



Subject card

Subject name and code	Computational Techniques in Geo-information systems, PG_00048290						
Field of study	Informatics						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2022/2023		
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_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		
	[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_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_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_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			

Subject contents	<p>1. Current trends in computer science.</p> <p>2. Review of popular geoinformatic tools.</p> <p>3. Working with Google SketchUp.</p> <p>4. Exporting and importing files.</p> <p>5. Making animations.</p>																	
Prerequisites and co-requisites	No requirements																	
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Written exam</td> <td>20.0%</td> <td>40.0%</td> </tr> <tr> <td>The task of semester</td> <td>0.0%</td> <td>20.0%</td> </tr> <tr> <td>The presence on lectures</td> <td>0.0%</td> <td>10.0%</td> </tr> <tr> <td>Laboratory exercises</td> <td>0.0%</td> <td>30.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Written exam	20.0%	40.0%	The task of semester	0.0%	20.0%	The presence on lectures	0.0%	10.0%	Laboratory exercises	0.0%	30.0%
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Recommended reading	Basic literature	<p>1. SketchUp manual (Online)</p> <p>2. Google, Geo Education and Geo Tools (Online)</p> <p>3. Haining R., Spatial Data Analysis: Theory and Practice, Cambridge University Press, 2003.</p>																
	Supplementary literature	<p>1. Fischer M. M., Wang J., Spatial Data Analysis: Models, Methods and Techniques, Springer, 2011.</p> <p>2. Sellers G., Wright R. S., Haemel N., OpenGL Superbible: Comprehensive Tutorial and Reference, Addison-Wesley Professional, 2015.</p> <p>3. Akenine-Moller T., Haines E., Hoffman N., Pesce A., Iwanicki M., Hillaire S., Real-Time Rendering, CRC Press, 2018.</p>																
	eResources addresses	<p>Adresy na platformie eNauczenie:</p> <p>Techniki obliczeniowe w systemach geoprzestrzennych - Moodle ID: 29468</p> <p>https://enauczenie.pg.edu.pl/moodle/course/view.php?id=29468</p>																
Example issues/ example questions/ tasks being completed																		
Work placement	Not applicable																	