GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Programming of Internet Applications, PG_00069141		
Field of study	Electrical Engineering, Automation, Robotics and Control Systems		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2026/2027
Education level	second-cycle studies	Subject group	
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	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Electrified Transportation -> Faculty of Electrical and Control Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Andrzej Wilk	
	Teachers		

Lesson types

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	25.0	75

Subject objectives

The main objective of the course is to teach students the basics of developing web applications working in the operating system environment: Linux, macOS, Windows. The partial objectives included in the course are: learning the basics of object-oriented programming in C#, especially encapsulation and inheritance; learning about interfaces, delegates, events and structures; learning about HTML elements and cascading style sheets (CSS); understanding the ASP.NET Core MVC architecture; developing model and view controllers; learning about the principles of routing, model binding, and verification.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U02] is able to prepare and deliver a short oral presentation on a selected technical topic	Prepares a presentation on a selected topic	[SU2] Assessment of ability to analyse information
[K7_U03] is able to obtain information from literature, databases and other sources, also in English, draw conclusions, formulate and fully justify opinions. substantiate opinions; is able to identify directions for further learning and implement the process of self-education	Uses information from literature, databases and other sources. Implements a self-education process	[SU4] Assessment of ability to use methods and tools

Subject contents

Course content – lecture
1. Object-oriented programming using the managed language C#: classes and their resources (fields, properties, constructors and methods).
2. Encapsulation and inheritance.
3. Interfaces, delegates, events, structures.
4. HTML markup language
5. Cascading style sheet (CSS).
6. ASP.NET Core Model-View-Controller (MVC) architectural pattern.
7. Developing controllers, models and views.
8. Routing in an ASP.NET Core MVC application.
9. Model binding and verification.

Course content – laboratory
Developing an ASP.NET Core MVC web application as abstraction of RLC Passive Filter

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Lecture</td><td>60.0%</td><td>40.0%</td></tr>
<tr><td>Laboratory</td><td>60.0%</td><td>60.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Pieter van der Westhuizen: Bootstrap for ASP.NET MVC. Click here to enter text. - Second Edition, Wydawnictwo: Packt Publishing</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Łukasz Sosna: Visual Studio 2022, C# i .NET. Programowanie kontrolek, Wydawnictwo Helion</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">1. What is the inheritance in object oriented programming?

2. Discuss the architecture of an ASP.NET Core MVC web application.</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="3">Not applicable</td></tr>
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