



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Soil mechanics and foundations I

Course

Field of study

Sustainable building engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

English

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

15

Other (e.g. online)

Tutorials

Projects/seminars

15

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

dr inż. Andrzej T. Wojtasik

Responsible for the course/lecturer:

mgr inż. Miłosz Just

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:

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 documantation of ground conditions.

Teaching methods

Lectures, design and laboratory excercises

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	2.0
Classes requiring direct contact with the teacher	45	1,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation)) ¹	15	0,5

¹ delete or add other activities as appropriate