

INFORMATION ABOUT THE COURSE

1. Basic data

Course name	Geology and Petrography
Field of study	Agriculture
Study level	second cycle
Study profile	Academic
Study form	Full time
Speciality	Environmental Management
Unit running the course	Department of Soil Science and Soil Protection
Name(s) and scientific degree (title) of teacher(s)	Jacek Długosz, prof.
Introductory courses	Geography, Chemistry, Physics
Prerequisites	Knowledge of the English language

2. Semester schedule of classes

Semester	Lectures	Classes	Laboratories	Project classes	Seminars	Field practice	ECTS
II	30		15				5

3. EDUCATIONAL OUTCOMES (acc. to National Qualification Framework)

No.	Description of learning outcomes	Reference to the major specific outcomes of education	Reference to the area specific outcomes of education
KNOWLEDGE			
W1	On successful completion of the course the student is supposed to have an extensive knowledge of crystals and minerals structure as well as to be familiar with the occurrence and structure of rocks. Additionally, the student has a basic knowledge regarding stratigraphy.	K_W02 K_W04	R2A_W01 R2A_W05
W2	Student has a basic knowledge of the Earth structure, geological processes and their influence on the environment.	K_W04 K_W15	R2A_W01 R2A_W04
SKILLS			
U1	Student can recognize basic minerals rock-forming minerals and main groups of rocks and their influence on the environment	K_U01 K_U05	R2A_U01 R2A_U05
U2	Student is able to calculate and interpret basic sedimentological indicators. Additionally, the student is supposed to be able to make geological section and to determine abiotic conditions of the environment.	K_U05 K_U06	R2A_U05 R2A_U06
U3	Student has the ability to use the geological documentation (maps and geological sections) and its application in environmental works.	K_U01 K_U18	R2A_U01 R2A_U05 R2A_U06
SOCIAL COMPETENCES			
K2	Student is aware of diversity, changeability, and importance of lithosphere components as well as	K_K03 K_K07	R2A_K02 R2A_K04

geological process. The student has the ability to work in a team, is creative and is able to plan and undertake tasks in the field of determination of geological factors of environment.		
--	--	--

4. TEACHING METHODS

Multimedia lecture, laboratory classes, discussion

5. METHODS OF EXAMINATION

Written exam, oral exam and report (once a month).

6. TEACHING CONTENTS

Lectures	The theory of Earth origin structure and evaluation phases of Earth and lithosphere, endogenous geological processes – plutonic and types of magmatic intrusions, endogenous geological processes – volcanism and diastrophism, types of faults. Exogenous geological processes – weathering and erosion, aeolian, alluvial, slope processes and their effects. Glaciers, ice sheets and glacial processes. Division of eras and epochs and division of Pleistocene into the glacial periods. Stratigraphy of Earth.
Labs	Basic of crystallography, classification of minerals and the structure of clay minerals. Classification and structure magmatic rocks. Metamorphosis processes and metamorphic rocks. Classification of sedimentary rocks and their structure and texture. The methods of determination of sedimentary rocks texture and calculation of the sedimentological indicators. The principals of geological section performance.

7. VALIDATION OF LEARNING OUTCOMES

Outcomes	Oral exam	Written exam	Test written	Project	Report
W1	x		x		
W2	x		x		
U1			x		
U2			x		x
K1			x		x
K2	x				x

8. LITERATURE

Basic literature	G. Sen, Petrology. Principles and practice. Springer-Verlag, Berlin, Heidelberg, pp. 368 S.K. Haldar, J.Tisljar, 2014: Introduction to mineralogy and petrology, Elsevier Inc. All rights reserved, Amsterdam , Boston, Heidelberg,
Supplementary literature	B. Velde, A., Meunier, 2008: The origin of clay minerals in soils and weathered rocks. Springer-Verlag, Berlin, Heidelberg, pp. 406

9. STUDENT'S WORK – BALANCE OF HOURS AND ECTS POINTS

Student activity	Number of hours
Participation for class activity indicated in p. 2	45
Preparation for classes	15
Studying literature	25
Preparation for exams	40
Student's total work input	125
Number of ECTS credits proposed by the tutor	5
Final number of ECTS credits (determined by the Program Council)	5

