UNIVERSITY OF EAST SARAJEVO FACULTY OF TRANSPORT AND TRAFFIC ENGINEERING DOBOJ



II CYCLE OF STUDY STUDY PROGRAMME TRANSPORT AND TRAFFIC

Doboj, 2016

CURRICULUM

SECOND CYCLE OF STUDY (MASTER ACADEMIC STUDIES)

- TRANSPORT AND TRAFFIC-

The road transport and traffic



UNIVERSITY OF EAST SARAJEVO

II CYCLE TRAFFIC (The road transport and traffic)



	I year of study												
Number	Code	Course title	Course title Course status				Hours per semester						
1	САФ12СП02119016 0220	Mathadalagy of acientific research work		С	т	L 2	1E 2		6				
2.	САФ12СД02118016,0320	Models, simulations and animations in traffic	0		I	3	1	1	6				
3.	САФ12СД02118216,0320	Technical diagnostics of motor vehicles	0		Ι	3	2	0	6				
	САФ12СД02218316,0320	1. Traffic networks											
4.	САФ12СД02218416,0320	2. Deterministic models of operational research	I_1		Ι	3	2	0	6				
	САФ12СД02218516,0320	3. Telematic systems in road traffic											
	САФ12СД02218616,0320	1. Passenger transport systems											
5.	САФ12СД02218716,0320	2. Goods transport systems	I_2		Ι	3	1	1	6				
	САФ12СД02218816,0320	3. Terminals and parking											
	САФ12СД02218926,0320	1. Forecasts in traffic											
6	САФ12СД02219026,0320	2. Traffic regulation and management	L	П	п	3	2	0	6				
0.	САФ12СД02219126,0320	3. Traffic Design - engineering of street systems	13		11	5	4	0	6				
7	САФ12СД02219226,0320	1. Vehicle fleet maintenance system designing	T.		п	3	1	1	6				
7.	САФ12СД02219326,0320	2. Expertise of traffic accidents	14		11	5	1	1	6				
	САФ12СД02214726,0320	3. Database]										
8.	САФ12СД021194218,01600	Master paper	0		II	16	0	0	18				
				тот	AL:	37	11	3	60				

ST NCTOURS			UNIV	~		2005					
	A DEC			Study prod	iram: T	raffic	B		and the second s		
• 82 •			Profile:	The road t	ranspo	rt and traffic					
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	/		II cycle			l year of stu	ıdy		A OEOJ		
Course title				METHODO	LOGY (OF SCIENTIFIC	RESEARCH V	NOR	K		
Department		Departme	ent of Tran	sport Engi	neering	, Faculty of Tra	ansport and	Traf	fic Engineering Doboj		
	Code		Со	urse status	;	Semester			ECTS credits		
САФ12СДО)2118016,	0320	0	bligatory					6		
Professor/s	Ph	D Perica Goj	a Gojković, Full Professor; PhD Zoran Curguz, Associate Professor								
Associate/s	BOJ	ana Ristic, S	enior Assist	ant							
	Weekly h	ours		Individ	ual stu	dent hours (po	er semester)	1	coefficient So		
L	TE		LE	L		TE	LE		So		
3	2		0	X*15*8	5 0	<u>Y*15*S₀</u>	Z*15*S₀		1,4		
l otal teacl	1er workle	Dad (hours,	per semes	iter)		lotal student	workload (h	ours	, per semester)		
3	10+2 10	+0.10 - 70		11 75	+ 105	- 180 hours	101,4+01	5 1,4 vr	+ – 105 hours		
	11	ntroducing	students v	vith metho		in the prepar	ration of scie	ntifi	c research naners		
Course aims an	d 2.1	ntroducing	students t	o the tech	niaues	used in the pre-	eparation of	scie	ntific research papers		
learning outcor	nes 3. r	nastering t	he writing	and defens	se of th	e thesis	•				
	4. i	ndepender	it preparat	ion of sem	inar pa	per					
Prerequisites	no										
Teaching metho	ods Leo	tures, audi	tory exerci	ses, consu	ltations						
	1.1	1. The concept, subject, significance and historical development of the methodology of scientific research									
	SCIE	2. Basic scientific theories and research									
	2.0	3. Methods of scientific research									
	4. (4. Conceptual foundations of research (concepts, theories and models, formulation and									
	exp	explanation of research topics and problems, defining the subject and goal of research,									
	for	formulating research hypotheses)									
	5. F	5. Research approaches, strategies and planning (selection of research methods,									
	det	determination of population and research sample)									
	6.1	6. Theoretical review of research (review of literature and research in accordance with the									
Course content	cor	concept of research), first colloquium									
	7.0	7. Operationalization of research (measurement of economic variables, typology of data, search of primary and secondary sources, arranging and analyzing data, testing hypotheses)									
	8. F	search or primary and secondary sources, arranging and analyzing data, testing hypotheses) 8. Research instruments: notion of instruments, types of instruments, competition of									
	ins	truments									
	9. 9	9. Sample; concept, types, procedures and sampling techniques									
	10.	10. Project of scientific research work									
	11.	Methodol	ogy and tee	chnology o	t makin	g a scientific v	vork				
	12.	Writing a r	of results	nort and c	onclusi	ans					
	14.	Preparatio	n of biblio	graphic pa	oers, te	chnical proces	sing of a scie	entif	ic work. second		
	col	loquium			, -0	p	0		- ,		
				Text	ook (s)						
Autho	or/s		Name of publication, publisher		Year	r	Pages (from-to)				
1. Z	akic M.:		Method	ology of so	ientific	research,	2000).			
			Fac	ulty of Law	i, Banja	LUKa					
2 Colo	khodzie E	· .	vietnodolo	plogy and technology of scientific							
2. COld	KIIUUZIU E	re	Džemal	R, Faculty Bijedić Hr	niversity	. Mostar	, 2021	•			
			DZema	Addition	al read	ngs					
Autho	or/s		Nam	ne of publi	cation,	editor	Year	r	Pages (from-to)		

1. Stanivukovi	c D.:	Method of scientific work, Faculty of Technical Sciences, Novi Sad								
		Assesment methods	Points	Percentage						
	Pre-exam	n obligations								
		attendance at lectures / exercise	es 5	5 %						
		teaching activ	ity 5	5 %						
Evaluation criteria		positively graded seminar pap	er 20	20 %						
		colloquiu	m 40	40 %						
	Final exam									
		Oral exa	m 30	30 %						
	IN TOTA		100	100 %						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf									
Annlinghla from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic									
Applicable from	Enginee	ring in Doboj								

