

| STUDY MODULE DESCRIPTION FORM | | |
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| Name of the module/subject Soil Mechanics | | Code 1010101131010120637 |
| Field of study Civil Engineering First-cycle Studies | Profile of study (general academic, practical) (brak) | Year /Semester 2 / 3 |
| Elective path/specialty - | Subject offered in: Polish | Course (compulsory, elective) obligatory |
| Cycle of study: First-cycle studies | Form of study (full-time, part-time) full-time | |
| No. of hours Lecture: 15 Classes: - Laboratory: 30 Project/seminars: - | | No. of credits 5 |
| Status of the course in the study program (Basic, major, other) (brak) | | (university-wide, from another field) (brak) |
| Education areas and fields of science and art technical sciences Technical sciences | | ECTS distribution (number and %) 5 100% 5 100% |
| Responsible for subject / lecturer: dr inż. Sławomir Janiński email: slawomir.janinski@put.poznan.pl tel. 6652417 Wydział Budownictwa i Inżynierii Środowiska ul. Piotrowo 5 60-965 Poznań | | |
| Prerequisites in terms of knowledge, skills and social competencies: | | |
| 1 | Knowledge | The full range of knowledge in mathematics and physics included in the program of high school. The full range of knowledge covered by the program semester 1 and 2 studies in building construction. |
| 2 | Skills | Student: - can perform static analysis of bar structures statically determinate; - can correctly select the tools to solve problems of analysis and design building objects; - knows how to dimension the basic structural elements in buildings. |
| 3 | Social competencies | Student: - can work independently and work together as a team over the designated task; - he is responsible for the accuracy of the results of their work and their interpretation; - isolated complements and extends the knowledge in modern techniques, processes and technologies. |
| Assumptions and objectives of the course: Achieving basic level of knowledge of soil mechanics, responsible for I degree studies in building construction. | | |
| Study outcomes and reference to the educational results for a field of study | | |
| Knowledge: | | |
| 1. Is acquainted with construction law, national norms and EN standards and technical conditions for a structure construction - [K_W06] | | |
| 2. Knows geology fundamentals, soil mechanics and foundations construction structures - [K_W08] | | |
| 3. Knows rules related to the design and analysis of residential, industrial, road, railroad and bridge structures - [K_W09] | | |
| Skills: | | |
| 1. Can evaluate and list loads acting on structures - [K_U02] | | |
| 2. Can appropriately define computational models used for the structural analysis - [K_U03] | | |
| 3. Can carry out simple laboratory experiments in order to evaluate the quality of construction materials and engineering structures - [K_U13] | | |
| Social competencies: | | |

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| 1. Can work on a problem individually and in a team - [K_K01] 2. Is aware of own health and fitness - [K_K04] 3. Is aware of the necessity to advance professional and personal competencies - [K_K06] |
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Assessment methods of study outcomes

- written exam (5 questions, 25 points available, 13 points required to pass the exam)
- written and oral tests as part of continuous assessment
- execution of the development of containing of interpreting results laboratory tests characteristics of subsoil
- execution of the development of containing the results of calculations of stress in the subsoil

Course description

- access to geotechnics
- genetic of ground
- geotechnical characteristics of ground
- classification of ground in accordance with the content of PN and PN-EN
- physical characteristics of ground- water in the subsoil
- strength of the subsoil
- compressibility and consolidation of ground
- geostatics stresses in the subsoil
- stress from external loads in subsoil
- bearing capacity of subsoil

Basic bibliography:

1. Witun Z.: Zarys geotechniki, Warszawa, WKiŁ 2012
2. Pisarczyk St.: Gruntozawstwo inżynierskie, Warszawa, PWN 2001
3. Szymański A.: Mechanika Gruntów, SGGW, Warszawa 2007

Additional bibliography:

1. Jeż J.: Biogeotechnika, Poznań, Wyd. PP 2008
2. Motak E.: Fundamenty bezpośrednie, Warszawa, Arkady 1988
3. Obrycki M., Pisarczyk St.: Zbiór zadań z mechaniki gruntów, Warszawa, PW 2007

Result of average student's workload

| Activity | Time (working hours) | |
|---|----------------------|------|
| 1. participation in classes and individual work | 150 | |
| Student's workload | | |
| Source of workload | hours | ECTS |
| Total workload | 150 | 5 |
| Contact hours | 90 | 3 |
| Practical activities | 60 | 2 |