

Faculty of Architecture

Department: Construction Engineering

Professional field: 5.7. Architecture, Civil Engineering and Geodesy

Specialty: Building Constructions

Educational-qualification degree: Master

COURSE DESCRIPTION

1. Course title: **Applied Geomechanics**
2. Course code: **CIE 3007**
3. Type of course: **optional**
4. Level of course: **Master**
5. Year of study: **second**
6. Semester when the course is delivered: **third**
7. Number of ECTS credits allocated: **3**
8. Name of lecturer: **Prof. Eng. Veselin Peychev, D.Sc.**
9. Learning outcomes of the course: as a result of the course students will know about the durability of construction soils and their interaction with engineering structures, methods for shallow and deep foundations.
10. Mode of delivery: **face-to-face**
11. Prerequisites and co-requisites: students have to possess basic knowledge in Mathematical Analysis – part 2 (MAT 1025); Strength of Materials – part 1 (MAS 1008); Engineering Geology and Hydrogeology (GEO 1002) and Soil Mechanics and Foundation (CIE 1003).
12. Course contents: to form knowledge regarding the basics of geomechanics and computational methods for analysis of ground, foundations and above-foundation construction work in liaison with the specific requirements for the design of sites in seismic areas and landslide terrains.
13. Recommended or required reading:
 - Банков, Б., Павлова, Ю., Метод на крайните елементи в строителната механика, София, УАСГ, 1996
 - Балусhev, Б. и др., Земна механика, ДИ „Техника”, С., 1975
 - Божинов, Б., Етимов, Т., Райкова, Д., Изчисляване на конструкции върху еластична основа, С., Техника, 1982
 - Германов, Т. и др., Земна механика, ПБ УАСГ, 1999
 - Дингозов, Г., Божинов, Б., Пилотно фундиране, С., Техника, 1979
 - Етимов, Т., Земна механика и фундиране, С., 2011
 - Етимов, Т., Благоев, Г., Автоматизирано изследване на пилотни фундаменти, С., Техника, 1992
 - Илов, Г., Земна механика, ИК ЕРА, С., 2006
14. Planned learning activities and teaching methods: **lectures, contact hours.**
15. Assessment methods and criteria: written and oral examination; as elements of assessment during training shall be: attending classes - 10%, oral examination - 20% and written examination - 70%. The final examination constitutes two questions from the conspectus. Reasons for the evaluation, students receive on the day of the examination, based on the knowledge demonstrated. In the event of poor performance at the end of semester, the assessment of students can be reduced to a lesser extent, if shown good results from ongoing work during the semester, or they have regularly attended the lectures.
16. Language of instruction: **Bulgarian**
17. Work placement(s): **none**