



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Geotechnology

### Course

Field of study

Architecture

Area of study (specialization)

-

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

III/5

Profile of study

general academic

Course offered in

english

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

15

Projects/seminars

0

### 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](mailto:andrzej.wojtasik@put.poznan.pl)

### Prerequisites

Basic knowledge on building mechanics and georaphy/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. Stress distribution in ground, bearing capacity and soil deformations (consolidation and settlemnts). Shallow and deep foundations, types and design principles.

### Course-related learning outcomes

Knowledge

B.W3. the importance of the natural environment in architectural and urban design and spatial planning;

B.W4. mathematics, space geometry, statics, material strength, shaping, construction and dimensioning of structures, to the extent necessary to formulate and solve tasks in the field of architectural and urban design;



B.W7. ways of communicating the idea of architectural, urban and planning projects and their development;

B.W9. principles of occupational health and safety.

Skills

B.U3. use properly selected computer simulations, analyzes and information technologies, supporting architectural and urban design;

B.U5. make a preliminary economic analysis of planned engineering activities;

B.U6. properly apply standards and legal regulations in the field of architectural and urban design.

Social competences

-

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

Learning outcomes presented above are verified as follows:

Exam, design project

**Programme content**

Genesis of soil and classification methods. Basic soil mechanics. Soil as a 3-phase system. Physical and mechanical soil properties and parameters. Stress strain relations in soil. Soil investigations and documentation of ground conditions. Design principles of shallow and deep foundations.

**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	45	2,0
Classes requiring direct contact with the teacher	30	
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	15	

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