



Faculty of Health, Science and Technology
Geo-Science

Syllabus

Scientific Theory and Methods in Geomatics

Course Code:	GMGF07
Course Title:	Scientific Theory and Methods in Geomatics <i>Vetenskaplig teori och metod inom geomatik</i>
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

Major Field of Study:
GEM (Geomatics)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2025-08-25, and is valid from the Spring semester 2026 at Karlstad University.

Prerequisites

30 ECTS credits completed in the Surveying Technology and Geographic IT programme or the Surveying and Mapping programme including Geographic Information Technology, 7.5 ECTS credits, or equivalent

Learning Outcomes

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

1. independently identify, formulate, and handle issues in geomatics,
2. present orally and discuss information, problems, and solutions in scientific methods and writing in groups,
3. seek relevant literature in research data bases,
4. analyse and summarise research literature,
5. use a referencing system correctly,
6. discuss and suggest appropriate methods to answer research questions in the field,

7. critically review scientific work,
8. identify their need of further knowledge and ability to update their competence, and
9. write scientific texts.

Content

The course includes lectures describing the research process and prepares students for the degree project. Lectures alternate with seminars in which students discuss different aspects and parts of scientific publications.

A literature review is conducted according to the principles introduced in the course.

Reading List

See separate document.

Examination

Assessment is based on an individual written literature study, presented and discussed in a final seminar. Seminar attendance is mandatory.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), 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.