



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	The aim of the course is to provide students with knowledge of the design and performance of engineering measurements in the field of: <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	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:33%;">Subject passing criteria</th> <th style="width:33%;">Passing threshold</th> <th style="width:33%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Assessment of substantive knowledge</td> <td>50.0%</td> <td>50.0%</td> </tr> <tr> <td>Assessment of completed studies</td> <td>50.0%</td> <td>40.0%</td> </tr> <tr> <td>Assessment of student work during field measurements</td> <td>30.0%</td> <td>10.0%</td> </tr> </tbody> </table>			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%
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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 1977 2. M. Galda : Geodezja w budownictwie i inżynierii. Oficyna Wydawnicza Politechniki Rzeszowskiej. Rzeszów 1998 3. J. Czaja : Wybrane zagadnienia z geodezji inżynierskiej. Wydawnictwa AGH. Kraków 1996 4. Gocał J. Geodezja inżyniersko-przemysłowa, część II, AGH, Kraków, 2005r 5. Praca zbiorowa Geodezja inżyniersko przemysłowa, wykłady i ćwiczenia, AGH, Kraków 6. 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 2003r 2. 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														