



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Geotechnics [S2Bud1E-KB>GEO]

### 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

Course offered in

English

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

15

### Number of credit points

2,00

### Coordinators

dr inż. Andrzej Wojtasik

andrzej.wojtasik@put.poznan.pl

### Lecturers

### Prerequisites

Student beginning this course should have basic knowledge 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:

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

SKILLS:

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

SOCIAL COMPETENCES:

Student is 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:

Learning outcomes presented above are verified as follows:

Exam/final test, pile design project

## Programme content

The module's programme covers:

- lectures on foundations, their types and work technology,
- lectures on retaining structures,
- project dimensioning piles.

## Course topics

LECTURE:

Types of foundations. Deep and indirect foundations. Selection of type and design principles for deep foundations. Piles and piling methods. Foundations on piles. Deep excavations.

Retaining structures. Sheet piles and diaphragm walls. Soil improvement and soil stabilization.

PROJECT:

Design project includes calculations 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	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00