycle courses and study programmes shall:
- further develop the ability of students to integrate and make autonomous use of their knowledge,
- develop the students' ability to deal with complex phenomena, issues and situations, and
- develop the students' potential for professional activities that demand considerable autonomy, or for research and development work.

The programme applies a learning perspective, in which students take an active role in the learning process, and consciously and continuously reflect on their learning and development towards the degree outcomes..

Goals

Knowledge and understanding

For a Degree of Master (120 credits) the student shall:

- demonstrate knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of 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.

Competence and skills

For a Degree of Master (120 credits) the student shall:

- demonstrate the ability to critically and systematically 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 critically, autonomously and creatively as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge as well as the ability to evaluate this work
- demonstrate the ability in speech and writing both nationally and internationally to clearly report 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 autonomous employment in some other qualified capacity.

Judgement and approach

For a Degree of Master (120 credits) 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.

Independent project (degree project)
A requirement for the award of a degree of Master (120 credits) is completion by the student of an independent project (degree project) for at least 30 credits in the main field of study. The degree project may comprise less than 30 credits, however no less than 15 credits, if the student has already completed an independent project in the second cycle for at least 15 credits in the main field of study or the equivalent from a programme of study outside Sweden.

Course information

The programme comprises 2 years for a degree of Master (120 credits). The appendix *Programme Structure and course requirements for Master Programme in Geographical Information Scienc*e at the Faculty of Science describes the courses included.

A Degree of Master (120 credits) is awarded after the student has completed the courses required. In addition, the prior award of a Degree of Bachelor of at least 180 credits or a corresponding qualification from abroad is required. To acquire the fundamentally based advanced knowledge and understanding, competence and skills as well as judgement and approach required to meet the learning outcomes for a degree of Master (120 credits) in Geographical Information Science, new knowledge building upon the underlying Bachelor's degree is necessary.

Additional information in appendix 1 Programme Structure and course requirements for Master Programme in Geographical Information Science, 120 credits.

Degree

Degree titles

Degree of Master (120 credits) in Geographical Information Science
Major: Geographical Information Science
Masterexamen i geografisk informationsvetenskap
Huvudområde: Geografisk informationsvetenskap

Requirements and Selection method

Requirements

Bachelor's degree of at least 180 credits or the equivalent.

Proficiency in English equivalent to English 6/B from Swedish upper-secondary school.

Selection method

Based on grades awarded for previous academic courses, a statement of purpose for the application including how the applicant believes they meet the admission requirements for the programme, and professional qualifications and/or other practical experience of relevance to the study programme (from the applicant's "Summary sheet").

Transition rules

The Faculty Board may decide on the discontinuation of a programme or main field and may also decide, in association with this, on transitional provisions for students who have started these degree programmes.

Other information

Rules pertaining to grades and examination are stated in the course syllabi approved by the Faculty Board.

Teaching is distributed via the Internet and is carried out in English.

LUND UNIVERSITY

FACULTY
OF SCIENCE

Department of Physical Geography
and Ecosystem Science

Appendix 1 for programme syllabus,
NAGIV Master Programme in
Geographical Information Science,
120 credits

Reg. No.
STYR 2024/322

Date 2024-05-23

Programme Structure and course requirements for Master Programme in Geographical Information Science, 120 credits

The programme comprises two years of full-time studies (120 credits) and leads to a Degree of Master in Geographical Information Science with major in Geographical Information Science.

Mandatory courses

Mandatory courses of 35 credits.

GISA21, GIS: Geographical Information Systems - Introduction, 15 credits
GISA22, GIS: Geographical Information Systems - Advanced Course, 15 credits
GISN15, GIS: Research Methodology, 7.5 credits

Elective courses

Elective courses of 55 credits.

GISN06, GIS: Geographical Databases, 7.5 credits
GISN07, GIS: GIS and Algorithms, 7.5 credits
GISN08, GIS: Digital Remote Sensing and GIS, 7.5 credits
GISN09, GIS: Internet GIS, 7.5 credits
GISN11, GIS: GIS and Biodiversity, 7.5 credits
GISN41, GIS: GIS and Statistical Analysis, 7.5 credits
GISN32, GIS: GIS and Climate Change, 7.5 credits
GISN33, GIS: GIS in Tourism and Recreation, 7.5 credits
GISN44, GIS: Python Programming in GIS, 7.5 credits

GISN45, GIS: Spatial Data Infrastructure, 7.5 credits
GISN36, GIS: GIS and Distributed Hydrological Modelling, 7.5 credits

Optional courses

Optional courses between 0 credits.

Degree Project

Degree project of 30 credits.

GISM01, GIS: Master's Degree Project, 30 credits