GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Programming in C++, PG_00066244		
Field of study	Mathematics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Applied Mathematics -> Faculty of Applied Physics and Mathematics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Jakub Maksymiuk	
	Teachers	dr inż. Jakub Maksymiuk	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	45.0	0.0	0.0	60

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	60	5.0	35.0	100

Subject objectives

The aim of the course is to expand skills in programming and implementing programs in C++ with an emphasis on the latest standard, using the standard library and object-oriented programming.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W03	The student is able to use mathematical formalism as a foundation for solving basic programming problems.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
K6_K02	The student is able to precisely formulate questions that allow searching for information in the C++ documentation and then apply them to solve the problem.	[SK2] Assessment of progress of work
K6_W08	The student knows the possibilities offered by the latest C++ language standard. Explains and is able to apply basic programming techniques	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects

Subject contents

Course content – lecture
Lecture: · a short description of the modern C++ language standard · selected modules from the C++ standard library · OOP in C++ · comments on good programming practices · As part of the laboratory, students perform exercises consisting of writing programs related to selected topics discussed during the lecture.

Prerequisites and co-requisites

· basics of C++ programming

· basic knowledge of algorithms and data structures

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
A test of practical programming skills in C++	50.0%	100.0%

Recommended reading	Basic literature	· I. Horton, P. van Veert, Beginning C++20, Apress 2020 · P. van Veert, M. Gregoire, C++17 Standard Library Quick Reference, Apress 2019
	Supplementary literature	· htttp://cppreference.com · https://isocpp.github.io/CppCoreGuidelines/ · D. Vandevoorde, N. M. Josuttis, D. Gregor, C++ Templates The Complete Guide, Addison-Wesley 2018
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Practical activites within the subject	Not applicable	

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