

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Engineering Geology and Petrography		Code 1010115111010120064
Field of study Civil Engineering Extramural Second-cycle	Profile of study (general academic, practical) general academic	Year /Semester 1 / 1
Elective path/specialty Structural Engineering	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 20 Classes: - Laboratory: 10 Project/seminars: -		No. of credits 3
Status of the course in the study program (Basic, major, other) major		(university-wide, from another field) from field
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 3 100% 3 100%
Responsible for subject / lecturer: Jerzy Sobkowiak email: jerzy.sobkowiak@put.poznan.pl tel. (61) 665 2408 Faculty of Civil and Environmental Engineering Piotrowo 5 60-965 Poznań		Responsible for subject / lecturer: Jerzy Sobkowiak email: jerzy.sobkowiak@put.poznan.pl tel. (61) 665 2408 Faculty of Civil and Environmental Engineering Piotrowo 5 60-965 Poznań
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge of geography, chemistry, physics, descriptive geometry and geodesy
2	Skills	Student knows: - fundamental rights occurring in nature - basic information about chemical compounds - the basics of mechanics - problems of geodesy and mapping
3	Social competencies	Student: - is able to work independently and to group work - is responsible for the results of his work - self expanding his knowledge
Assumptions and objectives of the course: Achieving the level of geology knowledge in accordance to the second-cycle, part-time studies		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Knowledge of the laws, regulations and standards relating to works within the subsoil - [T1A_W04, T1A_W01] 2. Origin and characteristics of the subsoil, evaluation of the basic geotechnical parameters - [T1A_W04, T1A_W01] 3. Evaluation and the ability to interpret of the geotechnical documentation - [T1A_W04, T1A_W01]		
Skills:		
1. Determining the suitability of the subsoil for investment purposes - [T1A_U06, T1A_U08, T1A_U013, T1A_U12, T1A_U14] 2. Solving engineering problems using the method of geological intersection - [T1AU_02, T1A_U03, T1A_U04] 3. Implementing the geological cross-sections - [T1AU_01, T1A_U03]		
Social competencies:		

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).
 Description using geological intersection method (laboratory)

Course description

1. Regulations
2. Methods of geotechnical investigations and interpretation of their results
3. Determining of geotechnical parameters - methods
4. Description of geotechnical-engineering documentation
5. Discussion of subsoil-related construction crashes and disasters
6. The processes of erosion and accumulation caused by the effect of surface water bodies
7. The processes of erosion and accumulation caused by the wind activity
8. Surface mass movements, slope stability criteria,
9. Geotechnical classification of building subsoil
10. Methods and ways to study the geotechnical parameters of subsoil
11. Methodology and scope of preparing the geological and geotechnical-engineering documentation
12. Classification of igneous rocks and their macroscopic description
13. Classification, identification and description of the main sedimentary rocks
14. Metamorphism: classification and recognition of basic metamorphic rocks
15. 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:

1. Książkiewicz M., Geologia dynamiczna (Wydaw. Geol., Warszawa 1979)
2. Jaroszewski W. (red.), Przewodnik do ćwiczeń z geologii dynamicznej (Wyd. PAE, Warszawa 1999)
3. Stankowski W., Wstęp do geologii kenozoiku (Wydaw. Nauk. UAM, 1996)
4. Malinowski, Glazer Z., Geologia i geotechnika dla inżynierów budownictwa (PWN, 1991)
5. Pisarczyk R., Gruntoznawstwo inżynierskie (PWN, 2001)
6. Jeż J., Przyrodnicze aspekty bezpiecznego budownictwa (Wydaw. PP, 1995)

Additional bibliography:

1. Stanley S. M., Historia Ziemi (PWN 2001)
2. Van Andel T. H., Nowe spojrzenie na starą planetę. Zmienne oblicze Ziemi (PWN 1997)
3. Mizerski W., Geologia dynamiczna (PWN 2010)
4. Czubla P., Mizerski W., Świerczewska-Gładysz E., Przewodnik do ćwiczeń z geologii (wydanie II), (PWN 2009)
5. Jeż J., Gruntoznawstwo budowlane (Wydaw. PP, 2004)
6. Jeż J., Biogeotechnika (Wydaw. PP, 2008)

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	3

Contact hours	30	3
Practical activities	18	3