

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Soil Mechanics</b>		Code <b>1010104131010120637</b>
Field of study <b>Civil Engineering First-cycle Studies</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>2 / 3</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time,part-time) <b>part-time</b>	
No. of hours Lecture: <b>12</b> Classes: <b>-</b> Laboratory: <b>20</b> Project/seminars: <b>-</b>		No. of credits <b>5</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art		ECTS distribution (number and %)
<b>Responsible for subject / lecturer:</b>		
dr inż. Sławomir Janiński email: slawomir.janinski@put.poznan.pl tel. 6652417 Wydział Budownictwa i Inżynierii Środowiska ul. Piotrowo 5 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	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	<b>Skills</b>	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	<b>Social competencies</b>	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.
<b>Assumptions and objectives of the course:</b>		
Achieving basic level of knowledge of soil mechanics, responsible for I degree studies in building construction.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
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]		
<b>Skills:</b>		
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]		
<b>Social competencies:</b>		

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]

### 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 the 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