GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Computational Techniques in Geo-information systems, PG_00048290
Field of study	Informatics

Date of commencement of studies	February 2024	Academic year of realisation of subject	2023/2024
Education level	second-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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	exam

Conducting unit	Department of Geoinformatics -> Faculty of Electronics, Telecommunications and Informatics

Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Emilia Lubecka
	Teachers	dr inż. Emilia Lubecka

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	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	30	8.0	62.0	100

Subject objectives	To familiarize students with the calculations in geographic information science and resolution through specialized programs.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U06] can analyse the operation of components, circuits and systems related to the field of study; measure their parameters; examine technical specifications; interpret obtained results and draw conclusions	Student maintains and visualises digital maps	[SU1] Assessment of task fulfilment
	[K7_W08] Knows and understands, to an increased extent, the fundamental dilemmas of modern civilisation, the main development trends of scientific disciplines relevant to the field of education.	Student learns the current trends in computer science, particularly geospatial systems	[SU2] Assessment of ability to analyse information
	[K7_W03] Knows and understands, to an increased 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.	Student acquaints with selected popular geospatial data processing tools	[SW1] Assessment of factual knowledge
	[K7_U07] can apply advanced methods of process and function support, specific to the field of study	Student is able do adequately process and export data for further analysis purposes in external programs	[SU3] Assessment of ability to use knowledge gained from the subject
	[K7_U05] can plan and conduct experiments related to the field of study, including computer simulations and measurements; interpret obtained results and draw conclusions	Student uses and converts geoinformatic data of raster and vector type	[SU1] Assessment of task fulfilment

Subject contents	1. Current trends in computer science.
	2. Review of popular geoinformatic tools.
	3. Working with Google SketchUp.
	4. Exporting and importing files.
	5. Making animations.

Prerequisites and co-requisites	No requirements

Assessment methods and criteria			
	Subject passing criteria	Passing threshold	Percentage of the final grade
	Laboratory exercises	0.0%	30.0%
	The presence on lectures	0.0%	10.0%
	The task of semester	0.0%	20.0%
	Written exam	20.0%	40.0%

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	Adresy na platformie eNauczanie: Techniki obliczeniowe w systemach geoprzestrzennych - Moodle ID: 38704 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=38704

Example issues/ example questions/ tasks being completed	

Work placement	Not applicable