GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Engineering geodesy I, PG_00061787		
Field of study	Geodesy and Cartography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
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	6.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	mgr inż. Mariusz Chmielecki	
	Teachers	mgr inż. Tomasz Mackun dr inż. Karolina Makowska-Jarosik dr inż. Karol Daliga mgr inż. Mariusz Chmielecki	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	15.0	15.0	15.0	0.0	75

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	75	10.0	65.0	150

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_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 can plan the horizontal and vertical geodetic implementation network.	[SU1] Assessment of task fulfilment
[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 is able to prepare a geodetic project of a road route. The student can determine the displacements of a steel antenna tower.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents	Course content – lecture Geodetic development of a road route project. Selected problems of geodetic service in shipbuilding. Surveying service for the construction of oil rigs. Measurements of displacement of steel antenna towers. Determination of vertical displacements using the hydrostatic levelling method. Measurement of verticality of elevator shafts using geodetic methods. Selected geodetic methods for determining the grider deflection.
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
grade of the project classes	100.0%	25.0%
exercise grade	100.0%	25.0%
colloquium on the content of the lectures	50.0%	50.0%

Recommended reading

Basic literature	1. J. Gocał. Geodezja inżynieryjno przemysłowa. Część III. Wydawnictwa AGH. Kraków 2010. 2. J. Gocał. Geodezja inżynieryjno przemysłowa. Część II. Uczelniane Wydawnictwa Naukowo Dydaktyczne AGH. Kraków 2009. 3. E.Osada. ***Geodezja***. Oficyna Wydawnicza Politechniki Wrocławskiej. Wrocław 2002. 4. E. Osada. ***Geodezyjne pomiary szczegółowe***. UxLAN. Wrocław 2014. 5.M. Grala, G. Kopiejewski . Geodezja inzynieryjna. UWM w Olsztynie 2003. 6. A. Jagielski. Podstawy geodezji inżynieryjnej. Standardy, pomiary realizacyjne, trasy, objętości wydawnictwo GEODPIS. Kraków 2012
Supplementary literature	1.Lazzarini T. 1979. Geodezyjne pomiary przemieszczeń budowli i ich otoczenia, Wyd. PPWK Warszawa; 2.Praca zbiorowa. 1993-1994. Geodezja Inżynieryjna t. 1, 2 i 3, Wyd. PPWK, Warszawa.
eResources addresses	

Example issues/ example questions/ tasks being completed	1. Description of geodetic works on the slipway and presentation of their short characteristics. 2. Presentation of the roads division and classification. 3. Description of the methods of staking out road arcs. 4. Presentation of the technology of determining the displacement of antenna towers. 5 Description of the technology of geodetic measurements and calculations for determining the elevator shafts verticality.
Practical activites within the subject	Not applicable

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