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic						South AND South AND			
84775 458° 30	II.		Profile:	The road tro	anspoi	rt and traffic	4.7		AOEOJ			
Course title	<u> </u>			DELS. SIML	JLATIC	I year of stud	ATIONS IN	TRA	FFIC			
Demonstration of the		Departme	ent of Tran	sport Engine	eering	- Faculty of Tra	nsport and	l Tra	ffic Engineering			
Department		Doboj										
	Code		Coι	urse status		Semes	ter		ECTS credits			
САФ12СДО	2118116,	0320	0	bligatory		I			6,00			
Professor/s	Ph	D Mirko Stojč	ić, Assistan									
Associate/s	Phl	J Mirko Stojo	ic, Assistan	t Professor								
	ours		Individual student hours (per se			r semester))	coefficient So				
L	TE		LE	L		TE	LE		So			
3	1		1	63		21	21		1,4			
Total teach 3*	ner workle 15 + 1*15 ·	oad (hours, + 1*15 = 75	per semes hours	ter)		Total student v 3*15*1,4 + 1*	vorkload (h 15*1,4 + 1*1	ours 5*1,4	a, per semester) 4 = 105 hours			
		Total wor	kload: W+ ⁻	T=U _{opt} = 75 +	· 105 =	180 hours per	semester					
	Ву	mastering t	he conten	t of this cou	rse, th	e student will k	e able to:					
Course aims an	d 1. c	optimizes tr	imizes traffic processes									
learning outcon	nes 2. r	2. models traffic processes										
	3. 9	imulates tr	ulates traffic processes									
	4. a	animates tra	t have									
Prerequisites	Do	es not have										
Teaching metho	Das Leo	tures, audi	tory exerci	ses, seminai	r pape	r Andalian and m	-					
		2. Simulation. Computer simulation. Historical overview of simulation development										
	2.3	3. Model classification. Model classification. Formal model specification										
	3.1	5. Would classification. Would classification. Formal model specification 4. Estimation of model parameters										
	5 \	5. Validation and verification of the model										
	6. 6	6. Probability and statistics in simulation										
	7. 6	7. Process simulation										
Course content	8. 9	8. Structure of simulation systems										
	9. F	9. Process optimization. Problem formulation. Classification of optimization methods										
	10.	10. Modular simulation										
	11.	11. Calculation blocks (modules)										
	12.	12. Matrix form of technological scheme structure										
	13.	13. Matrix methods for determining computational cycles										
	14.	14. Exercises on modern simulation software: SIMUL8, PC CRECH, SIMIO										
	15.	Exercises c	n modern		softwa	ire: Silviula, PC	CRECH, SII	VIIU				
Autho	or/s		Namo	of publicati	ion n	uhlisher	Vea	r	Pages (from-to)			
Autilo	<i>л</i> /3	Simu	lation Mor	leling and A	nalysi	s McGraw-Hill	IEa		rages (non-to)			
Averill M. Law		Educ	ation			, we draw-rim	2014	1.				
		Desig	n and Ana	lysis of Exne	erimer	ts John Wiley	&					
Montgomery D.		Sons			crimer		2012	2.				
		Mete	de ontimi	zacije. Facul	tv of T	ransport and						
Božičković R		Traff	ic Engineer	ring Doboi	-, -, -, -		2007	7.	1-257			
			0	Additional	l readi	ngs						
Autho	or/s		Name of publication. editor					r	Pages (from-to)			
		Spec	ijalna pogla	avlja iz teori	je odlu	učivanja, FTN						
Čupić M. et al.		Novi	Sad				2009	Э.	1-135			

	Assesment methods	Points	Percentage						
	Pre-exam obligations								
	attendance at lectures / exercises	10	10%						
Free locations and tanks	positively assessed seminary work / project / essay	10	20%						
Evaluation criteria	case study - group work	10	10%						
	test / colloquium	20	10%						
	Final exam		•						
	Final exam (oral / written)	50	50%						
	TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic								
Applicable from	Engineering in Doboj								

ST Y METOHNOL		UNI	ERSITY OF E	AST S	ARAJEVO			2005			
-18.		Faculty of	Transport ar	nd Trat	ffic Engineerin	g	- Server	A REAL			
		Drofilo	Study progra	am: Ti	raffic						
		ll cycle	The road tru	inspoi	Lvear of stu	dv		AOEOJ			
Course title		ii cycic	TECHNICAL	DIAG	NOSTICS OF N		CLES				
Department	De	partment for mo	tor vehicles,	explo	itation, mainte	nance and c	diagnostics	of vehicles –			
Department	Fac	ulty of Transport	t and Traffic	Engine	eering Doboj						
Code	!	Co	urse status		Semes	ter	ECT	S credits			
САф12СЛ0211	8216 0220		mpulsory					6.0			
Professor/s	PhD Zdra	yko B. Nunić. Full	Professor		I			0.0			
Associate/s	PhD Zdra	avko B. Nunić, Full	Professor								
Wee	ekly hours		Individu	al stu	dent hours (pe	r semester)	Student workload coefficient So				
L	TE	LE	L		TE LE			So			
3	2	0	67.5		45	0		1.5			
Total teacher v 3*1	vorkload (5 + 2*15 +	hours, per semes 0*15 = W	ster)		Total student 3*15*1.5	workload (he 5 + 2*15*1.5 +	ours, per s · 0*15*1.5 =	emester) T			
45	+ 30 + 0 =	75 hours		12 5	67.5	+ 45 + 0 = 11	L2.5 hours				
	er semester	ſ									
	After su	ccessfully compl	eting this co	urse, a	a student will b	e able to:					
	1. recog	1. recognize different basic systems of motor vehicles, 2. determine necessary stages of controlled system diagnostics on a vehicle									
Course aims and	3. defin	 determine necessary stages of controlled system diagnostics on a vehicle, define stages of diagnostics, 									
learning outcomes	4. defin	4. define appropriate measuring instruments for controlling the selected system,									
	5. evalu	ate the paramet	ers of the fai	lure o	f system eleme	ents and pro	pose nece	ssary			
	correcti	ve actions for its	elimination								
Prerequisites	Scientifi	c research work	exam passed	ł							
Teaching methods	Lecture	s, theoretical exe	ercises, semir	nar pa	per						
	1. Elements of diagnostics of motor vehicles and engines 2. Methods of diagnostics of motor vehicles and engines										
	3. Procedures of diagnostics of motor vehicles and engines										
	4. Diagn	4. Diagnostic parameters of motor vehicles and engines – testing									
	5. Diagnostics of traction and speed characteristics – practical										
	6. Diagnostics of control and braking system – practical										
Course content	7. Collo	7. Colloquium I 8. Diagnostics of motion system and suspension system – practical									
course content	9. Diagn	8. Diagnostics of motion system and suspension system – practical 9. Diagnostics of transmission system – practical									
	10. Diag	nostics of exhau	, st system								
	11. Dia	11. Diagnostics of comfort system in a vehicle									
	12. Diag	nostics of chassi	s elements	- safet	y elements						
	13. Diag	nostics of eleme	nts of cataly	tic sat	ety condition dete	rmination					
	15. Coll	oquium II	r during teel	inical	contaction acto						
		-	Textbo	ok (s)							
Author/s		Name	of publicati	ion, pι	ublisher	Year	· Pa	ges (from-to)			
Todorović, P., Jere	mić, B.,	Tehnička dijagr	nostika, Univ	erzite	t u Kragujevcu	2009	9	1-202			
Mačužić, I.		Masinski fakult	Additional	roadi	nge						
Author/s		Nan	ne of publica	tion.	editor	Year	Pa	ges (from-to)			
		Tehnička dijagno	stika; Zavod z	za udži	benike i nastavn	a					
Adamović, Ż.		sredstva, Beogra	d			1998	1-44	7			
Janićijević, N.		Automatsko upra fakultet Beograd	ivljanje u moto	ornim v	ozilima, Mašinsl	⁽ⁱ 1993	1-190				
		A	ssessment m	netho	ds	1	Points	Percentage			

Evaluation criteria	Pre-exam obligations									
	e.g. attendance to lectures / exercises	10	10%							
	e.g. seminar paper/ project/ essay positively assessed	20	20%							
	e.g. case study – group work	/	/							
	e.g. test / colloquium	70	70%							
	e.g. laboratory work / laboratory exercises									
	e.g. practical work	/	/							
	Final exam									
	e.g. final exam (oral / written)	30+40	70%							
	TOTAL	100	100%							
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboi									

