

## SDAŃSK UNIVERSITY 的 OF TECHNOLOGY

## Subject card

Subject name and code	Informatics, PG_00044579								
Field of study	Transport								
Date of commencement of studies	October 2020		Academic year of realisation of subject			2021/2022			
Education level	first-cycle studies		Subject group			Obligatory subject group in the field of study			
Mode of study	Full-time studies		Mode of delivery			at the university			
Year of study	2		Language of instruction			Polish			
Semester of study	3		ECTS credits			3.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Railway Engineering -> Faculty of Civil and Environmental Engineering								
Name and surname	Subject supervisor dr inż. Roksana Licow								
of lecturer (lecturers)	Teachers								
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory		Project Seminar		SUM	
of instruction	Number of study hours	15.0	0.0	30.0	0.0		0.0	45	
	E-learning hours inclu	uded: 0.0							
	Adresy na platformie eNauczanie: Informatyka sem. III Transport - Nowy - Moodle ID: 13098 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=13098								
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		2.0		25.0		72	
Subject objectives	The main aim of the course is to showing IT issues used in the transport. In the course, will be discuss issues : - SQL databases, - information technology, - artificial intelligence, - machine learning, - IoT (internet of things), - Big Data (big data sets), - Data Minning.								

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graphic techniques typically used for the design, construction, operation and diagnosis of means and systems of transport         fulliment         fulliment           Subject contents 1. Introduction to SQL databases. 2. Concepts: entity, attribute, record, primary key, foreign key, 2. C		informatics, electronics, telecommunications, automation and control, information technologies, computer graphics, geodesy and satellite navigation which is useful for understanding	has knowledge of information technologies supporting the following fields of transport: - transport infrastructure (line, point), - diagnostics, - traffic engineering, - transport security (cybersecurity), - capital and personnel	[SW3] Assessment of knowledge contained in written work and			
1       Introduction to SQL databases.         2       Concepts: entity, attribute, record µ formary key, foreign key.         2       Concepts: entity, attribute, record µ formatukuta rend rolling stock.         4       Examples of fatabases in the transport fields.         6       Traffic congineering using 11 technology.         6       The transport management.         7       Artificial intelligence, machine learning.         8       10 f (Internet of Things).         9. If In transport safety.       10. Operations on data sets, the use of the JOIN clause in joining tables.         11       Data analysis in a spreadsheet using Power Pvot.         14       Artificial intelligence, machine learning.         15       Test.         Prerequisites         The student has knowledge of working in a spreadsheet program, eg MS Excel.         Assessment methods         1       Test         1       Studject passing criteria       Passing threshold       Percentage of the final grade         Project 1       50.0%       25.0%       Project 1       50.0%       25.0%         Recommended reading       Basic literature       1. Garcla-Molina H., Ultran J., Widom J. Database systems. Complete manual, Helion 2011       Subjech mastawe Politechinki Waraszawskig 2014.       Subjech		graphic techniques typically used for the design, construction, operation and diagnosis of means	of transport database. Student can to transfer the designed concept to a database in SQL. Student can to use the data contained in the database and then it implement in a spreadsheet and conducted	[SU1] Assessment of task fulfilment			
2.       Concepts: entity, attribute, record, primary key, foreign key.         3.       Computer support in the design of infrastructure and rolling stock.         4.       Examples of databases in the transport fields.         5.       Traffic engineering using IT technology.         6.       IT in transport management.         7.       Artifical intelligence, machine learning.         8.       IoT (internet of Things).         10.       Operation between the use of the JOIN clause in joining tables.         11.       Data Mining is used to solve problems in big data analytics.         12.       Data analysis in a spreadsheet using Power Pivot.         13.       Architecture of database systems. Storage procedure. Transaction.         14.       Repetition to the test.         15.       Test.         Subject passing criteria         Project 2       50.0%         Recommended reading       Basic literature         Supplementary literature       1.         10.       Carcia-Molina H., Uliman J., Widom J. Database systems. Complete manual, Helion 2011         2.       Subject passing criteria       Power Pivot.         16.       Garcia-Molina H., Uliman J., Widom J. Database systems. Complete manual, Helion 2011         2.       Subditexit, Subme Pivot.       25.0% <th>Subject contents</th> <th></th> <th></th> <th></th>	Subject contents						
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Work placement Not applicable	Work placement	Not applicable					