



Subject card

Subject name and code	Geodesy I, PG_00044795						
Field of study	Geodesy and Cartography						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
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			7.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Daria Filipiak-Kowszyk					
	Teachers	dr inż. Daria Filipiak-Kowszyk dr inż. Tadeusz Widerski dr inż. Karolina Makowska-Jarosik mgr inż. Kamil Łapiński					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	45.0	15.0	30.0	0.0	0.0	90
	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	90	12.0		73.0		175
Subject objectives	The purpose of the subject is to convey student the knowledge in the field of basic geodetic measurements and calculations.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W06] has a well-grounded knowledge and understands geodesy concepts including the main methods of obtaining data about space together with the surveying and computational methods, which from the one hand are compatible with the current legal status and from the other hand refer to measurements on the plane and cover the use of modern geodetic instruments, with taking into account the curvature of the Earth and the impact of gravity on the manner of measurements and results	The student possess the knowledge and uses the information concerning the performance of basic geodetic measurements and calculations.			[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge		
	[K6_U13] is able to apply the principles of health and safety at work during the execution of geodetic works	The student is able to apply the principles of safe surveying and usage, transfer and storage of surveying instruments.			[SU1] Assessment of task fulfilment		
	[K6_U11] is able to develop geodetic documentation and perform individually as well as in a group, field and field surveying surveys	Student performs geodetic measurements Student prepares basic geodetic documentation regarding levelling traverse, polygon traverse and survey of details.			[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information		

Subject contents	<p>Lecture:</p> <ol style="list-style-type: none"> 1. Direct levelling and trigonometric levelling 2. Angle and distance measurements 3. Topographic survey 4. Principles of coordinate calculus 5. Law of propagation of mean errors <p>Classes:</p> <ol style="list-style-type: none"> 1. Measurement units conversion 2. Levelling traverse calculus 3. Horizontal angle calculus 4. Principles of coordinate calculus 5. Law of propagation of mean errors <p>Laboratories:</p> <ol style="list-style-type: none"> 1. Levelling traverse measurements 2. Horizontal angle measurements 3. Polygon traverse measurements 4. Survey of details 														
Prerequisites and co-requisites															
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="453 889 794 920">Subject passing criteria</th> <th data-bbox="799 889 1141 920">Passing threshold</th> <th data-bbox="1145 889 1492 920">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="453 927 794 958">Exam</td> <td data-bbox="799 927 1141 958">60.0%</td> <td data-bbox="1145 927 1492 958">50.0%</td> </tr> <tr> <td data-bbox="453 965 794 996">Laboratory report</td> <td data-bbox="799 965 1141 996">100.0%</td> <td data-bbox="1145 965 1492 996">10.0%</td> </tr> <tr> <td data-bbox="453 1003 794 1034">Test</td> <td data-bbox="799 1003 1141 1034">60.0%</td> <td data-bbox="1145 1003 1492 1034">40.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Exam	60.0%	50.0%	Laboratory report	100.0%	10.0%	Test	60.0%	40.0%
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Laboratory report	100.0%	10.0%													
Test	60.0%	40.0%													
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. The act of law: Rozporządzenie Ministra Rozwoju z dnia 18 sierpnia 2020 r. w sprawie standardów technicznych wykonywania geodezyjnych pomiarów sytuacyjnych i wysokościowych oraz opracowywania i przekazywania wyników tych pomiarów do państwowego zasobu geodezyjnego i kartograficznego. (In Polish) 2. The act of law: Rozporządzenie Ministra Administracji i Cyfryzacji z dnia 14 lutego 2012r. w sprawie osnów geodezyjnych, grawimetrycznych i magnetycznych. (In Polish) 3. A. Jagielski, Geodesy I - theory and practice, Wyd. GEODPIS, Kraków, 2019 (In Polish) 4. A. Jagielski, Geodesy II, Wyd. GEODPIS, Kraków, 2020 (In Polish) 													
	Supplementary literature	<ol style="list-style-type: none"> 1. J. Ząbek, Geodesy I, Wyd. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2012 (In Polish) 2. W. Kosiński, Geodesy, Wyd. Naukowe PWN, Warszawa, 2021 (In Polish) 													
	eResources addresses	Adresy na platformie eNauczanie: Geodezja I (2024/2025) - Moodle ID: 30238 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=30238													
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. List the surfaces of reference used in surveying 2. Explain "control network" concept. 3. Explain "survey of details" concept. 4. Explain "direct levelling" concept. 														
Work placement	Not applicable														

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