



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Geotechnology [S1Arch1>GEOTE]

### Course

Field of study  
Architecture

Year/Semester  
3/5

Area of study (specialization)  
–

Profile of study  
general academic

Level of study  
first-cycle

Course offered in  
Polish

Form of study  
full-time

Requirements  
compulsory

### Number of hours

Lecture  
15

Laboratory classes  
0

Other (e.g. online)  
0

Tutorials  
0

Projects/seminars  
0

### Number of credit points

1,00

### Coordinators

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### Lecturers

### 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:

Student knows and understands:

B.W5. issues of construction, construction technologies and installations, construction and building physics, covering key issues in architectural, urban and planning design as well as issues related to fire protection of buildings;

B.W6. investment economics and organization methods as well as the course of the design and investment process; basic principles of design and implementation quality management in the construction process;

B.W9. principles of occupational health and safety.

**Skills:**

Student can:

- B.U3. use properly selected computer simulations, analyzes and information technologies, supporting architectural and urban design;
- B.U4. develop solutions for individual building systems and elements in terms of technology, construction and materials;
- 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:**

Student is capable of:

- B.S2. reliable self-assessment, formulating constructive criticism regarding architectural and urban planning activities.

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

Learning outcomes presented above are verified as follows:

Exam

2,0; 3,0; 3,5; 4,0; 4,5; 5,0

**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 documantation of ground conditions. Design principles of shallow and deep foundations.

**Course topics**

none

**Teaching methods**

Lectures, design and laboratory excercises, eLearning Moodle

**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	25	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	10	0,50