

1.	<b>Field of study</b>	<b>Geology</b>
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2025/2026 (winter term)
4.	Level of qualifications/degree	first-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	<b>General information about the module</b>	
<b>Module name</b>		<b>Quaternary geology</b>
Module code		W2-GE-S1-415
Number of the ECTS credits		2
Language of instruction		Polish
Purpose and description of the content of education		<p>Celem modułu „Geologia czwartorzędu” jest zapoznanie studentów z młodszym okresem ery kenozoicznej w kontekście budowy geologicznej (rozpoznawanie osadów glacialnych i wodnolodowcowych oraz poznanie głównych form polodowcowej rzeźby terenu, ich genezy oraz podstawowych procesów, które je ukształtowały), zmian klimatu i ich przyczyn (złodowacenia i interglacjały), przemian roślinności, wymierania megafauny oraz współczesnych zagrożeń pod kątem wpływu człowieka na współczesne procesy geologiczne.</p> <p>Po osiągnięciu efektów kształcenia modułu student jest przygotowany do samodzielnego rozpoznawania i klasyfikacji polodowcowych form rzeźby terenu, zna klasyfikację osadów lodowcowych i wodnolodowcowych oraz rozumie ich związek z procesami geologicznymi i cechami budowy geologicznej. Potrafi wykonać i interpretować przekroje geologiczne przez osady czwartorzędowe na podstawie danych z profili wiertniczych. Zdobywa wiedzę umożliwiającą pogłębienie wyobraźni przestrzennej.</p> <p>Potrafi zrekonstruować środowiska glacialne oraz dokonać ich analizy. Rozumie współczesne zagrożenia cywilizacyjne i ich wpływ na środowisko i procesy geologiczne, dostrzega, że wszelkie działania w geologii mają nierozzerwalny związek ze środowiskiem, kształtują je i muszą być podporządkowane etyce ekologicznej.</p>
List of modules that must be completed before starting this module (if necessary)		[W2-GE-S1-405] zna instrumenty ochrony środowiska przed oddziaływaniem prac geologicznych i górniczych [W2-GE-S1-406] Dynamic Earth 2 [W2-GE-S1-017] Geoinformation [W2-GE-S1-034] Petrology 1 [W2-GE-S1-042] Petrology 2 [W2-GE-S1-021] Sourcing of geological information [W2-GE-S1-032] Sedimentology

8.	Learning outcomes of the module			
Code	Description	Learning outcomes of the programme	Level of competenc (scale 1-5)	
W2-GE-S1-415_1	zna podstawowe pojęcia z zakresu geologii czwartorzędu i pogłębia wiedzę w zakresie tej problematyki	1GE_U8	2	
		1GE_W1	1	
		1GE_W5	2	
W2-GE-S1-415_2	klasyfikuje genetycznie i charakteryzuje osady oraz formy akumulacji wodnolodowcowej i lodowcowej, a także formy strefy peryglacialnej, potrafi je nazwać i opisać	1GE_U3	3	
		1GE_W1	2	

		1GE_W5	2
W2-GE-S1-415_3	zna metody badawcze geologii czwartorzędu i wie w jakim celu się je stosuje	1GE_U1 1GE_U2	3 2
W2-GE-S1-415_4	zna przyczyny zmian klimatycznych i ich skutki dla środowiska	1GE_U1 1GE_W1 1GE_W2	3 1 1
W2-GE-S1-415_5	ma umiejętność konstruowania przekrojów geologicznych przez osady czwartorzędowe, oraz ich interpretacji, wykorzystując do tego wiedzę o procesach kształtujących różne formy terenu	1GE_K1 1GE_K2 1GE_U1 1GE_U3 1GE_W5	1 1 3 2 2
W2-GE-S1-415_6	zna relacje pomiędzy działaniem człowieka a stanem środowiska i zmianami klimatycznymi w holocenie, krytycznie analizuje działania człowieka w środowisku; stara się postępować zgodnie z zasadami etyki ekologicznej	1GE_K1 1GE_K2 1GE_K3 1GE_W2	2 2 1 2
W2-GE-S1-415_7	wykazuje aktywną postawę do poznawania rzeczy nowych i wykorzystywania ich dla wzbogacania własnej wiedzy; krytycznego i twórczego myślenia oraz otwartości na poglądy innych	1GE_K2 1GE_K4 1GE_K6 1GE_U7 1GE_U8	2 1 2 1 2

9. Methods of conducting classes		
Code	Category	Name (description)
a01	Lecture methods / expository methods	Formal lecture/ course-related lecture <i>a systematic course of study involving a synthetic presentation of an academic discipline; its implementation assumes a passive reception of the information provided</i>
a02	Lecture methods / expository methods	Monographic lecture <i>an exhaustive discussion of one issue, usually related to the research interests of the person teaching the course or a thorough presentation of one selected issue</i>
a03	Lecture methods / expository methods	Description <i>a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison</i>
b01	Problem-solving methods	Problem-based lecture <i>an analysis of a selected scientific or practical problem accompanied by its assessment and an attempt to provide a solution to the issues presented in the lecture as well as the indication of the consequences of the proposed solution</i>
b02	Problem-solving methods	Lecture-discussion

