

NAME OF THE COURSE		INTORDUCTION TO PROGRAMMING				
Code	EUBB10	Year of study	3.			
Course teachers	Full professor Maja Čukušić; Assistant professor Tea Mijač,	Credits (ECTS)	5			
Associate teachers	Assistant professor Tea Mijač,	Type of instructions (number of hours)	L	S	E	F
			26		26	
Status of the course	Elective	Percentage of application of e-learning	30%			
COURSE DESCRIPTION						
Course objectives	Acquisition of fundamental knowledge on programming and the importance of making the correct algorithmic solutions to the given problem. Adoption of theoretical knowledge and practical experience from fundamental aspects related to the development and both approaches and methods of solving various problems.					
Course enrolment requirements and entry competences required for the course	There are no prerequisites for enrollment.					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>Learning outcome of the course: To analyze and apply the basic concepts of software design.</p> <p>Individual learning outcomes:</p> <ul style="list-style-type: none">Identify, name and explain basic concepts related to historical development, role and principles of software programming.Identify the different steps / phases of programming and understand the importance of going through each phase without neglecting any phase.Apply knowledge and skills related to key aspects of programming in order to understand the algorithmic and software solutions.Link the input process with the appropriate algorithm and evaluate its relevance, accuracy, and speed with regard to specific data input.Formulate and apply the basic principles of object programming on simple tasks with the possible use of the help system.					
Course content broken down in detail by weekly class schedule (syllabus)	Lectures		Exercises			
	Topic	Hours	Topic	Hours		
	Introduction lecture.	2	Assignment 1. Getting to know the interface of the software tool.	2		
	Basic concepts related to programming and program support.	2	Assignment 2. Work in software tool. Writing the first program..	2		
	Algorithm development: flowchart, pseudocode, coding.	2	Assignment 3. Indirect and explicit declaration of variables. Loss of precision. Operators	2		
	Algorithm structures: linear, branched, cyclic; examples.	2	Assignment 4. Checking the password entry. The even and odd numbers.	2		

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	Field work – (virtual) visit to IT company.	2	Assignment 5. Switching the digits of the number. Disassembling the number on the digits. The sum of the digits of the number.		2	
	Field work – (virtual) visit to IT company.	2	Assignment 6. Arrays. Summing the array. Determination of minimum and maximum. Array sort.		2	
			Test I			
	Programming languages. Object oriented programming.	2	Assignment 7. Displaying the matrix.		2	
	Development of software support: problem specification, algorithm development, instructional entry.	4	Assignment 8. Adding and subtracting the matrix. Multiplication of the matrix.		2	
	Testing, debugging, documentation.	2	Assignment 9. Working with string variables. Counting the number of vowels in a sentence.		2	
	Structured programming: input-output instructions.	2	Assignment 10. Create and use a class.		2	
	Decision-making instructions, program loops, functions.	4	Assignment 11. GUI elements. Forms. Crating events. Use of forms.		2	
	Structured programming: files and file types.	2	Assignment 12. Event cancelation. Closing the form..		2	
	Presentations of seminar essays.	2	Assignment 13. Solving complex programming problems.		2	
			Test II			
Format of instruction	<input checked="" type="checkbox"/> lecturers <input checked="" type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> entirely <input type="checkbox"/> partial e-learning <input checked="" type="checkbox"/> filed work		<input checked="" type="checkbox"/> individual/independent assignments <input type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> work with the mentor <input type="checkbox"/>(other)			
Student responsibilities	The student is obliged to attend and to follow the classes regularly, to perform given assignments, and to actively participate in all forms of teaching. Students who successfully preform 70% of assignments from exercises can take the first test, and analogously, the second test. To attain a signature, a regular student must successfully preform 70% of assignments, as well as participating in at least 50% of all class meetings (25% for the part-time students). In addition, students need to present and submit the seminar in the given deadline. The condition for accessing the exam is the signature.					
Screening student work (<i>name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course</i>)	Class attendance	1,7 ECTS	Research		Practical training	
	Experimental work		Report		Individual assignments	0,3 ECTS
	Essay	1 ECTS	Seminar essay		(Other)	
	Tests	2 ECTS	Oral exam		(Other)	
	Written exam		Project		(Other)	

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Grading and evaluating student work in class and at the final exam	<p>During the semester two tests are conducted (80% of total grade). Students who successfully passed two tests are exempted from the exam in the regular exam period. Tests are deemed to be passed if the average rating is 60% or more. A weaker percentage in one test can be offset on the other.</p> <p>If a student does not have enough points from tests during the semester, he or she is required to take the final exam. Final exam consists of written exam (60% of total grade) and oral exam (20% of total grade). Students can access the oral exam if the average rating is at least 60% of written exam. Seminar essay takes 20% of total grade.</p> <p>The grade will be determined as follows:</p> <p>0-59 insufficient (1) 60-69 sufficient (2) 70-79 good (3) 80-89 very good (4) 90-100 excellent (5)</p>		
Required literature (available in the library and via other media)	Title	Number of copies in the library	Availability via other media
	Teaching material (2023)		Moodle
Optional literature	<ul style="list-style-type: none"> Chemuturi, Murali (2019). Computer Programming for Beginners. Chapman and Hall. Bell, Aleksander (2019). Computer Programming: Fundamentals for absolute beginners. Mijač, T., Jadrić, M. & Ćukušić, M. (2019) In Search of a Framework for User-Oriented Data- Driven Development of Information Systems. Economic and business review : for Central and South-Eastern Europe, 21 (3), 439-465 doi:10.15458/ebr.89. Harvey M. Deitel, Paul J. Deitel, Tem R. Nieto: "Visual Basic.NET How to Program", Fifth Edition, Prentice Hall, 2010. Granić, Andrina; Glavinić, Vlado.: Human Computer Interfaces: Teaching Students to Design for Real-Life Environments // Proc. of the First Edition of Information and Communication Technologies International Symposium ICTIS'05 / Essaidi, Mohamed ; Raissouni, Naoufal (ur.). Tetuan, Maroko: IEEE/Abdelmalek Essaadi University, 2005. 180-183 Granić, Andrina; Glavinić, Vlado.: Visual Programming Languages as User Interface Performers // Proceedings of 22nd International Convention MIPRO'99, Volume 2 / Biljanović, Petar ; Skala, Karolj ; Ribarić, Slobodan ; Budin, Leo ; (ur.). Rijeka: MIPRO, 1999. 68-71 		
Quality assurance methods that ensure the acquisition of exit competences	<ul style="list-style-type: none"> Monitoring attendance and performance of other student obligations (teacher) Teaching Supervision (Vice dean for Teaching) Analysis of the success of studies in all subject studies (Vice dean for Teaching) Student Survey on the Quality of Teachers and Teaching for Each Subject Study (UNIST, Center for Quality Improvement) The exam conducted by the subject teacher examines all learning outcomes of the subject. Periodic examination of the content of the exam is conducted on the basis of which the appropriateness of the method of checking the learning outcomes (Vice dean for Teaching) 		
Other (as the proposer wishes to add)	-		

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