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: The road transport and traffic II cycle I year of study										
Course title		ii eyele	TF	AFFIC NETWOR	KS							
Department	De	partment of Roa	d Transport and T	raffic - Faculty c	of Transpor	t and 1	Гraffic	Engineering				
Code	!	Co	urse status	Semes	ter	ECTS credits						
САФ12СД0221	8316,0320		election 6									
Protessor/s	PnD Ma	rko Sudotic, Assoc	late Protessor									
Wee	ekly hours		Individual student hours (per semester))	Stude coe	nt workload fficient S₀				
L	TE	LE	L	TE	LE			So				
3	2	0	3*15*1,4=63	2*15*1,4=42	0*15*1,4=	0		1,4				
Total teacher v 3*1	vorkload (<u>5 + 2*15 +</u> 	hours, per seme 0*15 = 75	ster)	Total student v 3*15*1,4	vorkload (h + 2*15*1,4 +	iours, 0*15*1	per ser 1,4 =10	nester) 5				
	To	otal workload: W	+T=U _{opt} = 75+105	= 180 hours per	semester							
	1. Know	ledge of terms a	nd definitions of	traffic networks	mulation a	and a	vəluəti	on of traffic				
Course aims and	networ	2. acquiring knowledge for analysis, optimization, simulation and evaluation of traffic networks with the bein of intelligent traffic systems										
learning outcomes	3. stude	3. students master certain simulations										
	4. They	. They apply the acquired knowledge in practice										
Prerequisites None												
Teaching methods	Lecture	s, exercises, simu	ulations									
Course content	 1. Train 2. Trave 3. Trave 4. Base transpo 5. M I a 6. Balar 7. Flow 8. The f 9. Deba 10. Tasl 11. Deb 12. Tasl 13. Tasl 14. Deb 15. Usi system 	el time models in el time research matrices IC-bas ort models nd II principles o nee models distribution in co irst and second p te - Traffic netwo (ss -Expected effe oate - Wordrop's (ss - traffic distrib (ss - determining oate-First and sec ng different dist	the city network the city network sed on traffic co f Wordrop (Word omplex traffic ma paradox in the dis prks, types, regula cts, models of tra principles ution IC matrices based ond paradox, invi- ribution models	unting, entropid rop traffic distril nagement system tribution of traff ations ffic distribution on traffic count estments, valuat determine the	c models, foution department ms with and ic flows on the netwoing tion effects of	IC ma artmen d with work	trices nts) out ISS	derived from				
Author/c		Name	Textbook (s	š) Nublichor	Vaa	-	Dage	(from to)				
Ацтог/s		Саобраћајне ми		и факуптет	2000)	Page	-				
Byranobin O			Additional read	dings	2000	·		-				
Author/s		Nan	ne of publication	, editor	Yea	r	Page	s (from-to)				
		Traffic Eng. Han	dbook , Prentice H	all	1990	0		-				
		A	ssesment metho	ds		Poin	ts	Percentage				
	Pre-exa	mination obligat	ions			-						
	<u> </u>			at	tendance	5		5 % E %				
	L			activity duri	ng classes	5		5 %				
Evaluation criteria	<u> </u>			Seme	strai work	20		20 %				
	<u> </u>			Mid	term Test	20		20 %				
				End of the	Term test	20		20 %				
	The fina	ai exam		Final ex	kam (oral)	30		30 %				

	TOTAL	100	100 %							
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf									
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic									
Applicable ITOIII	Engineering in Doboj	Engineering in Doboj								

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: The road transport and traffic II cycle I year of study							2005 Superior Maille Constants ADEDI		
Course title			DE	DETERMINISTIC MODELS OF OPERATIONAL RESEARCH							
Department		l									
C	ode		Course status Semester				ster		ECTS	5 credits	
САФ12СД02											
Professor/s	PhD) Željko Ste	vić, Associat	e Professor							
Associate/s	PhD) Željko Ste	vić, Associat	e Professor	•						
V	Weekly h	ours		Individ	lual stu	ident hours (po	er semester))	Stude coe	ent workload efficient So	
L	TE		LE	L		TE	LE			So	
Х		Z	X*15*S	S₀	Y*15*S₀	Z*15*S₀					
Total teacher workload (hours, per semester)Total student workload (hours, per semester) $X^{*}15 + Y^{*}15 + Z^{*}15 = W$ hours $X^{*}15^{*}S_{0} + Y^{*}15^{*}S_{0} + Z^{*}15^{*}S_{0} = T$ hours										mester) urs	
		Total v	vorkload: V	V+T=U _{opt} =	+ :	= hours per s	semester				
Course aims and	1										
learning outcom	ies										
Prerequisites											
Teaching metho	ds										
Course content											
			<u> </u>	Text	000k (s)				(6	
Author	r/s		Name	of publica	ition, p	ublisher	Yea	r	es (from-to)		
				م م ذا ام ام ۸		linge					
Author	de		Nor	Addition	al read	aditor	Voo	r	Dag	os (from to)	
Aution	/3		INGII		cation,	euitor	Tea		гар		
			•			4		Dei		Deveentere	
	_		A	ssesment	metno	as		POI	nts	Percentage	
Evaluation criter	ria										
Evaluation criter											
Web sources	htt	o://sf.ues.	rs.ba/eng/v	vp-conten	t/uploa	ds/2024/01/Fi	ngleski-NPP-	ll-cik	lus.pdf	1	
	19.	10.2023	213th sessi	ion of the	Acaden	nic Council. Fac	culty of Tran	spor	t and Tr	affic	
Applicable from	Eng	gineering ir	n Doboj			- , · -	, , , , , ,				

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: The road transport and traffic II cycle I year of study							A OE OJ		
Course title				•	TELEMA	TIC	SYSTEMS IN RO	DAD TRAFF	IC			
Department		Dep	bartme	ent for Tran	nsport Engine	erin	<u>g</u> – Faculty of 1	ransport a	nd T	d Traffic Engineering		
C	Code			Coι	urse status		Seme	ster		ECTS	6 credits	
САФ12СД0	2218516	6,0320		(election		I				6	
Professor/s	Ph	D Vuk	Bogda	nović, Full F	Professor							
Associate/s	Ph	D Vuk	Bogda	nović, Full F	Professor							
	Weekly l	hours			Individual student hours (per s			er semeste	r)	Stude	ent workload efficient So	
L	TE			LE	L		TE	LE			So	
3	2			0	3*15*1,4=63	}	2*15*1,4=42	0*15*1,4	=0		1,4	
Total teach	15 + 2*15	load (I + 0*1	hours, 5 = 75	per semes hours	ter)		Total student 3*15*1,4 + 2	workload (15*1,4 + 0	hour *15*1	s, per se ,4 =105 ł	mester) 10urs	
Total workload: W+T=U _{opt} = 75+105=180 hours per semester												
		1. 2.	know Introd	ledge of co	oncepts and d dents to the	efin perf	itions of intellig formance of in	gent transp telligent †	oort s ransr	systems port syst	ems (its) that	
Course aims an	d		are u	sed to suc	port systems	for	control. mana	igement a	nd sa	ife move	ement of road	
learning outcom	nes		traffic	; '	. ,		,	0				
_		3.	stude	nts master	· certain curre	ent c	ase studies					
		4.	apply the acquired knowledge in practice									
Prerequisites	no	ne										
Teaching metho	ods Le	ctures	s, inter	active wor	kshops, case	stud	lies, team pres	entations				
	1.	Intelli	gent trans	port systems	– In	troduction						
		2.	Basic models and ITS									
		3.	Transport networks and ITS									
		4.	. IIS system architecture									
		5. 6	Possible ITS applications, Taxonomy									
		о. 7	 ιramic management - tramic distribution and application of HS Systems designed for safe traffic 									
Course content		7. 8	 Sensor and ad-hoc networks for traffic monitoring and regulation 									
course content		9	9 Traffic management on highways in urban areas									
		10. Vehicle-vehicle (V2V) and vehicle-infrastructure (V2I) communications										
		11. Vehicle location and navigation systems										
		12.	Electr	onic paym	ent systems	-						
		13.	Applie	cation of p	ublic broadca	stin	g systems (RDS	, DAB) in t	raffic			
		14.	14. Use of public fixed and mobile networks in road traffic									
		15.	Consi	deration o	f characterist	ic ar	nd current case	studies				
			1		Textboo	ok (s)						
Autho	or/s			Name	of publicatio	n, p	ublisher	Ye	ar	Pag	es (from-to)	
M. A. Chowdhu	ry, A. Sa	dek:	Fi	undamenta <u>Syste</u> n	ais of Intellige <u>ns Planning,</u> A	ent T Artec	ransportation h House	200)3.		-	
R. Bish	op:		Intel	ligent Vehi	cle Technolo House	gy ar	nd Trends, Arte	ch 200)5.		-	
B. McQuin, R. S	Schuman h	, K.	Adv	anced Trav	eler Informa House	tion	Systems, Arteo	^{.h} 200)2.		-	
С. Вукан	овић:		И	ITC y PhDv	мском саобр	аћа	ју-основе. CD	202	2.	1	-	
,				, ,	Additional	ead	ings			1		
Autho	or/s			Nam	e of publicat	ion,	editor	Ye	ar	Pag	es (from-to)	
				Α	ssesment me	tho	ds		Po	oints	Percentage	
Evaluation crite	ria Pr	e-exai	minatio	on obligati	ons					i ci ce inage		
				ŭ			а	ttendance	20)	20%	

