GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Digital Maps Technologies, PG_00048289		
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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geoinformatics -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Andrzej Chybicki	
	Teachers	dr inż. Andrzej Chybicki mgr inż. Tomasz Bieliński	

Lesson types and methods of instruction	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	4.0	1.0	50

Subject objectives	The purpose of the course is to present basic knowledge in the area of digital charts development and applications.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W01] Knows and understands, to an increased extent, mathematics to the extent necessary to formulate and solve complex issues related to the field of study.	Student has a knowledge of basic mathematical information and concepts regarding selected cartographic transformations.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
	[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 knows and understands basics of EDC (Electronic Digital Chart) architecture and its internal dependencies	[SW1] Assessment of factual knowledge
	[K7_U01] can apply mathematical knowledge to formulate and solve complex and non-typical problems related to the field of study by:n- appropriate selection of source information and its critical analysis, synthesis, creative interpretation and presentation,n- application of appropriate methods and toolsn	Student is capable of using mathemtical models to solve untypical cases related to spatial data processing.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[K7_U03] can design, according to required specifications, and make a complex device, facility, system or carry out a process, specific to the field of study, using suitable methods, techniques, tools and materials, following engineering standards and norms, applying technologies specific to the field of study and experience gained in the professional engineering environment	Student is capable of designing EDC using appropriate methdis and technologies presetned in the course.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[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	Students is capable of using spatial data processing libraries to be used in geographic information systems applications	[SU5] Assessment of ability to present the results of task [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment

Subject contents	INSPIRE directive in the context of digital charts
	Spatial data exchange
	Digital maps systems - examples in polish industry

Prerequisites and co-requisites	Basics of Java, C++ and C# programming.
	Geographics projections knowledge (basics)

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	51.0%	30.0%
	Laboraory	51.0%	30.0%
	Lecture	51.0%	40.0%

Recommended reading	Basic literature	OGC -Standards avaialable at http://www.opengeospatial.org/
		GeoTools library - deteails available at://www.geotools.org/
		OpenStreetMap API available at http://www.openstreetmap.org/
	Supplementary literature	INSPIRE directive : http://inspire.ec.europa.eu/
		GDAL documentation available at http://www.gdal.org
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Basic digital chart Java application	
	Application of GIS Tatuk GIS Edtor	
	Open Street Map applications	
Work placement	Not applicable	