MANNIN MA

POLYTECHNIC OF MEÐIMURJE IN ČAKOVEC

COURSE SYLLABUS													
ACADEMIC YEAR: 2022/2023													
1. GENERAL COURSE INFORMATION													
1.1 Course name	Complex application programs												
1.2 Study program/s	Undergraduate professional study in Computer Science												
1.3 Course status (O,E)	Obligatory			1.6 Mode of			Lectures 30						
1.4 Course code				instruction			Exercises 30						
1.5 Course abbreviation					(number of			Seminars					
1.6 Semester	6					hours)			E-learning				
1.7 ECTS	4			1.7	-	ce and	The premises of Polytech						
				time of			Medjimurje in Cakovec,						
					instruction			according to schedule					
								published on web pages					
2. TEACHING STAFF					<u> </u>								
2.1 Course leader/s-title		D. Bruno Trs		jak,	contact			btrstenjak@mev.hr					
	sei	nior lecturer											
						itac							
2.2 Assistant/s- title					con	itac	t						
					con	itac	t						
2.3 Instruction held by-		D. Bruno Trs		jak,	con	itac	t						
title	sei	nior lecturer	·										
3. COURSE DESCRIPTION				. 1						_			
3.1 Course goals		ter completi	_					_					
	software technologies for the development of complex programs for running in									_			
	a cloud environment. Knowledge is acquired for the development of scalable RESTfull services in the cloud and the application of JavaScript technologies for												
									•			_	
	the development of single applications. In the implementation of the project,												
	the acquired prior knowledge in the field of Database and Object Oriented Programming will be used.												
3.2 Prerequisites	Attended courses: Object Oriented Programming 2 and Databases 2.												
3.3 Course outcomes	After successfully completing the course, students will be able to:												
3.3 Course outcomes	O1 - Apply server concepts to implement CRUD and RESTful Cloud API services												
	O2 - Implement a web application on the client side (SPA) using a modern												
	JavaScript framework												
	O3 - Improve your knowledge related to the use of various development												
	software tools and planning tools												
	O4 - Improve IT project management and system development skills												
	o i improve ii project management ana system development skins												
3.4 Course content	Pro	oject plannir	ng a	nd mana	gem	ent,	Developm	ent o	of SPA ap	olica	atio	n concept,	
		/aScript fran	_		_		•					• •	
					•				•				
	Boot web application, creating a RESTful service, connecting RESTful services, databases and CRUD methods, Authentication and security, Setting up a project								· ·				
	in a production environment. Overall project development.												
3.5 Types of coursework	х	Lectures	Х	Exercises			Blended e-	Х	Individual			Laboratory	
							learning	<u> </u>	activities			,	

		Seminars		Distant			Field	Mult	imed	lia	
		and workshops	Х	learning	3		classes	and	and network		Mentorship
		Other						netv	VOIK		
3.6 Language of instruction		T Conten									
3.7 Monitoring students'	1,5	Class atte	endar	ice		Sem	ninars			Essay	
work (enter the		Class act	Class activity			Project			Report/paper		
number of ECTS		Class act	ivity			FIU	ject				
credits for each activity so that the	1,0) Midterm	Midterm exams			Practical task			Continuous knowledge check		
total number of ECTS		Written	exam			Ехр	erimental work	<			
credits is equal to	0,5	Oral exa	Oral evam			Resi	earch				
the total ECTS value		oral exam									
of the course, 1 ECTS											
= 30 hours)											
3.8 Assessment and		Δ.	y specifica	ation		Percent %		Point	+ <i>c</i>	1	
evaluation of		A	CLIVIL			nt du	uring instructio	n	PUIII	ıs	
students' work during classes and at		Attend					10%		10		
the final exam				assessmei	nt		20%		20		
the illiai exam		Project Midter		ams			40% 30%		40 30		
			Midterm exams 3 Exam assessment for the students who fail					ı			
				req	uiremen	its du	ıring the semes	ter			
	Project Written & oral exam				40% 30%			40			
		Total:	11 & 01	ui exuiii			100%		30 100		
			Total.					I .			I
	1										
2 0 Assessment criteria											