	activity during classes	20	20%						
	term paper	20	20%						
	colloquium I	10	20%						
	colloquium II	10	10%						
	Students who pass all colloquia								
	are exempted from the writte	are exempted from the written part of the examination.							
	Final exam								
	final exam (oral)	20	20%						
	TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	-II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj								

		F	UNIN aculty of	VERSITY OF EAS Transport and T Study program:	T SAR Traffic Traff	AJEVO Engineerin fic	Ig		2005 Service Contraction			
100 100 100 100 100 100 100 100 100 100			Il cycle								AOEOJ	
Course title			ii cycic	PASSEN	GER 1		T SYSTE	MS				
Department	D	epartme	nt of Road	d Traffic and Tra	nspo	rt - Faculty	of Tran	sporta	ation	Dobo	j	
Code	9		Co	urse status		Seme	ster			ECTS credits		
САФ12СД0221	8616,032	0		elective		I					6,00	
Professor/s	PhD Bo	jan Mario	ć, Associate	e Professor								
Associate/s	Radenk	a Đekić,	Senior Ass	istant						<u></u>		
Wee	ekly hour	s		Individual student hours (per se			er seme	ester)		Stude COE	efficient So	
L			<u>LE</u>			1E /*1F*6	7*1				So	
X Total teachers	Y	$\begin{array}{c c c c c c c c c c c c c c c c c c c $								orco	mostor)	
X*15 +	V01 Kloau V*15 + 7	(11001S)	hours	ster)	10		¥15*9	au (110	יעראי, ן 15*5,	s = T h	niester)	
	. 10 . 2	$\frac{13 + 2}{13} = \frac{13 + 3}{13} = \frac{13 + 2}{13} = \frac{13 + 2}{13$										
	1. knov	wledge o	of concept	s and definition	s of t	ransport sy	stems a	and tra	anspo	ort pol	licy	
	2. ma	stering	scientific	and professio	nal k	nowledge,	meth	ods ai	nd ir	nform	ation on the	
Course aims and	manag	ement o	of complex	systems of urb	an ar	nd road pas	senger	transp	ort			
learning outcomes	3. mas	tering t	he model	s of organizatio	on an	d managen	nent o	f passe	enger	r tran	sport systems	
	and access to the transport services market											
	4. inde	4. independent work on timetable calculations										
Prerequisites	first cv	Passed the exam in the subject Transport of passengers and goods, Academic study of the										
Teaching methods	Lecture	es. inter	active wor	kshops, case st	udies	. debates. t	eam pr	esenta	ations	s. etc.		
0	1. Con	cepts an	d definitio	ons of transport	syste	ems				,		
	2. Con	tent and concepts of transport policy										
	3. Basi	. Basic regulations and institutions in the field of road transport										
	4. Citie	s and pu	ublic urbai	n passenger trar	nspor	t systems (J	IGTP). I	Proble	ms of	mod	ern cities	
	5. Fund	damenta	als of mod	ern transport po	olicy							
	6. Subs	systems	of public	bassenger trans	port	nanco						
Course content	8 Org	paration	and man	agement of roa	d trar	nance	oms - h	asic co	ncen	tc		
course content	9. Mod	lels of o	rganizatio	n and managem	ient o	of passenge	r transi	bort sv	stem	S		
	10. Mo	dels of	access to t	the transport se	rvices	s market		,				
	11. Ph	/sical, fu	inctional a	nd logical syste	m int	egration						
	12. Sys	tem qua	ality and s	ervice quality. F	orms	and proper	rties of	servic	e qua	lity		
	13. Ser	vice qua	ality indica	itors	•	. .	_					
	14. Kes	earch n	nethods in	the passenger	trans	port system	1					
	15.11	ecimole	gies in the		(s)	LSYSLEIN						
Author/s			Name	of publication.	bubl	isher		Year		Pag	es (from-to)	
		Publi	c passeng	er transport sys	tems	- Elements	of			0		
Slavon Tica		techr	nology, c	organization a	nd	manageme	nt,	2016				
Slaven nca		Unive	ersity of B	elgrade - Facult	y of	Transport a	and	2010.			-	
		Traffi	c Enginee	ring, Belgrade								
Slaven Tica	en materi	al and presenta	tions	from lectu	res	2015.			-			
		and e	exercises, i	-aculty of Irans	porta	tion, Doboj	 					
Vukan Vuch	ic	Viley	n Transiti & Sons Inc	. system and Hoboken New	iecn v lers	nnonogy, Jo ev	1111	2007.			-	
<u> </u>		Urba	n Trans	it Operation	Pl	-, anning a	and					
Vukan Vuch	ic	Econ	omics, Joł	n Viley&Sons I	iley&Sons Inc, Hoboken, New 2005.			5				
		Jerse	y, USA	,,	,							
Evaluation critoria			A	ssesment meth	ods				Point	ts	Percentage	
Evaluation criteria	Pre-ex	am oblig	gations									

	attendance at lectures / exercises	5	5%					
	activity during classes	5	5%					
	I am positively assessed. work	20	20%					
	colloquia	30	30%					
Students who pass all the colloquia are exempted from the written part of the								
Final exam								
	final exam (oral)	40	40%					
	TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran	sport and Tr	affic					
Applicable Irolli	Engineering in Doboj							

