



**LUNDS UNIVERSITET**  
Lunds Tekniska Högskola

*Course syllabus*

# Grundläggningsteknik Foundation Engineering

**VGTN01, 7,5 credits, A (Second Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** PLED V

**Date of Decision:** 2023-03-21

## General Information

**Elective for:** V4-hb, V4-at, V4-ko

**Language of instruction:** The course will be given in English

## Aim

The aim of the course is to give knowledge in foundation engineering and to give ability to, on the basis of results from geotechnical investigations and loading conditions, design and evaluate geotechnical installations.

## Learning outcomes

### *Knowledge and understanding*

For a passing grade the student must

- be able to describe the properties of soil on the basis of data from geotechnical investigations.
- be able to describe different methods for desining of foundation, retaining structures, and soil reinforcement.
- be able to describe how the partial coefficient method is applied in the geotechnical field.

### *Competences and skills*

For a passing grade the student must

- be able to establish and read different types of geotechnical documents.
- be able to compute settlement and bearing capacity for geotechnical installations
- be able to design geotechnical installations on the basis of results from geotechnical investigations and loading conditions.

### *Judgement and approach*

For a passing grade the student must

- be able to assess the reasonableness of available results from geotechnical investigations and to assess the applicability of the parameter values.
- be able to assess whether a geotechnical solution is realistic.
- demonstrate an approach that considers the interaction with the design of the building, the effects of uncertainties in soil conditions and production aspects.

## **Contents**

In the course the following subjects are treated: computation of settlement, soil stabilisation methods, shallow foundations, pile foundations, slope stability and design of supporting structures.

In the course an extensive hand-in assignment is performed, where geotechnical design is performed on the basis of results from a geotechnical investigation and loading conditions. The hand-in assignment may consist of several sub-tasks.

## **Examination details**

**Grading scale:** TH - (U,3,4,5) - (Fail, Three, Four, Five)

**Assessment:** Written examination and hand-in assignment.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

### **Parts**

**Code:** 0117. **Name:** Written Examination.

**Credits:** 4,5. **Grading scale:** TH. **Assessment:** Written examination

**Code:** 0217. **Name:** Hand-in Assignment.

**Credits:** 3. **Grading scale:** TH. **Assessment:** Written presentation of hand-in assignment

## **Admission**

**Admission requirements:**

- VBK013 Structural Engineering, Basic Course or VBKF15 Structural Engineering
- VSMA05 Structural Mechanics
- VGTF05 Soil Mechanics

**The number of participants is limited to:** No

**The course overlaps following course/s:** VGTF01

## **Reading list**

- Ola Dahlblom och Erika Tudisco: Course literature in Foundation Engineering, KFS AB.
- A selection of extracts from handbooks.

## **Contact and other information**

**Course coordinator:** Erika Tudisco, Erika.Tudisco@construction.lth.se

**Course homepage:** <http://www.geoteknik.lth.se>

**Further information:** The course may be partly taught in Swedish.