



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

GEOTECHNICS

### Course

Field of study

Civil Engineering

Area of study (specialization)

Structural Engineering

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

English

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

Tutorials

Projects/seminars

15

Other (e.g. online)

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

dr inż. Andrzej T. Wojtasik

Responsible for the course/lecturer:

email: andrzej.wojtasik@put.poznan.pl

### Prerequisites

Basic knowledge on building mechanics, soil mechanics and engineering geology

### Course objective

Knowledge on types and technologies of foundations.

### Course-related learning outcomes

Knowledge

Has detailed knowledge of the rules of foundation engineering of complex building structures.

Skills

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

Social competences

Take responsibility for the reliability of working results and their interpretation.



**Methods for verifying learning outcomes and assessment criteria**

Learning outcomes presented above are verified as follows:

Exam, design project.

**Programme content**

Types of foundations. Direct foundations with calculations of bearing capacity and settlements. Deep foundations, methods and technologies. Bearing capacity of deep foundations - piles, barrettes, caissons. Lateral earth pressure, deep excavations and retaining structures. Soil improvement methods. Dewatering of deep excavations.

**Teaching methods**

Lectures, design project

**Bibliography**

Basic

Principles of Geotechnical Engineering; Braja M.Das. Thompson

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
) <sup>1</sup>	30	1,0

<sup>1</sup> delete or add other activities as appropriate