Course title			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: The road transport and traffic Il cycle I year of study					250 5 5 5 5 6 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Course title				GOODS	S TRANSPORT SY	STEMS				
Department		Depa	artment of Roac	I Traffic and Tran	sport - Faculty c	of Transport	atio	n Doboj		
(Code		Cou	Course status Semester				ECTS credits		
САФ12СДО	02218716	,0320		elective				6	5,00	
Professor/s	Pn	D Bojar donka f	n Maric, Associate Dekić, Senior Ass	e Protessor istant						
Associaters	Weekly	nours	Denic, Genior Ass	Individual stu	udent hours (pe	r semester)		Stude coe	nt workload fficient S₀	
L	TE		LE	L	TE	LE			So	
Х	Y		Z	X*15*S _o	Y*15*S₀	Z*15*S₀				
Total teach X*1	ner workl 15 + Y*15	oad (h + Z*1!	ours, per semes 5 = W hours	ter)	Total student v X*15*S _o + Y	vorkload (h *15*S _o + Z'	ours *15*	, per ser S _o = T he	mester) ours	
Course aims an learning outcor	d mes 4.	 knowledge of concepts and definitions of transport systems and transport policy mastering scientific and professional knowledge, methods and information on the management of complex systems of urban and road transport of goods reading, understanding and using legal regulations and standards mastering information systems and management systems in road transport 								
Prerequisites	Pa fir:	Passed the exam in the subject Transport of passengers and goods, Academic study of the first cycle								
Teaching metho	ods Le	ctures,	, interactive wor	kshops, case stu	dies, debates, te	am present	tatio	ns, etc.		
Course content	Image: Content and Concepts and definitions of transport systems1. Concepts and definitions of transport systems2. Content and concepts of transport policy3. Basic regulations and institutions in the field of road transport4. Freight road transport market5. International and national road transport of goods (DTR)6. Transportation for own needs. Groupage7. Transport of goods in cities8. Organization and management of road transport systems - basic concepts9. Specific types of services in DTR. Oversized transport10. Transport of dangerous goods11. Transport of perishable goods. Transport of live animals12. System quality and service quality. Forms and properties of service quality13. Service quality indicators in DRT. Research methods14. Information system in road transport									
Autho	or/s		Name	of publication, p	, publisher	Yea	r	Page	es (from-to)	
Olivera Medar	, Slaven T	ïca	Written materia and exercises, F	al and presentat aculty of Transp	ions from lectur ortation, Doboj	es 2010).		-	
I. Ivan	ovic		Modeling of transport, Facu	transport capa Ity of Transporta	cities of freig tion, Belgrade	ht 2005	j.		-	
Applied Transport Economic : Policy, S. Cole Management and Decision Making, Kogan Page, 2005 London, UK					-					
Vukan V	/uchic		Urban Trans Economics, Joh Jersey, USA	it Operation, nn Viley&Sons In	Planning ar c, Hoboken, Ne	nd w 2005	5.		-	
			A	ssesment metho	ods		Points Percentag		Percentage	
Evaluation crite	Pr	e-exam	n obligations							
				attenda	nce at lectures /	exercises	5	5%		
					activity duri	ng classes	5		5%	

	I am positively assessed. work	10	10%						
	colloquia	40	40%						
Students who pass all the colloquia are exempted from the written part of the e									
	Final exam								
	final exam (oral)	40	40%						
	TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran	sport and Tr	affic						
Applicable Irolli	Engineering in Doboj								

				VERSITY OF EAS Transport and Study program The road trans	T SARAJEV Traffic Engin Traffic Traffic Port and tr I year	O neering caffic t of study		AOEDJ			
Course title			TERMINALS AND PARKING								
Department		Departme	nt of Road	d Traffic and Tr	ansport - Fa	aculty of ⁻	Transport	atio	n Doboj		
Co	de		Course status Semester			r	ECTS credits				
САФ12СД022	218816,0	0320		elective		I			6,00		
Professor/s	PhD) Bojan Mari	ć, Associate	e Professor							
Associate/s	Rad	enka Đekić,	Senior Ass	istant				_			
w	eekly h	ours		Individual	student hou	urs (per s	emester)		Student workload coefficient S _o		
L	TE		LE	L	TE		LE		So		
X	Y		Z	X*15*S _o	Y*15*	So	Z*15*S _o				
Total teacher X*15	r worklo + Y*15 -	oad (hours, + Z*15 = W	per semes / hours	ster)	Total stı X*15	udent wo 5*S₀ + Y*1	orkload (ho 15*S₀ + Z*	ours, °15*:	, per semester) S _o = T hours		
		Total workload: W+T=U _{opt} = + = hours per semester									
 Course aims and learning outcomes Course aims and learning outcomes 1. quantifies the requirements of terminal users by categories, 2. optimizes the conceptual and technological solution of the terminal depending on the technological process that takes place in the terminal, 3. defines the criteria for the selection of the location of the terminal depending on the state of the transport system of the city, 4. quantifies the requirements for parking in a certain zone or city depending on the degree of attractiveness, 5. defines the strategy of parking management in the city, populated area or urban zone 								al depending on the pending on the state ending on the degree a or urban zone.			
Prereguisites	Doe	es not have	07	1 0 1	0						
Teaching method	s Lect	tures, tutor	ials, semir	nar work, fieldv	vork, case s	tudy					
Course content	1. D 2. D 3. (teck 4. I trar 5. P 6. P 7. V 8. S 9. C 10. 11. 12. 13. syst 14. 15.	 Decomposition of the transport system structure Defining the location and role of the terminal in the transport process Optimization of the structure and capacity of the terminal in accordance with the technological process that takes place in the terminal Logistic approach in terminal design and influence on the rational structure of the transport system Parking management strategy Planning of parking needs in accordance with the degree of attractiveness of the zone Ways to solve parking problems Street parking Off-street parking Parking garage equipment Logistic approach in terminal design and impact on the rational structure of the transport system 									
Author			Textbook (s)				Veer	_	Dense (from to)		
Nada Milosav	ljevich	Parki	Name of publication, publisher Parking, Faculty of Transport and Traffic Engineering Related			2010		Pages (from-to) 1-165			
		811		Additional re	adings						
Author/	's	Nam	e of public	cation, publish	er		Year	•	Pages (from-to)		
Todd Litm	nan	Parki Planr	ng Manag ning, Victo	ement: Strateg	gies, Evalua olicy Institu	tion and te	2016		1-31		
Svetozar Kostic Davidovic, Zora	:, Brankc an Papic	Road	traffic ter	minals, FTN No	ovi Sad	-	2013		1-214		

Nada Milosavljevic		Elements for technological design of facilities in road traffic and transport, Faculty of Transport and Traffic Engineering, Belgrade	8.	1-127				
		Assesment methods		Points	Percentage			
	Pre-exa	m obligations						
		for example. attendance at lectures / exe	10	10%				
	fc	or example. I am positively assessed. paper / project /	20	20%				
		for example. case study - grou	/	/				
Evaluation criteria		for example. test / collo	70	70%				
		for example. laboratory work / lab. ex	/	/				
		for example. practica	/	/				
	Final exam							
		for example. final exam (oral / w						
	TOTAL	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic							
Applicable from	Enginee	ring in Doboj						

