



Subject card

Subject name and code	Engineering geodesy I, PG_00044811						
Field of study	Geodesy and Cartography						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2021/2022		
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		4.0		
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		prof. dr hab. inż. Waldemar Kamiński				
	Teachers		dr inż. Karol Daliga prof. dr hab. inż. Waldemar Kamiński dr inż. Karolina Makowska-Jarosik				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	15.0	0.0	60
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie: Geodezja inżynierska I - 2021/2022 - Moodle ID: 19186 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=19186						
	Additional information: On-line classes						
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	60		9.0		31.0	100
Subject objectives	Teaching students how to implement the geodetic and cartographic works in the field of road surveying, geodetic shipbuilding service, measurements of antenna tower displacements, verticality of elevator shafts and determination of girder deflection.						

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	The student has knowledge of the geodetic development of a road project. The student has knowledge of measurements performed in shipyards. The student has knowledge of determining the displacements of selected engineering structures (antenna tower, elevator shafts, girders, sports halls) using geodetic methods and the method of hydrostatic leveling.	[SW3] Assessment of knowledge contained in written work and projects
	[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	The student is able to design a geodetic horizontal and vertical implementation network for geodetic construction of point and line objects. The student selects measurement methods in the geodetic service of the construction of selected engineering structures (girders, elevator shafts).	[SU1] Assessment of task fulfilment
Subject contents	<p>Geodetic development of a road route project.</p> <p>Selected problems of geodetic service in shipbuilding.</p> <p>Surveying service for the construction of oil rigs.</p> <p>Measurements of displacement of steel antenna towers.</p> <p>Determination of vertical displacements using the hydrostatic levelling method.</p> <p>Measurement of verticality of elevator shafts using geodetic methods.</p> <p>Selected geodetic methods for determining the girder deflection.</p>		
Prerequisites and co-requisites	Knowledge of the scope presented in the subjects: geodesy I and geodesy II.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	colloquium on the content of the lectures	50.0%	50.0%
	exercise grade	100.0%	25.0%
	grade of the project classes	100.0%	25.0%

Recommended reading	Basic literature	<p>1. J. Gocał. Geodezja inżynieryjno przemysłowa. Część III. Wydawnictwa AGH. Kraków 2010.</p> <p>2. J. Gocał. Geodezja inżynieryjno przemysłowa. Część II. Uczelniane Wydawnictwa Naukowo Dydaktyczne AGH. Kraków 2009.</p> <p>3. E. Osada. Geodezja. Oficyna Wydawnicza Politechniki Wrocławskiej. Wrocław 2002.</p> <p>4. E. Osada. Geodezyjne pomiary szczegółowe. UxLAN. Wrocław 2014.</p> <p>5. M. Grala, G. Kopiejewski . Geodezja inżynieryjna. UWM w Olsztynie 2003.</p> <p>6. A. Jagielski. Podstawy geodezji inżynieryjnej. Standardy, pomiary realizacyjne, trasy, objętości wydawnictwo GEODPIS. Kraków 2012</p>
	Supplementary literature	<p>1. Lazzarini T. 1979. Geodezyjne pomiary przemieszczeń budowli i ich otoczenia, Wyd. PPWK Warszawa;</p> <p>2. Praca zbiorowa. 1993-1994. Geodezja Inżynieryjna t. 1, 2 i 3, Wyd. PPWK, Warszawa.</p>
	eResources addresses	Geodezja inżynieryjna I - 2021/2022 - Moodle ID: 19186 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19186
Example issues/ example questions/ tasks being completed	<p>1. Description of geodetic works on the slipway and presentation of their short characteristics.</p> <p>2. Presentation of the roads division and classification.</p> <p>3. Description of the methods of staking out road arcs.</p> <p>4. Presentation of the technology of determining the displacement of antenna towers.</p> <p>5 Description of the technology of geodetic measurements and calculations for determining the elevator shafts verticality.</p>	
Work placement	Not applicable	