



## Subject card

Subject name and code	URBAN AND INDUSTRIAL GEODESY, PG_00044847						
Field of study	Geodesy and Cartography						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Optional subject group		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	5	ECTS credits			8.0		
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	mgr inż. Mariusz Chmielecki					
	Teachers	mgr inż. Mariusz Chmielecki					
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	10.0		100.0		200
Subject objectives	The aim is to familiarize with the geodetic monitoring basic structural elements of engineering structures.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W07] has a well-established knowledge and understands concepts in the field of engineering geodesy including the use of calculations and measurements methods carried out with the use of geodetic instruments and photogrammetric and remote sensing technologies related to geodetic support for investment, surveying and inventory measurements and photogrammetry with remote sensing				[SW1] Assessment of factual knowledge		
	[K6_W10] has elementary knowledge and understands the concepts of architecture and urban planning, construction, environmental engineering and transport necessary to carry out studies related to planning and investment service				[SW1] Assessment of factual knowledge		
	[K6_U06] can solve geodetic tasks and select measurement methods for typical engineering tasks including the curvature of the Earth and the impact of gravity				[SU4] Assessment of ability to use methods and tools		
Subject contents	Geodetic works at construction of foundations, geodetic service of building repeatable storeys, moving structural pivots, placing structural elements of the building. Test measurements of the geometry of halls and equipments. Measurements of plains of building elements Measurements during the assembly and disassembly of outsize elements. Measurements of transfers and deformations of workses, of cooling towers, of chimneys, of pipelines. Appointing the volume of earth mass, drawing up profiles and diameters of the area. Geodetic works in the machine construction.						
Prerequisites and co-requisites	mathematics						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	theoretical test - test in the range of exercises and lectures	60.0%	30.0%
	the report of the exercises	100.0%	10.0%
	practical exam - solving	60.0%	60.0%
Recommended reading	Basic literature	1. Gocał J. 2009. Geodezja inżyniersko-przemysłowa cz. 1-3. Wydawnictwa AGH 2. Geodezja inżynierska. T. 1-3, 1990-1994 PPW-K Warszawa.	
	Supplementary literature	No requirements	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	1. Calculation of the measurement matrix  2. Determination of the shape of the walls of the building  3. Adjustment of the levelling network  4. Determination of the displacements of foundation slab		
Work placement	Not applicable		