

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Fundamentals of Geology</b>		Code <b>1010101131010125119</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>full-time</b>	
No. of hours Lecture: <b>15</b> Classes: <b>-</b> Laboratory: <b>15</b> Project/seminars: <b>-</b>		No. of credits <b>2</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 <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>2 100%</b> <b>2 100%</b>
<b>Responsible for subject / lecturer:</b> Katarzyna Machowiak email: katarzyna.machowiak@put.poznan.pl tel. (61) 665 2408 Faculty of Civil and Environmental Engineering ul. Piotrowo 5 60-965 Poznań		<b>Responsible for subject / lecturer:</b> Katarzyna Machowiak email: katarzyna.machowiak@put.poznan.pl tel. (61) 665 2408 Faculty of Civil and Environmental Engineering ul. Piotrowo 5 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic knowledge of geography, chemistry, physics, descriptive geometry and geodesy
2	<b>Skills</b>	Student knows: - fundamental rights occurring in nature - basic information about chemical compounds - the basics of mechanics - problems of geodesy and mapping
3	<b>Social competencies</b>	Student: - is able to work independently and to group work - is responsible for the results of his work - self expanding his knowledge
<b>Assumptions and objectives of the course:</b> Achieving a basic level of geology knowledge		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Origin of rock-forming minerals, igneous, sedimentary and metamorphic rocks and their classification - [T1A_W04, T1A_W01]		
2. Origin and characteristic of subsoil, evaluation of basic geotechnical parameters - [T1A_W04, T1A_W01]		
3. Processes of deformation of filtration and mass base building - [T1A_W04, T1A_W01]		
<b>Skills:</b>		
1. Determination the suitability of different types of subsoil for investment purposes - [T1A_U06, T1A_U08, T1A_U13, T1A_U12, T1A_U14]		
2. Recognizing and naming the basic igneous, sedimentary and metamorphic rocks - [T1AU_02, T1A_U03, T1A_U04]		
3. Description of the rocks according to the scheme: structure, texture, mineral composition, the name of rock - [T1AU_01, T1A_U03]		
<b>Social competencies:</b>		

1. Student is responsible for the results of his work - [T1A\_K03, T1A\_K02, T1A\_K04, T1K06]
2. Student is aware of the need to improve his professional qualifications - [T1A\_K03]
3. Student understands the need for consultation and collaboration between design engineer and geologist during the task realization - [T1A\_K03, T1A\_K04, T1A\_K06]

**Assessment methods of study outcomes**

Written test of the lecture material (test).  
 Practical identification of minerals and rocks (laboratory).

**Course description**

1. Exogenous processes: physical and chemical weathering
2. Erosion and accumulation activity of glaciers
3. Bases of hydrogeology (origin of water resources on the Earth, the water in unsaturated and saturated zone, groundwater flow), water in the ground and building ground filter deformation
4. The processes of erosion and accumulation caused by the effect of surface water flowing
5. The processes of erosion and accumulation caused by the effect of surface water bodies,
6. The processes of erosion and accumulation caused by the wind activity
7. Surface mass movements, slope stability criteria,
8. Geotechnical classification of building subsoil
9. Methods and ways to study the geotechnical parameters of subsoil
10. Methodology and scope of preparing the geological and geotechnical-engineering documentation
11. Classification of igneous rocks and their macroscopic description
12. Classification, identification and description of the main sedimentary rocks
13. Metamorphism: classification and recognition of basic metamorphic rocks
14. The rocks as a building subsoil, structural bonding of soils, their sensitivity to changes in the phase composition, the review of specific soils

**Basic bibliography:**

**Additional bibliography:**

**Result of average student's workload**

Activity	Time (working hours)
1. Participation in lectures	15
2. Participation in laboratory exercises	15
3. Preparing to the laboratory exercises	5
4. Participation in the consultation	3
5. Preparing to the final test in the field of laboratory exercises	5
6. Preparing to the final test in the field of lectures	7

**Student's workload**

Source of workload	hours	ECTS
Total workload	50	2
Contact hours	33	2
Practical activities	23	1