



Subject card

Subject name and code	Surveying II (team project), PG_00050190						
Field of study	Geodesy and Cartography						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2022/2023		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		7.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Tadeusz Widerski				
	Teachers		dr inż. Tadeusz Widerski dr inż. Karol Daliga dr inż. Karolina Makowska-Jarosik				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	50.0	50.0	0.0	0.0	0.0	100
	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	100		15.0		60.0	175
Subject objectives	<p>The aim of the course is to provide students with knowledge of the design and performance of engineering measurements in the field of:</p> <ul style="list-style-type: none">• measurements of deformations and displacements of buildings,• ground displacements,• building geometry testing,• implementation measurements of buildings and structures,• geodetic service of the investment process at every stage,• geodetic development of the construction project.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U11] is able to develop geodetic documentation and perform individually as well as in a group, field and field surveying surveys		The student has the ability to plan and carry out displacement measurements. The student has the skill needed during the investment and implementation process.		[SU3] Assessment of ability to use knowledge gained from the subject [SU5] Assessment of ability to present the results of task		
	[K6_W11] understands the concepts and has in-depth knowledge in the field of geodetic building monitoring, extended with basic knowledge in the field of statics and dynamics of engineering structures		The student knows how to plan and carry out monitoring of the object, taking into account the dynamics of the building object. He has the knowledge needed to develop and pre-analyze the results obtained.		[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation		

Subject contents	<p>The subject content includes the presentation of procedures and measurement methodology related to the ability to design and measure the verticality of a multi-storey building located in a highly urbanized area. Content related to the development of measurement documentation and graphical presentation of measurement results will be presented.</p> <p>Contents of the subject will also include discussion of procedures related to the measurement of displacements and deformations of the building and the building substrate located in its area. The geometry of the industrial building will be measured. The method of processing the measurement results and its graphic presentation will be discussed. The scope of calculations will also include the principles for determining measurement errors and how to align observations. The geodetic standards related to the geodetic service of the investment process and the geodetic preparation of the construction project will be discussed.</p>		
Prerequisites and co-requisites	Ability to perform basic geodetic measurements and perform basic geodetic calculations.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Assessment of substantive knowledge	50.0%	50.0%
	Assessment of completed studies	50.0%	40.0%
	Assessment of student work during field measurements	30.0%	10.0%
Recommended reading	Basic literature	<ol style="list-style-type: none">1. T. Lazzarini i inni : Geodezyjne pomiary przemieszczeń budowli i ich otoczenia. Wydawnictwo PPWK. Warszawa 19772. M. Gałda : Geodezja w budownictwie i inżynierii. Oficyna Wydawnicza Politechniki Rzeszowskiej. Rzeszów 19983. J. Czaja : Wybrane zagadnienia z geodezji inżynierskiej. Wydawnictwa AGH. Kraków 19964. Gocał J. Geodezja inżyniersko-przemysłowa, część II, AGH, Kraków, 2005r5. Praca zbiorowa Geodezja inżyniersko przemysłowa, wykłady i ćwiczenia, AGH, Kraków6. Praca zbiorowa Geodezja inżynierska, 3 tomy , PPWK, Warszawa.7. H. Bryś, S. Przewłocki: Geodezyjne metody pomiarów przemieszczeń budowli, PWN 1998	
	Supplementary literature	<ol style="list-style-type: none">1. Ustawy: Prawo budowlane 7 lipca 1994r, Prawo geodezyjno-kartograficzne 17 maja 1989r, O planowaniu i zagospodarowaniu przestrzennym- 27 marca 2003r2. Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 9 listopada 2011r w sprawie standardów technicznych wykonywania geodezyjnych pomiarów sytuacyjnych i wysokościowych oraz opracowania i przekazywania wyników tych pomiarów do PZGIK	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		