		<i>transmission of content involving interaction with the lecture audience; discussion of lecture-related issues is one of its elements or constitutes its follow-up</i>
b04	Problem-solving methods	Activating method – discussion / debate <i>an exchange of views supported by substantive arguments leading to a clash of different views, a compromise or the identification of common positions; it proceeds according to previously agreed-upon rules regarding the time, manner and turn-taking as well as the principles of civil discourse; a discussion is not a competition but aims at finding the best solutions or presenting different points of view; its varieties include brainstorming, Oxford-style debate, panel discussion, decision tree, conference discussion; a debate is an orderly dispute between supporters and opponents of a viewpoint, usually specialists in the field or pre-selected representatives of a group dealing with a common problem</i>
b07	Problem-solving methods	Activating methods: a case study <i>a comprehensive description of a phenomenon connected with the selected discipline; reflecting the reality, presenting the 'what', 'where' and 'how' of the phenomenon, i.e., all of its key aspects to be discussed in class; used as a reproduction, presentation, discussion or diagnosis of factors that shape the phenomenon or interact with it; an in-depth qualitative analysis and evaluation of a selected phenomenon</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
b10	Problem-solving methods	SWOT analysis <i>a method of analyzing a phenomenon/action/work of an institution, employed to organize information and solve problems; applied in strategic planning, project implementation or solving a business or organizational problem; a universal tool to be used in the initial stage of a strategic analysis which involves sorting information about a problem into four categories: strengths and weaknesses, opportunities and threats; SWOT analysis makes it possible to determine the factors in favour of a project and its chances for success, as well as eliminating or reducing negative factors and threats to the project at the stage of early diagnosis</i>
c01	Demonstration methods	Exhibition <i>preparing an object for public display and displaying it in order to elicit a specific reaction; creating a themed collection of specimens/objects/works to illustrate a specific issue</i>
c04	Demonstration methods	Drama performance <i>an art workshop: preparation and performance of a dramatic piece or other work of theatrical art involving the participation of people acting out assigned roles; performing a play in front of an audience</i>
c07	Demonstration methods	Screen presentation <i>a presentation of synthetic image content using computer graphics, e.g., a series of slides or other multimedia forms, usually accompanied by a commentary; typical components of a screen presentation include text organized into bulleted points, charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image</i>
d01	Programmed learning methods	Working with a computer <i>e.g., Webquest; implementation of educational tasks using electronic and digital devices, computer programs and Internet applications; the academic teacher acts as a consultant; students' work is carried out step by step according to the plan laid own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline</i>
d03	Programmed learning methods	Working with another teaching tool <i>e.g. using websites in any way or according to the rules set by the teacher; or making use of other subject-specific tools</i>
d04	Programmed learning methods	Reconstruction / reproduction <i>proceeding according to the indicated/displayed pattern/model; e.g., the reconstruction of a structure, model, image, etc.</i>

e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>

10. Forms of teaching					
Code	Name	Number of hours	Assessment of the learning outcomes of the module	Learning outcomes of the module	Methods of conducting classes
W2-GE-S1-415_L_1	laboratory classes	24	course work	W2-GE-S1-415_2, W2-GE-S1-415_3, W2-GE-S1-415_5, W2-GE-S1-415_6, W2-GE-S1-415_7	a03, b07, b09, b10, c01, c04, c07, d01, d03, d04, e07, f02
W2-GE-S1-415_W_1	lecture	12	course work	W2-GE-S1-415_1, W2-GE-S1-415_2, W2-GE-S1-415_3, W2-GE-S1-415_4, W2-GE-S1-415_6	a01, a02, b01, b02, b04

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
a02	Preparation for classes	Literature reading / analysis of source materials <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
b02	Consulting the curriculum and the organization of classes	Verification / adjustment / discussion of syllabus provisions <i>consulting the content of the syllabus, possibly in the presence of the year tutor or members of the class group, and, if necessary, reassessing the provisions concerning special conditions for class participation, e.g., space and time requirements, technical and other requirements, including conditions for participation in classes outside the walls of the university, classes organized in blocks, organized online, etc.</i>	No
b03	Consulting the curriculum and the organization of classes	Consulting the schedule <i>getting acquainted with the class schedule, possibly in the presence of the year tutor, in order to optimize participation in classes, including those supplementary to the core subjects listed in the pursued study programme</i>	No
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class <i>exploring the studied content, inquiring, considering, assimilating, interpreting it, or organizing knowledge obtained from the literature, documentation, instructions, scenarios, etc., used in class as well as from the notes or other materials/artifacts made in class</i>	No
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	No

Information on the details of the module implementation in a given academic year can be found in the syllabus available in the USOS system: <https://usosweb.us.edu.pl>.