



Subject card

Subject name and code		Geodesy, PG_00042796						
Field of study		Environmental Engineering						
Date of commencement of studies		October 2026	Academic year of realisation of subject			2026/2027		
Education level		first-cycle 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		general academic profile	Assessment form			assessment		
Conducting unit		Department of Geodesy -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)		Subject supervisor	dr inż. Karol Daliga					
		Teachers						
Lesson types		Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
		Number of study hours	15.0	15.0	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	5.0		20.0	55	
Subject objectives		Knowledge and acquisition of knowledge and skills in the field of basic geodetic issues in application for the needs of environmental engineering.						
Learning outcomes		Course outcome	Subject outcome			Method of verification		
		[K6_W16] has basic knowledge of geodesy in the range of applied measurement equipment and techniques, geodetic information systems and documentation necessary in the preparation process, investment implementation	The student has a basic knowledge of geodetic control networks, geodetic instruments, cartographic materials necessary during the implementation of the investment.			[SW1] Assessment of factual knowledge		
		[K6_U03] can prepare documentation regarding the implementation of an engineering task/project and prepare a text or presentation including a discussion of the results of the implementation	Student is able to plot a field sketch, keep a measurement diary. During the presentation of measurement results or calculations, he uses the rules used in geodesy.			[SU5] Assessment of ability to present the results of task [SU2] Assessment of ability to analyse information		
		[K6_U02] can work individually and in a team; knows how to estimate the time needed to complete the task ordered; is able to develop and implement a work schedule that ensures deadlines	The student is individual / body able to plan and implement in a limited range measurements / prepare appropriate documentation according to the prepared schedule.			[SU1] Assessment of task fulfilment		
		[K6_U05] can apply in engineering practice the basic geodetic instruments and instruments, make measurement sketches and read information from the map and surveying documents	Gaining the skills to perform basic geodetic and control calculations. Acquiring the ability to use basic geodetic instruments, acquiring the ability to obtain information from documentation related to the execution of geodetic works and maps for design purposes.			[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information		

Subject contents	<p>Course content – lecture Geodesy and cartography - its position as a discipline in theory and practice of engineering. Surveying service in Poland - Centres of Geodesy and Cartography Documentation and Companies of Reconciliation Documentation Design. The role and tasks of surveying in the process of realization investments. Survey instructions and technical guidance. Traditional and modern surveying instruments and new technologies (levels, theodolites, electronic station, GPS, scanners). Classification methods for leveling. The measurement of directions and angles calculation. Vertical measurements and situational. Direct and indirect measurements of length.</p> <p>Course content – exercises</p> <ul style="list-style-type: none"> • Basic Geodetic Calculations • Basic Leveling Measurements • Leveling Traverse Survey • Architectural and Structural Inventory of a Building Section • Interpretation of the Base Map Content • Area Calculation Using Various Methods • Calculation of Earthwork Volumes and Preparation of Vertical Profiles 														
Prerequisites and co-requisites															
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Raports from team works</td> <td>90.0%</td> <td>10.0%</td> </tr> <tr> <td>Test from lecture</td> <td>65.0%</td> <td>55.0%</td> </tr> <tr> <td>Test wrom exercises</td> <td>60.0%</td> <td>35.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Raports from team works	90.0%	10.0%	Test from lecture	65.0%	55.0%	Test wrom exercises	60.0%	35.0%
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Example issues/ example questions/ tasks being completed	Geodetic calculations. Geodetic documents. Geodetic equipment and its application. Measurement methods.														
Practical activities within the subject	Field exercises														

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