COURSE DESCRIPTION CARD - SYLLABUS

Course name
GEOTECHNICS

Course

Field of study
Civil Engineering

Year/Semester
1/1

Area of study (specialization)
Structural Engineering

Profile of study
general academic

Level of study
Second-cycle studies

Course offered in
English

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other (e.g. online)
0

Tutorials
0

Projects/seminars
15

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
dr inż. Andrzej T.Wojtasik

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Responsible for the course/lecturer:

Prerequisites

Basic knowlede on engineering geology, soil mechanics and building mechanics.

Course objective

Knowledge on soil mechanics and on types and technologies applied in deep and indirect foundation design and execution.

Course-related learning outcomes

Knowledge

Has detailed knowledge of the rules of foundation engineering in complicated soil conditions.

Skills

Can design foundations in complicated soil conditions, for selected quasi-static loaded building structures.

Social competences

Are ready to autonomously complete and broaden (extend) knowledge in the field of modern processes and technologies of building engineering.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Exam/finall test, pile design project

Programme content

Types of foundations. Deep and indirect foundations. Selection of type and design principles for deep foundations. Piles and pilling methods. Foundations on piles. Deep excavations. Retaining structures. Sheet piles and diaphragm walls. Soil improvement and soil stabilization.

Design project includes caculations of a large diameter drilled pile in casing and a displacement pile in complicated soil conditions.

Teaching methods

Lectures and design tutorials

Bibliography

Basic

Principles of Geotechnical Engineering; Braja M.Das. Thomson.

Basic Geotechnical Engineering; Richard P.Weber, CED Engineering

Additional

Craig's Soil Mechanics; R.F.Craig; SPON

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for tests/exam, project preparation) [1]	30	1,0

[1] delete or add other activities as appropriate