GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00062072		
Field of study	Civil Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
Education level	first-cycle studies	Subject group	
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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Structural Mechanics Department -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Krzysztof Żerdzicki	
	Teachers	mgr inż. Łukasz Żmuda-Trzebiatowski mgr inż. Milena Drozdowska dr inż. Krzysztof Żerdzicki dr inż. Magdalena Oziębło dr inż. Mateusz Sondej dr inż. Katarzyna Szepietowska dr inż. Violetta Konopińska-Zmysłowska dr inż. Łukasz Smakosz	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	10.0	20.0	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	0.0	0.0	30

Subject objectives	Aim of the subject is to teach advanced programming skills and numerical methods realized with Matlab software and dedicated to solve engineering problems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W05] Demonstrate knowledge and understanding of research methods (obtaining information, simulations, experimental methods) in the field of civil engineering.	Students have an extended course of programming in the Matlab environment. Students can use MATLAB software to solve engineering problems using numerical methods.	[SW2] Assessment of knowledge contained in presentation
[K6_W01] Demonstrate knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering at a level necessary to achieve the other programme outcomes.	Students have an extended course of programming in the Matlab environment. Students can use MATLAB software to solve engineering problems using numerical methods.	[SW1] Assessment of factual knowledge

<table>
<tr><td>Subject contents</td><td>Constructing matrices, basic operations on vectors and matrices, loops, conditional instructions, functions, scripts, 2D graphics.

Numerical integration

Interpolation and approximation

Elements of statistics

Advanced graphics and reports</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Completed a course on the basics of programming in Matlab environment.</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Test</td><td>60.0%</td><td>100.0%</td></tr>
</table>
</td></tr>
<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Podstawy Programowania w języku MATLAB, R. Jankowski, I. Lubowiecka, W. Witkowski, Wyd. PG Gdańsk 2003,

MATLAB i jego środowisko, I. Lubowiecka, A. Ambroziak, Wyd. PG Gdańsk 2016

Metody numeryczne w mechanice konstrukcji z przykładami w programie MATLAB, P. Kłosowski, A. Ambroziak, Wyd. PG Gdańsk 2011</td></tr>
<tr><td>Supplementary literature</td><td>Społeczeństwo Informacyjne. Praca zbiorowa pod red. Joanny Papińskiej-Kacperek, PIW, Warszawa 2008

Podstawy technik informatycznych, W. Sikorski, Wydawnictwo Naukowe PWN, Warszawa 2007</td></tr>
<tr><td>eResources addresses</td><td>Podstawowe
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33471 - subject on the e-learning platform
Adresy na platformie eNauczanie:</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Calculating the area under the curve from the experiment

Interpolation and approximation of a data set

Generating reports with data and results in text and graphic form

Statistical analysis of selected data sets</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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