S Y WCTOWHOL				UNIV	ERSITY OF	EAST S	SARAJEVO			2005		
			F	aculty of	Transport a	nd Tra	ffic Engineerin	g		Sustain Carrie		
Nic					Study prog	ram: T	raffic					
				Profile:	The road ti	ranspo	rt and traffic			doeoj		
4.583 40 10			II cycle I year of study									
Course title						TR	AFFIC FORECAS	STS				
Department		Dep	artme	nt of Tran	sport Engin	neering	, Faculty of Tra	insport and	d Traf	fic Engineering		
c	ode			Co	urse status		Semes	ster		ECTS credits		
САФ12СД0	2218926,	0320					II			6		
Professor/s	Ph) Vale	ntina M	irović, Full								
Associate/s	Ph) Vale	ntina M	irović, Full	Professor							
	Weekly h	ours			Individ	ual stu	dent hours (pe	er semeste	r)	Student workload coefficient S _o		
L	TE			LE	L		TE	LE		So		
3	2	2 0 3*15*1,4=63 2*15*1,4=42 0*15*S								1,4		
Total teach	er worklo	oad (h	ours, j	per semes	ter)		Total student	workload (hours	s, per semester)		
3*1	<u>15 + 2*</u> 15 -	+ <u>0*</u> 15	= 75 ł	nours			<u>3*15*1</u> ,4 + 2	<u>*15*1,4</u> + 0*	<u>15*</u> 1,4	4 = 105 hours		
			Tota	workload	d: 75 + 105	= 180	hours per sem	ester				
		1.	Acquir	ing knov	vledge in	the	field of appl	ication ar	d de	evelopment of new		
			mathe	matical ti	affic dema	nd mo	dels.					
		2.	Impler	nentatior	, improver	ment a	and developm	ent of ma	them	natical and statistical		
Course aims and	4		metho	ds for the	e traffic der	nand f	orecasting.					
Loarning outcom		3.	Acquis	ition of	skills deter	mining	g interdepende	encies bet	ween	indicators of socio-		
learning outcom	les		econo	mic devel	opment, la	nd usir	ng, traffic dema	and and tra	iffic s	upply.		
		4.	Acquir	cquiring knowledge in the field of using modern computer programs application for								
			the te	sting tran	sport polic	y effe	cts and for the	alignment	of ti	ransport demand and		
			supply	, –		-		-				
Prerequisites	No	speci	fic pre	requisities	5							
	Lec	tures,	, pract	ical labora	atory and co	omput	ational exercise	es. This coι	irse e	nables students to		
Teaching metho	ds per	form	indepe	endent as	signmentse	eminar	paper and exa	mination t	hroug	gh partial		
-	exa	minat	tions.		•				-			
		1.	Basic o	oncepts a	nd definiti	ons of	traffic demand					
		2.	Tempo	oral and s	oatial conce	entrati	on of demand:	causes and	d con	sequences.		
		3.	Basic o	oncepts o	of predictio	n and t	forecasting.					
		4.	The im	portance	and role of	f forec	asts and / or pr	rediction of	f traff	ic planning.		
		5.	Metho	ds and p	procedures	of fo	recasting: tim	e series, i	regres	ssion analysis, cross-		
			classif	ication - c	ategory and	alysis.	J	,	5	, , ,		
		6.	Applic	ation of tl	ne theory o	f prob	ability to foreca	ast traffic d	lemar	nd.		
		7.	Statist	ical evalu	, ations of fo	recast	results.					
Courses		8.	Basic (concepts	and definit	ions o	f traffic supply	, transport	: abili	ty of vehicles, supply		
course content			eleme	nts of tra	nsport netv	vorks.	,	·		,		
		9.	Alignm	nent meth	ods of tran	sport	demand and su	ipply.				
		10.	Critica	l analysis	of classical	four st	tep model.					
		11.	Target	modal sp	lit model.							
		12.	Activit	y based n	nodels.							
		13.	Tour-b	ased mod	lels.							
		14.	Comp	uter prog	rams for t	testing	and simulation	on of the	harn	nonization effects of		
			transp	ort dema	nd and sup	ply.						
		15.	Appra	sal of trai	nsport mod	lels.						
					Textb	ook (s						
Autho	r/s			Name	of publicat	tion, p	ublisher	Yea	ar	Pages (from-to)		
Ortuzar, J.D., V	Willumse	n,		Mad - U		14/2	Chieker					
L.G.	-	·		viodelling	i ransport,	, wiley	, Chichester	202	11			
					Additiona	al read	ings					
Autho	r/s			Nam	e of public	ation,	editor	Yea	ar	Pages (from-to)		
	-		A self	Instructir	g Course ir	n Mode	e Choice			0		
F.Koppelman, C.	Bhat		Mode	ling: Mult	inomial an	d Nest	ed Logit Model	ls, 2006				

		U.S. Department of Transportation							
Banister, D.		Transport Planning, Spon Press, New York	2002						
		Assesment methods		Poi	ints	Percentage			
	Pre-exa	n assignments							
		Lecture atte	5						
		Exercise atte	5						
Evaluation criteria		Term	20						
	Final examination								
		Fina	70						
	TOTAL		100	C					
Web sources http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NP									
Annlinghla from	19.10.20	023 213th session of the Academic Council, Faculty	/ of Tran	spor	t and Tr	affic			
Applicable from	Enginee	ring in Doboj							

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: The road transport and traffic II cycle I year of study					ADED S			
Course title				TRAFFIC REG	JLATION AND N	IANAGEME	NT				
Department		Departme	ent of Road	d Transport and	Traffic- Faculty o	f Transport	and	Traffic	Engineering		
	Code		Co	urse status	Semes	ter		ECTS credits			
САФ12СДС)2219026,	0320		election	II				6,0		
Professor/s	PhD	hD Marko Subotić, Associate Professor									
Associate/s	Boja	3ojana Ristić, Senior Assistant									
	Weekly h	ours		Individual st	udent hours (pe	r semester))	Stude coe	ent workload efficient So		
L	TE		-		So						
3	2		0	3*15*1,4=63	2*15*1,4=42	0*15*1,4=	0		1,4		
Total teach	her worklo 3*15 + 2*	oad (hours, 15 + 0*15 =	per semes 75	ster)	Total student v 3*15*1,4	vorkload (h + 2*15*1,4 +	ours 0*15	, per se *1,4 =1(mester))5		
		Total wo	rkload: W·	+T=U _{opt} = 75+105	= 180 hours per	semester					
	1. k	nowledge	of concept	s and definitions	of traffic regulat	tion and ma	anag	ement			
Course aims an	d 2. t	o enable st	udents to	regulate and ma	nage road traffic	systems					
learning outcor	nes 3. 9	tudents ma	aster certa	in tools for traffi	c management						
	4. 1	hey apply	the acquire	ed knowledge in	practice						
Prerequisites	NO	ne turca audi						tura ti a ur			
Teaching metho	ods the	ds Lectures, auditory exercises, laboratory-computer exercises and demonstration exercises on the street network. Mastering the material: learning, tests, assignments and consultations									
Course content	 1. Basic concepts of traffic regulation and management 2. Development of a system for regulating and managing traffic 3. Traffic management tools 4. Dependent and semi-dependent systems 5. Traffic management via classic detectors and controllers 6. Traffic management via video surveillance 7. Traffic management with help of radar systems 8. Principles and procedures of traffic management 9. Traffic management system planning 10. Regulation and management of traffic at isolated intersections 11. Traffic management on city roads and corridors 12. Traffic management on the street network 13. Specific cases 14. Functional and economic justification of the introduction of traffic management systems 										
Autho	or/s		Name	of publication,	oublisher	Yea	r	Pag	es (from-to)		
Ђорђевић Т.:		Регу. сигн	лисање са ализацијо	аобраћајних то м, Институт за г	кова светлосно утеве, Београд	M 1997	7.		-		
Washinton D.C.	:	High Rese	way Cap arch Board	bacity Manual,	Transportatio	on 2011	L.		-		
				Additional rea	dings						
Autho	or/s		Nam	ne of publication	, editor	Yea	r	Pag	es (from-to)		
			Α	ssesment metho	ods		Poi	nts	Percentage		
	Pre	-examinati	on obligati	ons			-				
					at	tendance	5		5 %		
Evaluation crite	eria				activity duri	ng classes	5		5 %		
		Tests 10 10 %					10 %				
					Semin	ary paper	20		20 %		
					Mid	term Test	15		15 %		
							. •				

