



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Geotechnology [S1Arch1E>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

English

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

0

Laboratory classes

0

Other

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:

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.

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 documentantation of ground conditions. Design principles of shallow and deep foundations.

Course topics

none

Teaching methods

Lectures, design and laboratory excercises

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 |