

Subject card

Subject name and code	Cartography and Topography - lecture, PG_00194266						
Field of study	Geography						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2026/2027		
Education level	Bachelor's studies	Subject group			Obligatory subject group in the field of study		
Mode of study	full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	1	ECTS credits			2.0		
Learning profile	academic	Assessment form			exam		
Conducting unit	Centrum Monitoringu i Ochrony Wód -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Włodzimierz Golus				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		1.0		19.0	50
Subject objectives	Mastering the program content in the field of cartography and topography with the aim of: (1) acquiring the skills to use appropriate cartographic methods to present elements of the geographical environment and socio-economic phenomena, (2) achieving comprehensive skills in reading maps and selecting and utilizing available geographical information sources, including electronic sources, necessary to compile a specified map, (3) acquiring the ability to select appropriate and accurate methods for presenting numerical and statistical data on maps.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[GEOGRL3-U06] can develop a selected geographical issue in the form of a scientific text in Polish, following a specific methodological convention and with correct documentation		Student has the ability to select research methods and tools used in the process of map creation, including creating a map based on field measurements.			[SU4] test/exam - oral or written	
	[GEOGRL3-U05] can use scientific language and express opinions and discuss topics related to geography in Polish and a foreign language		Student is able to search for and evaluate information in professional literature and online resources, particularly those concerning topography and cartography with elements of geodesy.			[SU4] test/exam - oral or written	
	[GEOGRL3-W08] principles of planning and developing individual entrepreneurship, using knowledge of geography		Student recognizes methods of data processing and understands principles of working with cartographic and topographic data on natural and anthropogenic environments, and is able to interpret and analyze the results obtained.			[SW4] test/exam - oral or written	

Subject contents	<p>Lecture Topics</p> <p>1. Introductory Information: Cartography and its tasks. The essence of cartographic communication. Communication through maps in a historical context. Modern understanding of the concept of a map. Modern understanding of topography</p> <p>2. Shape and Dimensions of the Earth: Reference surfaces and coordinate systems. Information from the theory of cartographic projections. Great circle (orthodrome) and rhumb line (loxodrome). Theory of distortions</p> <p>3. National Systems and Spatial Reference Frameworks Used in Poland: ITRS, ETRS89, ETRF89, PL-ETRF89, PL-ETRF2000. PL-LAEA, PL-LCC, PL-UTM, PL-2000, PL-1992. PL-KRON86-NH, PL-EVRF2007-NH. Division into map sheets and assigning sheet codes in coordinate systems PL-UTM, PL-1992, PL-2000. Geodetic control networks. Classification of geographic maps</p> <p>4. Topography and Its Tasks: Field surveys: measurements of distances, horizontal and vertical angles. Topographic instruments. Direction orientation, azimuths: geographic, magnetic, and topographic, and their interrelations. Topographic azimuth and quadrant selected topographic tasks involving coordinate calculations. Planimetric and altimetric measurements. Map content, classification of maps, analog maps, digital maps</p> <p>5. Elements of a Geographic Map: Mathematical framework (scales and divisions, projection, geodetic control). Cartographic representation (cartographic means of expression, methods of depicting relief, point, linear, and area objects, cartographic methods of presenting qualitative and quantitative phenomena, cartographic generalization). Auxiliary symbols (map legend, measurement charts, information data). Supplementary data (cross-sections, diagrams, block diagrams, tables, and textual data on the map margins supplementing the main cartographic representation)</p> <p>6. Topographic Maps: Cartographic projections of topographic maps. Elements of a topographic map. Use of topographic maps.</p> <p>7. Thematic Maps: Classification and overview of thematic maps. Basic national map. Nautical Maps.</p> <p>8. Cartographic Method of Research.</p> <p>9. Map Editing and Reproduction: Geographic atlases</p> <p>10. Cartography and GIS</p> <p>11. Electronic Maps and Atlases</p>								
Prerequisites and co-requisites									
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="453 1509 794 1541">Subject passing criteria</th> <th data-bbox="794 1509 1142 1541">Passing threshold</th> <th data-bbox="1142 1509 1482 1541">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="453 1541 794 1574">Exam</td> <td data-bbox="794 1541 1142 1574">51.0%</td> <td data-bbox="1142 1541 1482 1574">100.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Exam	51.0%	100.0%
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	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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