POLYTECHNIC OF MEĐIMURJE IN ČAKOVEC

COURSE SYLLABUS

ACADEMIC YEAR: 2022/2023

1. GENERAL COURSE INFORMATION				
1.1 Course name	Object Oriented Programming 1			
1.2 Study program/s	Undergraduate professional study of *Computer Science*			
1.3 Course status (O,E)	Mandatory	**1.6 Mode of instruction (number of hours)**	**Lectures**	30
1.4 Course code	5124		**Exercises**	30
1.5 Course abbreviation	OOP1		**Seminars**	
1.6 Semester	III		**E-learning**	
1.7 ECTS	6	**1.7 Place and time of instruction**	The premises of the Polytechnic of Međimurje in Čakovec, according to the schedule published on the website	

2. TEACHING STAFF			
2.1 Course leader/s-title	PhD. Bruno Trstenjak, senior lecturer Dino Kalamari, lecturer	**contact**	btrstenjak@mev.hr dkalamari@mev.hr
		contact	
2.2 Assistant/s- title		**contact**	
		contact	
2.3 Instruction held by-title	Dino Kalamari, lecturer	**contact**	

3. COURSE DESCRIPTION	
3.1 Course goals	Creating the skills and knowledge needed to effectively use modern object-oriented programming languages.
3.2 Prerequisites	Required input competencies are the use of the procedural programming paradigm, knowledge and use of data types and control structures, knowledge and use of one-dimensional and multidimensional data fields as defined by the learning outcomes of the course Programming. The condition for taking the course is the passed subject Programming.
3.3 Course outcomes	After successfully completing the course, students will be able to: I1 - Use simple (primitive, value) and complex (class-based) data types. I2 - Apply control structures of programming language. I3 - Apply classes and their components available in program libraries. I4 - Apply closure, inheritance and multiplicity. I5 - Use data storage structures. I6 - Use exception handling in program code. I7 - Use graphical user interface elements.
3.4 Course content	In the course, students learn the basic concepts of object-oriented programming: classroom closure, outward interface, inheritance, and multifacetedness. The difference between procedural and object-oriented programming paradigms. Development of console and GUI desktop applications. Exception processing, control structures, data storage collections.

<table>
<tr><td>3.5 Types of coursework</td><td>x</td><td>Lectures</td><td>x</td><td>Exercises</td><td></td><td>Blended e-learning</td><td>x</td><td>Individual activities</td><td></td><td>Laboratory</td></tr>
<tr><td></td><td></td><td>Seminars and workshops</td><td>x</td><td>Distant learning</td><td></td><td>Field classes</td><td></td><td>Multimedia and network</td><td></td><td>Mentorship</td></tr>
<tr><td></td><td></td><td>Other</td><td colspan="8"></td></tr>
<tr><td>3.6 Language of instruction</td><td colspan="10">Croatian</td></tr>
<tr><td>3.7 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)</td><td>2</td><td>Class attendance</td><td></td><td>Seminars</td><td></td><td>Essay</td><td colspan="4"></td></tr>
<tr><td></td><td></td><td>Class activity</td><td></td><td>Project</td><td></td><td>Report/paper</td><td colspan="4"></td></tr>
<tr><td></td><td>2</td><td>Midterm exams</td><td>2</td><td>Practical task</td><td></td><td>Continuous knowledge check</td><td colspan="4"></td></tr>
<tr><td></td><td></td><td>Written exam</td><td></td><td>Experimental work</td><td></td><td></td><td colspan="4"></td></tr>
<tr><td></td><td></td><td>Oral exam</td><td></td><td>Research</td><td></td><td></td><td colspan="4"></td></tr>
<tr><td></td><td colspan="10"></td></tr>
<tr><td>3.8 Assessment and evaluation of students' work during classes and at the final exam</td><td colspan="10">The course has 7 defined learning outcomes.
A maximum of 200 points can be earned per course.
Learning outcomes are scored and checked through the following methods

First intermediate exam (M1): up to 40 points, of which 20 are achieved by a theoretical test and 20 by practical work.
Second intermediate exam (M2): up to 60 points, of which 30 are achieved by a theoretical test and 30 by practical work.
Third intermediate exam (M3): up to 100 points, of which 50 are achieved by a theoretical test and 50 by practical work.

