	Syllabus **« Geology and Geomorphology»**
	Educational-qualification level - Bachelor
	Specialty: 193 Geodesy and Land Management
	Field of knowledge: 19 "Architecture and building"
	Year of study: 1, **semester:** 1 **Mode of study:** full
	ECTS hours: 5
	Language: English
Instructor	Yuriy Kravchenko, PhD, Associate Professor
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eLearn webpage	https://elearn.nubip.edu.ua/course/view.php?id=2700

Course Overview:

This course is an introductory designed course for the Bachelor student, which provides the basic concepts of all aspects of geology. It encompasses: Earth's origin; internal and external Earth's dynamics; minerals and rocks – formation, composition, diagnostics and properties changes; agronomic ores properties and application; anthropogenic influence on geologic environment. The course gives practical experience as an aid in developing understanding of the minerals, rocks and parent materials as natural bodies, the use of which has an influence on environmental, human society and life in general.

The course program and structure

Topics	**Hrs** (lec/prac)	**Educational results**	**Tasks**	**Grade**
1 semester				
Module 1				
Lecture topic 1. Geology. The Earth as space and physical body.	2/2	*Know*: The Earth as space and physical body. *Be able to*: describe Earth's formation and evolution. *Analyze*: Earth's physical properties. *Comprehend*: the earth as planetary body. *Use:* Earth's orbit position in a soil cartography.	Lab work №1 submitting on elearn	8
Lecture topic 2. Internal and external spheres.	2/2	*Know*: The Earth's internal and external spheres. *Be able to*: describe the Earth's internal and external structure. *Analyze*: The Earth's spheres properties. *Comprehend*: minerals' structure and physical properties. *Use*: to describe a soil mineral composition.	Lab work №2 submitting on elearn	6
Lecture topic 3. Magmatic, metamorphic and sedimentary processes.	2/2	*Know*: magmatic, metamorphic and sedimentary processes *Be able to*: provide a lab testing of minerals. *Analyze*: internal and external processes. *Comprehend*: internal and external dynamics. *Use:* to describe the Erath geological structures, rocks and minerals.	Lab work №3 submitting on elearn Self-work 1.1. submitting on elearn	6 10
Lecture topic 4. Plate tectonics and crust deformations.	2/2	*Know*: plate tectonics and crust deformations. *Be able to*: distinguish faults and folds. *Analyze*: types of stress. *Comprehend*: world system of plates *Use:* to describe brittle and plastic geological deformations	Lab work №4 submitting on elearn	6