3.9 Assessment criteria –				Attendan	Mid-	term	Mid-term	Droine		Oral	Total
3.9 Assessment criteria – analysis per learning outcomes			-	Attendan ce	exa	m 1	Mid-term exam 2	Projec	t	exam	Total
analysis per learning		Outcome 1			exa	m 1		10	t	exam 5	20
analysis per learning		Outcome 1 Outcome 2 Outcome 3	,		exa	m 1			t	exam	1000
analysis per learning		Outcome 2 Outcome 3 Outcome 4			exa	m 1	exam 2	10 10	t	exam 5	20 25
analysis per learning		Outcome 2 Outcome 3 Outcome 4 Outcome	-		exa	m 1	exam 2	10 10 10	t	exam 5 5 5	20 25 25
analysis per learning		Outcome 2 Outcome 3 Outcome 4		се	exa 5	m 1	exam 2	10 10 10	t	exam 5 5 5	20 25 25 25 25
analysis per learning		Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total	tcon	5 5	exa 5 1 1 rder to	m 1 5 .0	10 5 15 ss the mid-te	10 10 10 10 10 40	m/e>	exam 5 5 5 5 10 25 cam th	20 25 25 25 25 5
analysis per learning	mı	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outst achieve	tcon at le	5 5	exa 5 1 1 rder to	m 1 5 .0	10 5 15	10 10 10 10 10 40	m/e>	exam 5 5 5 5 10 25 cam th	20 25 25 25 25 5
analysis per learning	mı Po	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outust achieve pints Gr	tcon at le	5 5 nes (in o	exa 5 1 1 rder to	m 1 5 .0	10 5 15 ss the mid-te	10 10 10 10 10 40	m/e>	exam 5 5 5 5 10 25 cam th	20 25 25 25 25 5
analysis per learning	Po 89	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outust achieve oints Gr	tcon at le ade celle	5 5 nes (in o	exa 5 1 1 rder to	m 1 5 .0	10 5 15 ss the mid-te	10 10 10 10 10 40	m/e>	exam 5 5 5 5 10 25 cam th	20 25 25 25 25 5
analysis per learning	9 89 76	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outst achieve oints Gr. 0 - 100 exection of the control of	tcon at le ade celle ry go	5 5 nes (in o ast 50% nt (5) od (4)	exa 5 1 1 rder to	m 1 5 .0	10 5 15 ss the mid-te	10 10 10 10 10 40	m/e>	exam 5 5 5 5 10 25 cam th	20 25 25 25 25 5
analysis per learning	90 89 76 63	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outst achieve oints Gr 0 - 100 exc 0 - 88 ver 0 - 75 good	tconnat leade cellery good (3	5 5 nes (in o ast 50% nt (5) od (4)	exa 5 1 1 rder to	m 1 5 .0	10 5 15 ss the mid-te	10 10 10 10 10 40	m/e>	exam 5 5 5 5 10 25 cam th	20 25 25 25 25 5
analysis per learning	76 63 50	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outust achieve oints Gr 0 - 100 exc 0 - 88 ver 0 - 75 goo 0 - 62 pag	tcon at le ade celle ry go ood (3	5 5 nes (in o ast 50% nt (5) od (4)	exa 5 1 1 rder to	m 1 5 .0	10 5 15 ss the mid-te	10 10 10 10 10 40	m/e>	exam 5 5 5 5 10 25 cam th	20 25 25 25 25 5
analysis per learning	76 63 50	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outst achieve oints Gr. 0 - 100 exc. 0 - 88 ver 0 - 88 ver 0 - 62 pas 0 - 49 fail	tcon at le ade celle ry go od (3 sss (2)	5 5 nes (in o ast 50% nt (5) od (4)	exa 5 1 1 rder tc	m 1 5 0 5 5 0 pas 6 for	10 5 15 ss the mid-te	10 10 10 10 10 40 erm exam	m/ex	exam 5 5 5 10 25 xam th	20 25 25 25 25 5 100 e student
analysis per learning outcomes	76 63 50 0	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outst achieve oints Gr. 3 – 100 ex. 5 – 88 ver 6 – 75 goo 7 – 62 pa: 6 – 49 fail	tcon at le ade celle ry go od (3 sss (2) (1)	5 5 nes (in o ast 50% nt (5) od (4)	exa 1 1 rder to points	m 1 5 0 5 5 0 pass for	10 5 15 ss the mid-te each learning	10 10 10 10 10 40 erm examing outcome,	m/exme)	exam 5 5 5 10 25 xam th	20 25 25 25 25 5 100 e student
analysis per learning outcomes 3.10 Specific features	90 89 76 63 50 0	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outust achieve oints Gr 0 - 100 exc 0 - 88 ver 0 - 62 par 0 - 49 fail a student cor e exam, if h	tcon at le ade celle ry go od (3 sss (2) (1) bllecone / s	5 5 nes (in orast 50% nt (5) od (4) s) ts 50% of she has	exa 1 1 rder to points of the psubmit	m 1 5 0 5 5 0 pass for	10 5 15 ss the mid-te each learning ts of each out	10 10 10 10 10 40 erm examing outcome, aper. A	m/exme)	exam 5 5 10 25 xam th	20 25 25 25 25 5 100 e student
