MEĐIMURSKO VELEUČILIŠTE U ČAKOVCU
MEĐIMURJE UNIVERSITY OF APPLIED SCIENCES IN ČAKOVEC

COURSE SYLLABUS

ACADEMIC YEAR:	2025/2026

1. GENERAL COURSE INFORMATION

1.1 Course name	**Programming tools in programming**			
1.2 Study program/s	Undergraduate professional study in Computer Science			
1.3 Course status (O,E)	O	**1.6 Mode of instruction (number of hours)**	**Lectures**	30
1.4 Course code			**Exercises**	30
1.5 Course abbreviation			**Seminars**	
1.6 Semester	IV		**E-learning**	Merlin
1.7 ECTS	5	**1.7 Place and time of instruction**	The premises of the Međimurje University of Applied Sciences in Čakovec, according to the schedule published on the website	

2. TEACHING STAF.F

2.1 Course leader/s-title	PhD, Bruno Trstenjak, prof.	**contact**	btrstenjak@mev.hr
		contact	
2.2 Assistant/s- title		**contact**	
		contact	
2.3 Instruction held by-title	PhD, Bruno Trstenjak, prof.	**contact**	btrstenjak@mev.hr
2.4 Course leader/s-title		**contact**	

3. COURSE DESCRIPTION

3.1. Course goals	After completing the course, the student will gain an overview of modern software tools for the development of complex programs. Knowledge is acquired in the field of web application development and the student is trained to independently perform problem tasks in the application of software tools.
3.2 Prerequisites	Passed course: Programming
3.3 Course outcomes	After successfully completing the course, students will be able to: O1 – Explain the properties and how to use the various software tools O2 – Design web applications using basic elements O3 – Properly use tools in the process of validation, responsive design, generating different file types O4 – Independently create a web application according to a given problem task with the use of various software tools
3.4 Contribution of the course to the study program	IS6 Analyze user needs (research and detect data sources, currently present business systems, technological limitations, specifics of the business environment) IS19 Use tools and methods for planning, building and maintaining computer networks based on wired or wireless communication media
3.5 Course content	The course will contain contents that will give students knowledge about modern software tools and how to use them in order to develop modern applications. Content is processed from the aspect of programming and use of C# programming language.

3.6 Types of coursework	x	Lectures	x	Exercises		Blended e-learning	x	Individual activities		Laboratory

	Seminars and workshops	x	Distant learning		Field classes		Multimedia and network		Mentorship
	Other								

3.7 Language of instruction	Croatian				

3.8 Monitoring students' work (enter the number of ECTS credits for each activity so that the total number of ECTS credits is equal to the total ECTS value of the course, 1 ECTS = 30 hours)	2,0	Class attendance			Seminars		Research
		Midterm exams/written exam	3,0		Project		Essay
		Oral exam			Practical task		

Activity specification	Percent %	Points
Assessment during instruction		
Attendance	5%	5
Project	75%	75
Continuous assessment	20%	20
Exam assessment for the students who failed to fullfil all the obligatory requirements during the semester		
Project	*75%*	*75*
Total:	**100%**	**100**

Ways of evaluating learning outcomes				
	Attendance	Continuous assessment	Project	Total
Outcome 1		5	10	15
Outcome 2		5	10	15
Outcome 3		5	10	15
Outcome 4		5	45	50
Outcome not-related	5			5
Total	**5**	**20**	**75**	**100**

Points   Grade
89 – 100 excellent (5)
76 – 88   very good (4)
63 – 75   good (3)
50 – 62   pass (2)
0 – 49   fail (1)

3.9 Specific features related to taking the course	*If a student collects 50% of the points of each outcome he/she directly accesses the oral exam. If a student does not achieve a sufficient number of points on the midterm exam, he/she cannot take the next midterm exam, and has to take the written exam.* *If he/she passes the written exam, he/she will proceed to the oral part of the exam.* *The seminar paper is submitted within the agreed deadline, and certainly before the exam term.* *The final grade is given on the oral part of the exam.*
3.10 Students obligations	• a full-time student has the right to sit for the exam if he attends classes for a minimum of 70% of the total prescribed number of hours • a full-time student who attends classes from 50 to 70% of the total prescribed number of hours can exercise the right to take the exam by completing additional teaching activities in agreement with the course teacher

3.		• a full-time student who attends a certain course for less than 50% of the prescribed number of hours enrolls in the course the following academic year • a part-time student has the right to sit for the exam if he/she attends classes for a minimum of 30% of the total prescribed number of hours • a part-time student who attends classes for 20 to 30% of the total prescribed number of hours can exercise the right to sit for the exam by completing additional teaching activities in agreement with the course teacher • a part-time student who attends the classes of a certain course for less than 20% of the prescribed number of hours re-enrolls in the course the following academic year
3.11 Written assignments		
3.12 Required reading	1	Razvoj web aplikacija u ASP.NET programskom okviru, K. Resinec, 2024
3.13 Additional reading	1	Essential ASP.NET Web Forms Development: Full Stack Programming with C#, SQL, Ajax, and JavaScript 1st ed. Edition (2021)

4. ADDITIONAL INFORMATION ABOUT THE COURSE

4.1 Quality control	The quality of the program, teaching process, teaching skills and level of mastery of the material will be established by conducting a written evaluation based on questionnaires, and in other standardised ways and in accordance with the by-laws of the Međimurje University of Applied Sciences in Čakovec.
4.2 Contact the teacher	Students can contact the teacher during the office hours and during classes. All other methods of communication are arranged with the teacher. It is also possible to ask questions by e-mail, which will be answered in 48 hours at the latest. It is desirable for students to come as often as possible for any possible questions during the teacher's office hours.
4.3 Information about the course	It is the obligation of each student to be regularly informed about the course. All notifications about the classes or possible postponement of classes will be posted on the bulletin board and on the website of the University at least 24 hours in advance.

5. ELABORATION OF THEMATIC UNITS

Week	Topic	Course outcome
1.	Introductory lecture, method of teaching, evaluation of students' work during the semester, criteria, scoring, expected learning outcomes. Concept of the project and method of implementation.	O1
2.	The GitHub platform	O1
3.	MVC (Model-View-Controller)	O2
4.	Layout in Routing	O2
5.	Data validation	O3
6.	HTML Helper and forms	O3
7.	Navigation	O2, O3
8.	JSON standard	O3
9.	AJAX	O2, O3
10.	Tools for working with the database	O4
11.	Generating PDF documents	O3, O4
12.	Bootstrap	O3
13.	Application testing	O4
14.	Project management tools	O1,O4

| 15. | Project documentation | O1 |