

SYLLABUS

Global Positioning System and control of contract machines 7.5 credits Y0005B

GPS och maskinstyrning

Course syllabus admitted: Autumn 2023 Sp 1 - Present

**DECISION DATE
2021-02-17**

Global Positioning System and control of contract machines 7.5 credits Y0005B

GPS och maskinstyrning

First cycle, Y0005B

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG *	Väg- och vattenbyggnad	Civil Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Basic surveying 1 and 2 (Y0003B, Y0004B) or corresponding.

Selection

The selection is based on 1-165 credits.

Course Aim

The course aims to develop basic knowledge and practical skills in GPS and machine control. After completing the course participants should be able to:

Knowledge and understanding

Describe the basics of GPS and machine control.
Order qualified measurement services.
Quality-assured substrates for road and ground construction.

Competence and skills

Establish a GPS base station.
Create 3D models for machine control.
Start up a workplace with GNSS technology and machine control.

Judgement and approach

Prepare a measurement report in accordance with "good measurement practice".

Contents

Creation of 3D models for machine control
Establishment of GPS base station, fitting
Commissioning machines review system
Quality assurance and tolerances for road and ground construction
Volume monitoring and volume calculation
Economy and production efficiencies

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The teaching consists of lectures, laboratory work, arithmetic exercises, individual work, group work, field exercises.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. The course is examined through design assignments and a written test.

Grading takes place according to grade scale G U VG. All included examination parts must be completed for the final grade on the course.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Course offered by

Department of Civil, Environmental and Natural Resources Engineering

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0003	Written test	U G VG *	4	Mandatory	A21	
0004	Assignment report	U G#	3.5	Mandatory	A21	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Assistant Director of Undergraduate Studies Eva Gunneriusson, Department of Civil, Environmental and Natural Resources Engineering 2021-02-17

Syllabus established

The plan is established by the Department of Civil and Environmental Engineering 2008-01-22 and is valid from H08.