

1.	Field of study	Applied Geology
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2024/2025 (winter term)
4.	Level of qualifications/degree	first-cycle studies (in engineering)
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Basics of topography and cartography
Module code		W2-GS-S1-402
Number of the ECTS credits		3
Language of instruction		Polish
Purpose and description of the content of education		<p>Celem modułu „Podstawy topografii i kartografii” jest zapoznanie studentów z podstawowymi zagadnieniami, problemami i trendami współczesnej kartografii i topografii. Moduł obejmuje wiedzę związaną z klasyfikacją map, odwzorowaniami kartograficznymi, kartograficznymi środkami wyrazu. Zapoznaje studentów z bazami danych referencyjnych oraz z bazami danych tematycznych. Przekazuje wiedzę o pozyskiwaniu i wykorzystaniu danych przestrzennych.</p> <p>Po osiągnięciu efektów kształcenia modułu student ma umiejętności posługiwania się mapą (np. interpretacja rzeźby terenu). Rozumie pojęcie trzeciego wymiaru w kartografii. Potrafi wykonać podstawowe obliczenia kartograficzne. Zna i potrafi wykorzystać bazy danych (działania w kartografii cyfrowej, takie jak pozyskiwanie danych przestrzennych, numeryczny model terenu). Zna możliwości podstawowych narzędzi do wizualizacji przestrzennej danych geologicznych i geograficznych - zna możliwości programów komputerowych typu QGIS i potrafi samodzielnie wygenerować np. profil morfologiczny i poziomice.</p>
List of modules that must be completed before starting this module (if necessary)		not applicable

8.	Learning outcomes of the module			
Code	Description	Learning outcomes of the programme	Level of competenc (scale 1-5)	
W2-GS-S1-402_1	zna podstawowe pojęcia z zakresu topografii i kartografii i pogłębia wiedzę w tym zakresie	1GS_U11 1GS_W1 1GS_W6	2 1 2	
W2-GS-S1-402_2	rozumie znaczenie trzeciego wymiaru w kartografii (np. okolica 3D, miasto wirtualne)	1GS_U1 1GS_U11	2 2	
W2-GS-S1-402_3	potrafi wykonać podstawowe obliczenia z kartografii	1GS_U1 1GS_U10	2 1	
W2-GS-S1-402_4	potrafi posługiwać się mapą (np. interpretować rzeźbę terenu). Potrafi posługiwać się współrzędnymi geograficznymi i topograficznymi. Na podstawie analizy ortofotomapy potrafi np. analizować zmiany środowiska, które miały miejsce na przestrzeni ostatnich 30 lat (np. rozwój kamieniołomu w Brudzowicach)	1GS_K2 1GS_U1	1 2	

		1GS_U2 1GS_U3 1GS_U6	3 3 1
W2-GS-S1-402_5	zna współczesne źródła pozyskiwania danych do kartografii, także geologicznej (BDOO i BDOT10k, Geolog, SOPO, Midas itd.) i potrafi je wykorzystać. Potrafi wykorzystać także portale internetowe (Geoportal, ORSIP, Polska e-mapa) do pozyskania danych topograficznych i kartograficznych (np. do generowania profili morfologicznych, NMT, mierzenia powierzchni itp.)	1GS_U2 1GS_U3	3 3
W2-GS-S1-402_6	potrafi wykorzystać oprogramowanie komputerowe (QGIS) np. do wygenerowania profilu morfologicznego, poziomic itp. Potrafi zdigitalizować fragment mapy.	1GS_U2 1GS_U3	3 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>
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>
b08	Problem-solving methods	Activating method – peer learning <i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
c06	Demonstration methods	Demonstration-imitation <i>a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours</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>

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-GS-S1-402_I_1	laboratory classes	24	course work	W2-GS-S1-402_3, W2-GS-S1-402_4, W2-GS-S1-402_5, W2-GS-S1-402_6	b04, b07, b08, c06, d01, d03, d04
W2-GS-S1-402_w_1	lecture	12	course work	W2-GS-S1-402_1, W2-GS-S1-402_2, W2-GS-S1-402_4, W2-GS-S1-402_5	a01, b02

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
a03	Preparation for classes	Developing practical skills <i>activities involving the repetition, refinement and consolidation of practical skills, including those developed during previous classes or new skills necessary for the implementation of subsequent elements of the curriculum (as preparation for class participation)</i>	No
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/examination completion <i>a set of activities aimed at performing an assigned task, to be executed out of class, as an obligatory phase/element of the verification of the learning outcomes assigned to the course</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>.