



Subject card

Subject name and code	Computational Techniques in Space Systems, PG_00053596						
Field of study	Informatics, Hydrogen Technologies and Electromobility						
Date of commencement of studies	February 2026		Academic year of realisation of subject		2026/2027		
Education level	second-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Geoinformatics -> Faculty of Electronics Telecommunications and Informatics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Przemysław Falkowski-Gilski				
	Teachers		dr inż. Przemysław Falkowski-Gilski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	15.0	0.0	45
	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	45		3.0		27.0	75
Subject objectives	The aim of this course is to acquaint students with geoinformatic calculations in space systems and their solving using specialized programs.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W04] knows and understands, to an increased extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or other elements or programmable devices specific to the field of study, and organization of work of systems using computers or such devices		Student is able to correctly select tools and methods for solving tasks.		[SW1] Assessment of factual knowledge		
	[K7_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, making assessment and critical analysis of the prepared software as well as a synthesis and creative interpretation of information presented with it		Student is able to develop an interactive digital model of an object using various data access techniques.		[SU3] Assessment of ability to use knowledge gained from the subject		

Subject contents	Course content – lecture 1. Development trends in information technology and telecommunications. 2. Review of popular geoinformatics tools. 3. Operation of Google SketchUp. 4. Exporting and importing files. 5. Creating animations.		
Prerequisites and co-requisites	There are no requirements.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lecture	50.0%	34.0%
	Laboratory	50.0%	33.0%
	Project	50.0%	33.0%
Recommended reading	Basic literature	1. SketchUp Manual (Online) 2. Google, Geo Education and Geo Tools (Online) 3. Haining R., Spatial Data Analysis: Theory and Practice, Cambridge University Press, 2003.	
	Supplementary literature	1. Fischer M. M., Wang J., Spatial Data Analysis: Models, Methods and Techniques, Springer, 2011. 2. Sellers G., Wright R. S., Haemel N., OpenGL Superbible: Comprehensive Tutorial and Reference, Addison-Wesley Professional, 2015. 3. Akenine-Moller T., Haines E., Hoffman N., Pesce A., Iwanicki M., Hillaire S., Real-Time Rendering, CRC Press, 2018.	
	eResources addresses		
	Example issues/ example questions/ tasks being completed	Design and development of a three-dimensional model of a space station. Exporting, processing and interaction with the model in an external application.	
Practical activities within the subject	Not applicable		

Document generated electronically. Does not require a seal or signature.