Lecture topic 5. Volcanism.	2/2	*Know*: volcanoes and volcanism. *Be able to*: test magma and lava materials. *Analyze*: types of volcanoes. *Comprehend*: role of volcanoes in landscape formation *Use:* in soil genesis.	Lab work №5 submitting on elearn	6
Lecture topic 6. Earthquakes.	2/2	*Know*: theory about earthquakes. *Be able to*: estimate causes of earthquakes. *Analyze*: physical properties of major minerals. *Comprehend*: frequency and distribution of earthquakes. *Use:* destructive effects of earthquakes in land management.	Lab work №6 submitting on elearn	6
Lecture topic 7. Weathering.	2/2	*Know*: about weathering. *Be able to*: define the factors that control rates of chemical and mechanical weathering. *Analyze*: the driving forces of weathering. *Comprehend*: mechanical, chemical and biological weathering. *Use:* weathering knowledge in a description of soil genesis.	Lab work №7 submitting on elearn Self-work 1.2. submitting on elearn	6 10
Lecture topic 8. Wind movement.	2/2	*Know*: wind activity. *Be able to*: describe a laminar and turbulent movement. *Analyze*: eolian landforms. *Comprehend*: wind erosion. *Use:* eolian deposits influence on a soil formation.	Lab work №8 submitting on elearn Mid-term exam 1 completing	6 30
Total for Module 1				100
Module 2				
Lecture topic 9. Mass wasting.	2/2	*Know*: mass wasting processes. *Be able to*: describe a movement of solid particles on slopes. *Analyze*: factors influencing mass wasting. *Comprehend*: types of mass wasting. *Use:* to recognize and minimize mass movement effects.	Lab work №9 submitting on elearn	5
Lecture topic 10. Rivers.	2/2	*Know*: rivers activity. *Be able to*: characterize floods and floodplain deposits. *Analyze*: streams. *Comprehend*: base level and stream valley development. *Use:* at floodplain soils' studying	Lab work №10 submitting on elearn	5
Lecture topic 11. Lakes and bogs.	2/2	*Know*: origin of lakes and bogs. *Be able to*: classify lakes and bogs. *Analyze*: igneous rocks. *Comprehend*: processes of sediments formation in lakes and bogs. *Use:* at bog soils' studying.	Lab work №11 submitting on elearn	9
Lecture topic 12. Oceans and seas.	2/2	*Know*: ocean and sea activity. *Be able to*: predict coastal hazards. *Analyze*: metamorphic rocks. *Comprehend*: coastal erosion and sediment transport *Use:* at soil/relief genesis studying.	Lab work №12 submitting on elearn Self-work 2.1. submitting on elearn	9 10
Lecture topic 13. Glaciers.	2/2	*Know*: glacial formation. *Be able to*: classify glaciers. *Analyze*: sedimentary rocks. *Comprehend*: glacial deposits, glacial sediments. *Use:* to recognize landscapes formed under glaciation.	Lab work №13 submitting on elearn	9
Lecture topic 14. Ground waters.	2/2	*Know*: groundwater and the hydrologic cycle. *Be able to*: detect springs, water wells and artesian systems.	Lab work №14	9

		Analyze: groundwater movement. *Comprehend*: groundwater erosion and deposition. *Use:* to predict problems caused by human modifications of groundwater system.	submitting on elearn Self-work 2.2. submitting on elearn	10
Lecture topic 15. The Quaternary period and soil parent materials.	2/2	*Know*: the quaternary environmental changes. *Be able to*: classify types of transported parent material. *Analyze*: quaternary deposits. *Comprehend*: soil parent materials formation. *Use:* quaternary deposits influence on soil profile features.	Lab work №15 submitting on elearn Mid-term exam 2 completing	4 30
Total for Module 2				100
Total for semester 1 ((100+100)/2)) x 0,7				**70**
Exam				**30**
Total for course				**100**

THE COURSE POLICY

Lab Grading Policy:	Lab reports are submitted on elearn platform. Lab reports submitted after due date will be assessed at a penalty of 10% of the total lab report point value for each 24-hour period beyond the due date. Make-up lab submitting will only be provided for students with excused absences. Students are expected to submit four self-works prior a session.
Examination Policy:	Students are required to take all two mid-term exams and the final exam in this course. Copying of others' work, use of disallowed material on exams, plagiarism in assignments, or cheating in any other form as defined by the instructor will result in a grade of zero for that assignment. Multiple infractions will result in a grade of 'F' for the course. No electronic equipment, except calculators, will be allowed during exams. Violation of this will result in an immediate grade of '0' for the exam.
Attendance Policy:	Students are expected to be present at all lectures and to arrive on time. If a student must miss a lecture, her/his is responsible for all material presented during lecture and for the assigned textbook reading. Make-up quizzes, homework assignments, and examinations will only be provided for students with excused absences. Excused absences will only be granted for documented academic conflicts, international staging, documented medical reasons and force majeure. Excused absences can only be granted by Dr. Yuriy Kravchenko. Students are expected to respect the rights of others in the class. Cell phones and other electronic equipment should be turned off prior to the beginning of class.

STUDENT'S RATING SCALE

Student's rating, points	The Ukrainian National Grades	Grading Test
90-100	«Excellent»	Passed
74-89	«Good»	
60-73	«Satisfactory»	
0-59	«Unsatisfactory»	Fail