

## Course Syllabus

### **Soil Mechanics and Structural Engineering Concrete 7.5 Credits, First Cycle**

#### **Learning Outcomes**

On completion of the course, students will be able to:

- describe the properties of soil types,
- describe the state of tension in soil,
- describe methods of surveying soil in the field and in laboratories,
- perform calculations of subsidence, bearing capacity and soil pressure,
- demonstrate an understanding of the causes of stability problems on slopes,
- describe the different foundation methods used for buildings and roads,
- describe different basic reinforcement methods,
- dimension constructions in concrete.

#### **Course Content**

The course deals with the structure, division, and naming of soil types, stresses in soil, deformation properties, and strength. In the area of soil mechanics, the course also covers settlements, stresses in the fracture stage, bearing capacity, soil pressure, and slope stability. Foundation methods for buildings, bridges, and roads are also reviewed.

#### **Assessment**

- Examination
- Laboratory work

#### **Grades**

The grading scale used for the final course grade is U, 3, 4, 5.

The final grade is set after an overall assessment by the examiner.

Grades are reported as follows:

- Laboratory Work - 1.5 Credits | U–G
- Written Examination, Soil Mechanics - 4 Credits | U, 3, 4, 5
- Written Examination, Concrete - 2 Credits | U, 3, 4, 5

#### **Entry Requirements**

90 credits in Building Engineering Programme

#### **Other Information**

This course cannot be counted towards the same degree along with courses that have equivalent content.

If the student has received a decision/recommendation granting study support from Dalarna University because of a disability, then the examiner has the right to offer an alternative examination arrangement. The examiner takes into account the objectives in the course syllabus when deciding whether the examination can be adapted in accordance with the decision/recommendation.

**Subject:**

Construction

**This course can be included in the following main field(s) of study:**

1. No main field of study

**Progression Indicator:**

1. GXX

**Approved:**

Approved 19 December 2023

Valid from 14 February 2024