



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	Object oriented programming II			
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	V		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 STAFF

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 be able to apply the knowledge to create a simple Java application (desktop and web). Knowledge is acquired in the field of application of the object paradigm and the student is trained to independently perform problem tasks in the field of application of object-oriented programming languages.
3.2 Prerequisites	Passed courses: Object oriented programming 1
3.3 Course outcomes	After successfully completing the course, students will be able to: O1 - Explain the basic methods of creating data structures O2 - Design desktop applications using basic UI elements O3 - Explain the class to work with 2D graphics O4 - Design web services and CRUD methods O5 - Design a REST service in a Cloud environment O6 - Independently create a web application according to the given problem task
3.4 Contribution of the course to the study program	IS7 Develop programming code in multiple programming languages using modern methods and tools IS16 Develop web and mobile projects, applying advanced technologies and connecting to databases using modern methods and tools
3.5 Course content	The course will contain content related to the creation of desktop and web applications based on the Java programming language. The contents are processed from the aspect of programming and application of the Java programming language. The teaching units present contents related to project creation, defining classes, creating UI interfaces, creating services and

	repositories for database access, development of CRUD methods and REST services in the Cloud environment.																																																																																																													
3.6 Types of coursework	x	Lectures	x	Exercises	x	Blended e-learning	x	Individual activities		Laboratory																																																																																																				
		Seminars and workshops	x	Distant learning	X	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)	1,0	Class attendance				Seminars			Research																																																																																																					
	1,0	Midterm exams/written exam		2,0	Project				Essay																																																																																																					
	1,0	Oral exam				Practical task																																																																																																								
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3.9 Specific features related to taking the course	<p><i>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.</i></p> <p><i>If he/she passes the written exam, he/she will proceed to the oral part of the exam.</i></p> <p><i>The seminar paper is submitted within the agreed deadline, and certainly before the exam term.</i></p> <p><i>The final grade is given on the oral part of the exam.</i></p>																																																																																																													

3.10 Students obligations	<ul style="list-style-type: none"> • 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 • 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	Programiranje u Javi, Marko Čupić, 2015
3.13 Additional reading	1	Nick Samoylov: Learn Java 12 Programming: A step-by-step guide to learning essential concepts in Java SE 10, 11, and 12 ,Packt Publishing, 2019.

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. Basic terms for the Java language	O1
2.	Data collections	O1
3.	Threads, process synchronization	O2
4.	Basic elements of a desktop application	O2
5.	UI elements, methods	O2
6.	Application testing	O1, O2
7.	2D graphics	O3

8.	Classes for working with files	O4
9.	Web application, basic features and structure	O4
10.	Web controller: concept, properties, view elements	O4
11.	Concept of repository, service and object interface	O4, O5
12.	REST controller and CRUD operations	O5
13.	Asynchronous communication	O5
14.	Application security	O6
15.	Project analysis	O6