



Subject card

Subject name and code	.NET development platform, PG_00045767						
Field of study	Technical Physics						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
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	2	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Theoretical Physics and Quantum Information -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Bartosz Reichel				
	Teachers		dr inż. Bartosz Reichel				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	0.0	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		5.0		50.0	100
Subject objectives	Getting to know the architecture. NET (basic). Present possibilities associated with programming languages (languages supported by .NET platform). Becoming familiar with the components. NET language, based on C# language.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U02] Has enhanced knowledge of programming languages and can use software packages.		Creates a project based on .NET technology		[SU4] Assessment of ability to use methods and tools		
	[K7_W04] Has enhanced knowledge of mathematical, numerical and simulation methods applied in the description and modelling of physical phenomena.		Can use libraries from the .NET / Core platform to solve numerical problems.		[SW3] Assessment of knowledge contained in written work and projects		
Subject contents	1) Introduction to. NET. Discussion of the basic components and their functionality. 2) Types, structure, class. Conversion types. 3) generic types. 4) lists, queues - computational complexity 5) Control structures in the platform. NET 6) Class - creating generic classes. 7) Basic elements of WinForms/ASP. 8) Binding 9) Delegates. GUI thread synchronization. 10) Basic multithreading .NET. 11) The exchange of data between processes. 12) lambda syntax, LINQ. 13) Access to the database level. NET 14) Basics of GDI + 15) Platform. NET and cooperation with other languages 16) Preparing the release version of your application.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Exam		50.0%		50.0%		
	Laboratory		50.0%		50.0%		
Recommended reading	Basic literature		Andrew Troelsen (Pro C# 2010 and the .NET 4 Apress 2010)				

	Supplementary literature	Judith Bishop, C# 3.0 Design Patterns, O'REILLY 2007
	eResources addresses	Adresy na platformie eNauczanie: Platforma Programistyczna .NET - Moodle ID: 33986 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33986
Example issues/ example questions/ tasks being completed	Design and create a basic word processing application Introduce components of .NET platform	
Work placement	Not applicable	