The initial criterion for calculating the grade is expressed in the following list:
● 100-125 Sufficient (2)
● 126-150 Good (3)
● 151-175 Very good (4)
● 176-200 Excellent (5)

The final criterion for calculating the grade will be created based on the Normal distribution of the total points achieved by all students in the intermediate exams M1, M2 and M3. If the newly created criterion based on the Normal distribution is less favorable for students, they will apply the Initial criterion.</td></tr>
<tr><td>3.9 Assessment criteria – analysis per learning outcomes</td><td colspan="10"><table>
<tr><th></th><th>M1</th><th>M2</th><th>M3</th><th>IN TOTAL</th></tr>
<tr><td>Outcome 1</td><td>10</td><td>10</td><td>10</td><td>30</td></tr>
<tr><td>Outcome 2</td><td>10</td><td>10</td><td>10</td><td>30</td></tr>
<tr><td>Outcome 3</td><td>10</td><td>10</td><td>20</td><td>40</td></tr>
<tr><td>Outcome 4</td><td></td><td>20</td><td>20</td><td>40</td></tr>
<tr><td>Outcome 5</td><td>10</td><td>10</td><td>10</td><td>30</td></tr>
<tr><td>Outcome 6</td><td></td><td></td><td>20</td><td>20</td></tr>
<tr><td>Outcome 7</td><td></td><td></td><td>10</td><td>10</td></tr>
<tr><td>In total</td><td>40</td><td>60</td><td>100</td><td>200</td></tr>
</table></td></tr>
<tr><td>3.10 Specific features related with taking the course</td><td colspan="10">As a rule, the first midterm exam is written after the first 4 weeks of classes and covers the learning outcomes covered in the first 4 weeks. The second midterm exam is written after the other 9 weeks of classes and covers the</td></tr>
</table>

	learning outcomes covered by the ninth week of classes. The third midterm exam is written after the second 14 weeks of teaching and covers the learning outcomes processed up to the 14th week of teaching. The type of questions is defined by the teacher, but all questions and tasks cover the course material or learning outcomes. By additional work and commitment through the preparation of homework, the student can achieve an additional amount of points by which his total amount of points does not exceed 200. Students who do not pass the colloquia are required to take the written and oral part of the exam. The condition for taking the oral part of the exam is passing the written part of the exam.	
3.11 Students obligations	Full-time students are required to attend at least 70% of the total number of hours of lectures and exercises in order to exercise the right to take the exam. Part-time students are required to attend at least 30% of the total number of hours of lectures and exercises in order to exercise the right to take the exam. If the student has not fulfilled all the obligations set by the course, he is obliged to attend the lectures again and meet the conditions for taking the exam. Attendance can be offset by online tuition, organised webinars and added assignments given by teachers. One lesson lasts 45 minutes, and several hours form a teaching unit. Absence from one teaching unit is counted as one absence. Delays and apologies are recorded separately. In that case, if the student missed more than 50% of classes, and has a justifiable reason/apology, the request should be submitted to the Department Council, which then decides on the justification of student absences with the obligatory opinion of the course leader.	
3.12 Written assignments		
3.13 Required reading	1.	
	2.	
3.14 Additional reading	1.	
	2.	
4 ADDITIONAL COURSE INFORMATION		
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 Polytechnic of Međimurje in Čakovec.	
4.2 Contact the teacher	Students can contact the teacher during the office hours and during classes, while for short questions and explanations they can contact him/her any day during working hours by coming in person or by landline. 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 Polytechnic at least 24 hours in advance.
4.4 Course contribution to the study program	Apply the acquired learning skills, basic knowledge of the profession and problem solving necessary for continuing studies at a higher level. Apply communication and professional ethics. Develop programming code in multiple programming languages using modern methods and tools. Choose ways of structuring data in program code, as well as techniques for writing complex program forms and use standard algorithms. Develop applications using an object-oriented paradigm in solving program tasks.