

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Soil Mechanics		Code 1010104131010120637
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) part-time	
No. of hours Lecture: 12 Classes: - Laboratory: 20 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		ECTS distribution (number and %) 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