



Faculty of Health, Science and Technology
Geo-Science

Syllabus

Geodesy

Course Code:	NGGA24
Course Title:	Geodesy <i>Geodesi</i>
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has only upper-secondary level entry requirements (G1N)

Major Field of Study:

MAT (Surveying and Mapping)
NGA (Physical Geography)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2016-09-12, and is valid from the Spring semester 2017 at Karlstad University.

Prerequisites

General admission requirements plus field-specific eligibility A8 (upper secondary school level Physics 2, Chemistry 1, Mathematics 3c) with the exception of Physics and Chemistry, alternatively Mathematics D, or field-specific eligibility 8 (Physics B, Chemistry A, Mathematics D9 with the exception of Physics and Chemistry, or equivalent).

Learning Outcomes

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

- use the most common geodetic measuring instruments
- apply basic staking methods for buildings and installation work,
- apply basic methods for control point surveying and detail surveying,
- give an account of the measurement uncertainty
- perform basic computations of measurement data in computation software for geodetic measurements.

Content

Instruction is in the form of lectures, computation exercises, laboratory work, and mandatory surveying exercises.

The course covers level measuring with regard to height systems, familiarity with instruments, alignment, adjustment, and measuring methods. In the section on plane measurement, the course will also address angular measurement and longimetry with total station.

In a series of practical exercises, the students will learn to use relevant instruments, alignment, and mass measurement. Measurement uncertainty is treated. The course also covers coordinate systems, the construction of control point networks, control point surveying, detail surveying and computation methods.

The course also covers dimension measurement with control point surveying on construction sites and horizontal and vertical staking. In addition, students learn to choose appropriate methods of measurement and computation. Finally, the course covers registration, analysis, and marking of collected data.

Reading List

See separate document.

Examination

Assessment is based on hand-in assignments, group reports on surveying and a written exam.

Grades

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

The course is mandatory for the GIS-engineering programme and geographic IT and an option for the engineering higher education diploma programme in building construction.