



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Soil mechanics and foundations [S1BZ1E>MGiF1]

Course

Field of study

Sustainable Building Engineering

Year/Semester

2/3

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

English

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

15

Other (e.g. online)

0

Tutorials

0

Projects/seminars

15

Number of credit points

3,00

Coordinators

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Lecturers

Prerequisites

Basic knowledge on building mechanics and engineering geology

Course objective

Knowledge on soil classification and ground conditions. Basic knowledge on theoretical basis of soil mechanics and defining soil as 3 phase system. Water flow and seepage in soils. Stress distribution in ground, bearing capacity and soil deformations (consolidation and settlements).

Course-related learning outcomes

Knowledge:

Know the basics of geology, soil mechanics and foundation engineering of building facilities.

Skills:

Engineering identification and determination of soil conditions . Determination of ground complexity and type of geotechnical category of buildings. Ability to analyse bearing capacity and deformation of soil under foundations.

Social competences:

Competence in need of the determination of sustainable development in civil engineering.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Exam, design project, laboratory reports

Programme content

Genesis of soil and classification methods. Basic soil mechanics. Soil as a 3-phase system. Physical and mechanical soil parameters. Stress strain relations in soil. Groundwater and seepage. Soil investigations and documentation of ground conditions.

Course topics

none

Teaching methods

Lectures, design and laboratory exercises

Bibliography

Basic

Principles of Geotechnical Engineering; Braja M.Das. Thompson

Additional

Basic Geotechnical Engineering; Richard P.Weber, CED Engineering

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,00
Classes requiring direct contact with the teacher	45	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50