analysis per learning outcomes 3.10 Specific features related with taking	90 89 76 63 50 0 If a the pre	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outst achieve oints Gr. 3 – 100 ex. 3 – 75 goo 6 – 88 ven 6 – 88 ven 7 – 49 fail a student come exam, if he exam if he epared according a student according to the company of the exam if he exam if he epared according to the exam if he exam i	tconnat le ade celle cy go od (3 (1) obllec e / s e / s e / s	ts 50% coshe has ag to the	exa 1 rder to points of the possibility instructions and instructions and instructions are also as a second content of the possibility instructions and instructions are also as a second content of the possibility instructions are also as a second content of the possibility instructions are also as a second content of the possibility in the possibilit	m 1 5 0 5 0 pass for	10 5 15 ss the mid-te each learning a seminar putted a semirar published	10 10 10 10 10 40 erm examing outcome, aper. A har paper. A har paper. A har paper.	m/ex me) he / stud er. Se	she di ent ca eminar din syst	20 25 25 25 5 100 e student rectly takes nnot access papers are tem and are
analysis per learning outcomes 3.10 Specific features related with taking	76 89 76 63 50 0 If a the pre- su	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outust achieve oints Gr 0 - 100 exc 0 - 88 ver 0 - 62 pas 1 - 49 fail a student cor e exam, if he exam if he epared accorbinited by	tcon at le ade celle ry go od (3 sss (2) (1) bllec e / s e / s e / s	ts 50% coshe has ag to the ing on the	exa 1 rder to points of the psubmit not sult instruthe Mer	m 1 5 0 pass for	ts of each ou a seminar p tted a seminar p tted seminar p	10 10 10 10 10 40 erm examing outcome, aper. A har paper. A har paper. A har paper.	m/ex me) he / stud er. Se	she di ent ca eminar din syst	20 25 25 25 5 100 e student rectly takes nnot access papers are tem and are
analysis per learning outcomes 3.10 Specific features related with taking the course	mic Po 89 76 63 50 0 If a the pre- su lea	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outust achieve oints Gr. 1 - 100 exc. 2 - 88 ver 3 - 75 goo 3 - 62 pas 4 - 49 fail a student core exam, if he exam if he epared according to the compast 3 days be	tcon at le ade celle ry go od (3 (1) obllec ne / s e / s ordir post efor	ts 50% of the has ag to the ing on the the ex	rder to points of the psubmit not sultainstruche Meram dea	m 1 5 0 5 0 pass for ted bmit ction rlin. addir	ts of each ou a seminar p tted a semir ns published The seminar	atcome, aper. A har paper s	m/exime) he / stud er. Se Mer	she dilent caeminar lin systild be s	20 25 25 25 25 100 e student rectly takes nnot access papers are tem and are ubmitted at
analysis per learning outcomes 3.10 Specific features related with taking	mu Po 89 76 63 50 0 If a the pre- su lea Fu	Outcome 2 Outcome 3 Outcome 4 Outcome not-related Total rading of outust achieve oints Gr. 1 - 100 exc. 2 - 88 ver 3 - 75 goo 3 - 62 pas 4 - 49 fail a student come exam, if he exam if he exam if he epared accombited by east 3 days bull-time students.	tconn at leade celle cy go od (3 sss (2) (1) collected by	ts 50% coshe has ag to the ing on the tare req	exa 1 rder to points of the points of the points instruction the Mere am dea uired to points of the points to point	m 1 5 0 5 0 pass for ted bmit ction rlin. adling to at	ts of each ou a seminar p tted a seminar p tted seminar p	atcome, aper. A har paper st 70% of	m/exme) he / studer. See Merchou	she di ent ca eminar ilin syst ld be s	20 25 25 25 5 100 e student rectly takes nnot access papers are tem and are ubmitted at

r							
	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. AJ Henley, Introduction to Java Spring Boot: Learning By Coding, (2019)						
3.14 Additional reading	Autor: GoalKicker.com, AngularJS - Notes for Professionals (2018)						
51247 Additional reading	2. Rodrigo Branas, AngularJS - Essentials (2014)						
4 ADDITIONAL COURSE IN							
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	- Develop programming code in multiple programming languages using						
to the study	modern methods and tools - Choose ways of structuring data in program code, as well as techniques for						
program	writing complex program forms and use standard algorithms						