	End of the Term test	15	15 %							
	Students who pass all tests are exempted from the written part of the examination.									
Final exam										
	Final exam (written)	60	60 %							
	TOTAL	100	100 %							
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic							

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: The road transport and traffic Il cycle I year of study						A DEDJ		
Course title		-	TF	AFFIC DESIGN	- El		OF STREET S	YST	EMS		
Department	de	Departme	partment of Road Transport and Traffic- Faculty of Tra Course status Semester			of Transport ster	ECTS credits				
САФ12СЛ022	10126	0320		election					6.0		
Professor/s	PhD) Marko Sub	otić. Associ	ate Professor					0,0		
Associate/s	Boja	ana Ristić, S	enior Assist	ant							
w	eekly h	ours		Individual	stuc	lent hours (pe	er semester))	Student workload coefficient S _o		
L	TE		LE	L		TE	LE		So		
3	2		0	3*15*1,4=63		2*15*1,4=42	0*15*1,4=	0	1,4		
Total teacher 3	r worklo *15 + 2*	oad (hours, 15 + 0*15 =	per semes 75	ster)		Total student 3*15*1,4	workload (h + 2*15*1,4 +	ours 0*15	s, per semester) 5*1,4 =105		
	1 4	Total wo	rkload: W	+T=U _{opt} = 75+1	05= (20)	180 hours per	semester	tions	in traffic		
	1. K	knowledge of research methodology and design of advanced solutions in traffic knowledge and application of advanced solutions in the field of HS_VS_LS									
Course aims and	3. i	ndependen	t preparat	ion of technica	al pr	oiect docume	ntation (pro	iects	s) for advanced		
learning outcome	s solu	utions				-,		,	.,		
	4. in sign	4. independent work on calculations and optimization of more complex systems of light									
Prereguisites	Cor	npleted the	e course Tr	affic Design I o	cvcle	<u>•</u>					
Teaching method	s Lec	tures, deba	tes, graph	ic exercises, in	dep	endent semin	ar papers				
Course content	1. F 2. F 3. E 4. [5. [6. [7. (8. F 9. (10. 11. 12. 13. 14. 15.	Pavement a Engineering Developmen Developmen Developmen Complex lig Passages of Conventiona LOW COAS Street furn Security of Human en Examples of IT enginee	of street s of street s at and app at and app at and app at and app at signal m roads thrc al and unce T measure iture (stre public spa gineering i of good pra-	ent speech - ex- systems, comp lication of vert lication of hor lication of ligh nanagement sy bugh settlemen onventional in es for roads an et ferniture), r nees n cities actice in street	kam lex i lical izon t sig ster d ro oad : eng rk, c	ples ntersections signaling, adv tal signalizatic nals on street ns, zones and problems and ection solution ad passes thro lighting tineering ities of the fut	anced syste on, advanced s and roads, line coordin shaping ns ough settlen	ms d sol tele hatio	utions ematics, etc. n s		
	,			Textbool	< (s)						
Author/	S	Intel	Name	of publication	1, pι	iblisher	Yea	r)	Pages (from-to)		
Papageorgiou M.		A Co	oncise Enc	yclopaedia of l	Road	s I Traffic	1993	3. 3.	-		
Rahul Kala		On-R for Ir	oad Intell	igent Vehicles Transportation	s - 1 Syst	Motion Planni ems (конгрес	ing 2016	ō.	1 - 503		
George Pap Athanasios Maima	ageorgi aris	iou, Mod Trans	elling, Sin sportation	nulation Meth Systems	nods	for Intellige	ent 2006	5.	101 - 119		
Walloth, Chris Jens Martin, Sc Alexander	stian, G hmidt,	urr, Unde J. Mult	erstanding idisciplina	g Complex ary Approache	Ur es to	ban Systen Modeling	ns: 2014	1.	-		
Intelligent Trar Systems (ITS) Program Office (JF	isportat - Jo 20)	tion Dint STRA	Photos Co TEGIC PLA	ourtesy of US N	5DO	r 2015 — 20	2014	1.	1 - 82		

	Additional readings											
Author/s		Name of publication, editor	Yea	r	r Pages (from							
ДИТ Србије		Часопис ТЕХНИКА – сепарат САОБРАЋАЈ	2011	۱.								
Српско PhDуштво за г	путеве	Часопис Пут и саобраћај	2011	۱.		-						
EUROFILE	2011	۱.		-								
		Assesment methods		Poi	nts	Percentage						
	Pre-examination obligations											
		atter	10		10 %							
Evaluation criteria		positively graded semester	30		30 %							
	Final exam											
		Final exam (w	ritten)	60		60 %						
	TOTAL		100		100 %							
Web sources	lus.pdf											
Annicable from	19.10.2	023 213th session of the Academic Council, Faculty	of Tran	sport	t and Tr	affic						
Applicable from	Enginee	ring in Doboj										

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: The road transport and traffic Uncode								
Course title			VEHICLE FLEET MAINTENANCE SYSTEM DESIGNING							
Department		Departme	ent of Road	d Transport and ⁻	Traffic- Faculty o	of Transport	and	Traffic	Engineering	
C		Co	urse status	Semes	ster	ECTS credits		credits		
САФ12СД02	0320		election					6		
Professor/s	PhD) Mesud Aja	nović, Full F	Professor						
Associate/s	Ph	D Mesud Aja	nović, Full F	Professor						
v	Veekly h	ours		Individual st	udent hours (pe	er semester))	Stude coe	nt workload efficient S _o	
L	TE		LE	L	TE	LE			So	
3	1		1	3*15*1,4=63	1*15*1,4=21	1*15*1,4=2	21		1,4	
Total teach 3*1	er worklo 5 + 1*15 -	oad (hours, + 1*15 = 75	per semes hours	ster)	Total student v 3*15*1,4+ 1	workload (h 1*15*1,4+ 1*1	ours 15*1,4	, per se 4= 15 hc	mester) ours	
		Total wor	kload: W+	T=U _{opt} = 75 + 105	= 180 hours pe	r semester				
	1. k	nowledge	of terms a	nd definitions of	fleets					
Course aims and	2. t	o acquaint	the studer	nt with the desig	n of various flee	t maintenar	nce s	ystems		
learning outcom	es 3. t	o get acqua	ainted with	n basic knowledg	e in the field of	maintenanc	e sys	stem an	alysis	
Droroquisitos	4. 8	ipply the ac	quirea kno	owiedge in pract	ice					
Frerequisites		turos ovor	cises laho	ratory work inte	ractive worksho	ns dehates	nre	sontati	ons nublic	
Teaching metho	ds def	ense of ter	m paper			,ps, debates	, pre	Sentati		
1. Division of vehicle fleets. Characteristics of fleets 2. Fleet resource management 3. Selection, procurement and write-off of vehicles 4. Methods of financing the purchase of vehicles 5. Analysis of financial reports of the fleet 6. Models of organization and management of vehicle fleets 7. Fleet activities. subcontracting fleet activities 8. Fleet cost management 9. Cost planning. Cost control. Management of information on the work and cost the vehicle fleet, selection of information system and application 10. Professional training of employees in fleets. Risk management and fleet insurance 11. Design of fleet maintenance systems 12. Quantification of the impact of maintenance system quality parameters 13. Integral dynamic-stochastic simulation model for quantifying the influence of quarameters 14. Models of calculating the periodicity of preventive interventions 15. Self-maintenance system and vehicle maintenance system for third parties						and costs of insurance nce of quality d parties, i.e.				
Author	r/s		Name	of publication.	oublisher	Yea	r	Pag	es (from-to)	
Папић В	,	Уп	рављање	oPhDжавањем в	возних паркова	,	-		-	
			y	чоеник у припр						
Payant R.P., L	ewis B.T.	: ^{Fa}	Second E	lager s Maintena		2007	7.		-	
			Secon a E		dings			l		
Author	/s		Nam	ne of publication	editor	Yea	r	Pag	es (from-to)	
Aution	13		Ivall			Tea	•	i ag	-	
			A	ssesment metho	ods		Poi	nts	Percentage	
	. Pre	-examinati	on obligati	ons					U	
Evaluation criter	па		<u> </u>		а	ttendance	5		5%	
					activity duri	ing classes	5		5%	
					1 -	.	t		1	

