GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Modern Programming Languages, PG_00047847		
Field of study	Biomedical Engineering		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
Education level	first-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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Biomedical Engineering -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Magdalena Mazur-Milecka	
	Teachers	dr inż. Magdalena Mazur-Milecka	

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	3.0	27.0	75

Subject objectives	The aim of the course is to introduce students with selected modern high-level programming languages

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_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	Student skills gained: - Install and configure your development environment to the programming language (Java, C # JavaScript) - Write a program in Java - The creation and use of Java class libraries, - Write a program that runs in a Web browser environment, - Solving simple problems of computing and data processing using a set of software - Write a simple program in C # - Write a simple program in JavaScript, - The creation of graphical user interface program using dedicated tools, - Search and use of available programming libraries (APIs, class libraries).	[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task
[K6_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices	The student knows the rules about: - installing and configuring the programming environment for the programming language (Java, C #, PHP, JavaScript), - write a program in Java, - algorithm implementation, - performing calculations using programming languages - creation and use of Java class libraries, - write a program launched in the WWW browser environment, - solving simple computational problems and data processing using created software, - write a simple program in C # or another object language, - creating a graphical interface of the program using dedicated programming tools.	[SW1] Assessment of factual knowledge

Subject contents

1.Review and classification of high level programming languages. 2. Object-oriented programming (OOP): Java (Java platform, code composition, classes, objects, variables, data types, exceptions, errors) 3. OOP: Java (loops, flow control instructions). 4. OOP: Java (i/o operations, applications of communication interfaces). 5. OOP: Java (graphics). 6. OOL: Java (OOP features) 7. OOL: Java (OOP features) 8. OOL: Java (raster and vector graphics) 9. OOL: C# (language specification in reference to Java) 10. OOL: C# (program design and implementation), 11. Modern OOL languages, 12. Modern OOL languages, 13. Scripting languages (SL): JavaScript. 14. Scripting languages (SL): JavaScript., 15. 13. Scripting languages (SL): JavaScript.

Prerequisites and co-requisites

acquired knowledge and skills in programming in C and C + +

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Project	50.0%	30.0%
Practical exercise	50.0%	30.0%
Tests	0.0%	40.0%

Recommended reading

Basic literature	Sun:Language Specification, http://java.sun.com Perry S.C.: Core C# and .NET: The Complete and Comprehensive Developer"s Guide to C# 2.0 and .NET 2.0, Prentice Hall, 2005 Ballard P., Moncur M.: Sams Teach Yourself Ajax, JavaScript, and PHP All in One, Sams, 2008 Microsoft: .Net and C# specifications, http://www.microsoft.com Welling L., Thomson L.: PHP and MySQL Web Development, Addison-Wesley Professional, 2008 Eckel B.: Thinking In Java,Prentice Hall, 2006
Supplementary literature	No requirements
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Work placement

Not applicable