

## GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

Subject name and code	GPS and Galileo Satellite Navigation Systems, PG_00047977								
Field of study	Informatics								
Date of commencement of studies	October 2021		Academic year of realisation of subject			2024/2025			
Education level	first-cycle studies		Subject group			Optional subject group 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	4		Language of instruction			Polish			
Semester of study	7		ECTS credits			5.0			
Learning profile	general academic profile		Assessment form		exam				
Conducting unit	Department of Geoinformatics -> Faculty of Electronics, Telecommunications and Informatics								
Name and surname	Subject supervisor		dr inż. Jerzy Demkowicz						
of lecturer (lecturers)	Teachers		dr inż. Jerzy Demkowicz						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
	Number of study hours	30.0	0.0	30.0	0.0		0.0	60	
	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	60		5.0		60.0		125	
Subject objectives	GNSS acquaintance & information systems								

Learning outcomes	Course outcome	Subject outcome	Method of verification			
	[K6_W03] Knows and understands, to an advanced extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum	Knowledge of GNSS algorithms, produces GNSS applications	[SW1] Assessment of factual knowledge			
	[K6_U41] can produce, test or evaluate software using modern programming platforms, tools, languages and paradigms of different levels, as well as use software packages supporting scientific and research processes as well as business decision- making processes and teamwork	Knowledge of GNSS system architecture	[SU1] Assessment of task fulfilment			
	[K6_U43] can analyse date and formulate, apply and assess appropriate formal models and algorithms for solving problems in the field of information systems and applications	Verification and creation of test tools	[SU1] Assessment of task fulfilment			
	[K6_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices	Knowledge of the GNSS position calculation process	[SW1] Assessment of factual knowledge			
	[K6_U06] can analyse the operation of components, circuits and systems related to the field of study, measure their parameters and examine technical specifications	Knowledge of GNSS signal processing algorithms, protocol protocol analysis, implementation of algorithms, acquiring knowledge to build your own GNSS receiver	[SU1] Assessment of task fulfilment			
Subject contents	GNNS system     GNNS Segments     Kalman Filtering     Pseudoranges     GNS Receiver     GPS, GLONASS i GALILEO     SG EUPOS     System L oran C.					
Prerequisites						
and co-requisites		1				
Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade			
and chilend	Lab	51.0%	50.0%			
<b>n</b>		01.0%	00.0%			
Recommended reading	<ul> <li>2. Specht C., System GPS, Biblioteka Nawigacji nr 1, Wydawnictwo "Bernardinum", Pelplin, 2007.</li> </ul>					
	Supplementary literature	Systemy satelitarne GPS Galileo i inne Jacek Januszewski, 2010,				
		Naukowe PWN				
	eResources addresses Adresy na platformie eNauczanie:					
Example issues/ example questions/ tasks being completed	GNSS Positioning Process					
Work placement	Not applicable					