NAME OF THE COURSE	Solving problems by programming					
Code	PMID25	Year of study	UGU-2			
Course teacher	doc.dr. sc. Branko Žitko	Credits (ECTS)	4,0			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
				45		
Status of the course	obliogatory	Percentage of application of e-learning				
COURSE DESCRIPTION						

Course objectives	Solve the problem with algorithmic approach. Understand and formalize a problem. Develop and implement algorithmic solution. Test and measure algorithmic solution.
Course enrolment requirements and entry competences required for the course	Requrements: Programming 1 Competences: programming in Python
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	analyze the problem formulate algorithmic solution of the problem evaluate algorithmic solution implement algorithm in Python
Course content broken down in detail by weekly class schedule (syllabus)	Week 1: Seminar: Introduction lecture: teachers, student obligations, elements of monitoring, examination, evaluation, presentation of the course objectives, literature The variable, numeric type and operators, logical type and operators, branching, conditional loop, function Week2: Seminar: String and methods of string, unconditional loop, operator of containment, Week3: Seminar: A list and methods of the list, list operators, generators, list slicing, list comprehension, sorting, customized sorting, tuples Week4: Seminar: matrix as a list, initialization of the matrix, the matrix changes, print matrix, dictionary, dictionary methods, deletion of variables Week5: Seminar: Recursion, factorial, Fibonacci, recursive permutations, search by depth using recursion Week6: Seminar: Colloquium Week7: Seminar: Solving easier problems from competition Week8: Seminar: Solving easier problems from competition Week9: Seminar: Solving easier problems from competition Week10: Seminar: Colloquium Week11: Seminar: Team solving harder problems from competition Week12:

	Seminar: Team solving harder problems from competition Week13: Seminar: Team solving harder problems from competition Week14: Seminar: Team solving harder problems from competition Week15: Seminar: Colloquium	
Format of instruction	☐ lectures ☒ seminars and workshops ☐ exercises ☐ on line in entirety ☐ partial e-learning ☐ field work	☒ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☐ homework assignments
Student responsibilities	class attendance active participation in the learning process colloquiums written exam	

Screening student work *(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)*	Name	Ects	Name	Ects	Name	Ects
	Class attendance	1.5	Research		Experimental work	
	Oral exam		Report		Homework assignments	
	Seminar essay		Essay			
	Tests	1	Practical training	1		
	Written exam	0.5	Project			

Grading and evaluating student work in class and at the final exam	Activity of students in lectures and exercises (attendance, problem solving, general activity in the classroom) (25%). If student has more than 50% in each colloquium than frees the written exam. Colloquium (50%) Written exam (25%) The final grade is derived on the basis of all the above ratings.

Required literature (available in the library and via other media)	Title	Number of copies in the library	Availability via other media
	Budin, L., Brođanac, P., Markučić, Z., Perić, S. (2013) Napredno rješavanje problema programiranjem u Pythonu, Element, Zagreb, ISBN: 9789531973977	16	

Optional literature (at the time of submission of study programme proposal)	Budin, L., Brođanac, P., Markučić, Z., Perić, S. (2013) Napredno rješavanje problema programiranjem u Pythonu, Element, Zagreb, ISBN: 9789531973977

Quality assurance methods that ensure the acquisition of exit competences	talk with students student evaluation using the anonymous survey the success of students in the exam self-assessment.
Other (as the proposer wishes to add)	