	term paper	30	30%						
	colloquium I	15	15%						
	colloquium II	15	15%						
	Students who pass all colloquia								
	are exempted from the written part of the examination.								
	Final exam								
	final exam (oral)	30	30%						
	TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf								
Analisahla fuan	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic								
	Engineering in Doboj								

		UNIVERSITY OF EAST SARAJEVO							Source and a state		
		Study program: Traffic									
		Profile: The road transport and traffic									
3 45ra 30 M		II cycle	of stu	ıdy	I years of s	study		tores -			
Course title		_			EXP	ERTISE OF TRAF	FIC ACCIDEN	S			
Department		De	partment o	f Tran	sportation Engin	neering					
	Code			Со	urse status	Sem	lester		ECTS credits		
САФ12СД	02219326	5,032	0		Electoral		II		6,0		
Professor/s		PhD	Tihomir Đuri	ć, Full	Professor						
Associate/s		PhD	Tihomir Đuri	ć, Full	Professor						
	Weekly	hour	s		Individual st	udent hours (pe	er semester)	Stude	So S_0		
L	TE		LE		L	TE	LE		So		
3	1		1		3*15*0,2=9	1*15*0,2=3	1*15*0.2=3		0,2		
Total te	eacher wo 8*15 + 1*	orkloa 15 +	ad (hours, p 1*15 =75 h	er sei nours	mester)	Total st 3*15*	udent worklo 0.2 + 1*15*0	ad (hours 2+ 1*15*	s, per semester) *0.2= 15 hours		
			Total w	orkloa	ad: W+T=U _{opt} = 7	5 + 15 = 90 hour	s per semeste	er			
		By n	nastering th	is cou	urse the student	will be able to:					
Course aims a	nd	1. U	nderstands	the c	oncept and impo	ortance of traffic	c accident exp	ertise			
learning outco	mes	2. CC 3 th	prrectly inte	erpret	s the traffic accientific me	dent traces whod in the proc	ess of traffic	accident	analysis		
		4.fo	for simpler traffic accident analysis								
Prerequisites		stud	lent may tal	ke the	e exam if he or s	he has passed th	e traffic safet	y exam			
Teaching meth	nods	ex-c	hair lecture	s, wo	rkshops, discuss	ions, focus grou	ps, individual	and grou	p work		
		1. In	1. Introduction, subject and method of study.								
		2. Le	2. Legal basis of expert evaluation, place and role of traffic and technical expertise in judicial								
		proc	process 3. Methodology of traffic-technical analysis of traffic accidents								
		4. W	4. Ways to express the views of experts								
		5. Co	5. Content of expert findings and opinions: Background								
		6. Cl	6. Classification of traffic accident traces								
6		7. Contents of the expert's findings and opinions: Expert's finding - analysis of injuries and damage									
Course conten	it	to the vehicle 8. Content of expert findings and opinions: Expert Findings - analysis of vehicle traces									
		9. Content of expert findings and opinions: Expert finding - lamp trace analysis									
		10. 0	10. Calculation of vehicle speeds involved in a traffic accident								
		11. [11. Determining the location of the collision								
		12.[12. Defining a traffic accident omission								
		13. U	.3. Use of computers and specialized software in traffic accident expertise								
		15. 5	Specificity o	of exp	ertise of particul	ar traffic accide	nts				
					Textb	ook (s)					
Autho	or/s			Na	me of publicatio	on, publisher		Year	Pages (from-to)		
1. Dragac R.			Road Traff SRJ Officia	ic Acc l Gaze	cident Investigat ette), Belgrade	ion and Expertis	e, (J.P.	2007.	1-560		
2. Dragac R. i	Vujanic N	И.	Traffic Safe	ety Pa	art II, Faculty of	Fransportation, I	Belgrade	2002.	79-220		
3. Vujanic M	., Antic	В.,	Collection	of tas	sks in traffic safe	ty, with practicu	ım,	2015.	1-240		
Pesic D. i Li	povac K.		Faculty of	Trans	port and Traffic	Engineering, Be	Igrade				
مادر ۸	or / c				Addition	ai readings		Voor	Pagas (from to)		
Autho	<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Traffic Acc	ident	Inspection - Fle	ments of Traffic		icai			
1. Lipovac K.			Tracology,	Colle	ge of Internal A	ffairs, Belgrade		2000.	1-208		

	Assesment methods	Points	Percentage						
Evaluation criteria	Pre-exam obligations								
	activity during class - tests	10	10						
	colloquiums	15	15						
	positively evaluated seminar paper	20	20						
	Final exam								
	written part of the exam	35	35						
	final exam - oral	20	20						
	IN TOTAL	100	100 %						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf							
Applicable from	om 19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engi Doboj								

		UN Faculty o	VERSITY OF EAST f Transport and Transport and Transport and Transport and Transport and Transport and Transport	g	Sarahilli Carrier					
82°		Profile	: The road transpo	ort and traffic		Δοδο				
Course title		ll cycle		idy						
Course title	Do	DATABASE								
Department										
Code		C	ourse status	Seme	ster	ECTS credits				
САФ12СД02214	726,0320		Electoral	I		6,0				
Professor/s	PhD Želj	jko Stjepanović, F	ull Professor							
Associate/s	PhD Zelj	iko Stjepanović, F	ull Professor							
Week	ly hours		Individual stu	udent hours (pe	er semester)	Student workload				
L	TE	LE	L	TE	LE	So				
3	1	1	3*15*0,2=9	1*15*0,2=3	1*15*0.2=3	0,2				
Total teacher w	orkload (h	nours, per seme	ster)	Total stude	ent workload (h	ours, per semester)				
3*15 + 1	*15 + 1*1!	5 =75 hours		3*15*0.2	+ 1*15*0.2+ 1*	*15*0.2= 15 hours				
		Total workload	W+T=U _{opt} = 75 + 1	5 = 90 hours pe	er semester					
	1. Stude	ents will be able	to create and imp	lement a datab	base in traffic					
Course aims and	3. Stude	ents will use the	database manage th	ment tool to cr	eate a user inte	erface in traffic.				
learning outcomes	4. Profe	4. Professional knowledge of students will be received through the application of various minor								
	applicat	lications in transport companies								
Prerequisites	There a	re no formal co	nditions							
Teaching methods	Lecture	tures, laboratory exercises, computer classroom exercises and consultations.								
	Learnin	arning and independent development of practical tasks.								
	1. The notion of data model - the notion of entity, type and class of entity, feature, entity type key									
	2. Conc	2. Concepts of database schemes at the intensive and extensional level.								
	4. Mode	4. Model objects - connections. Intensity and extension of the model IDFF1X standard for data								
	modelir	modeling.								
	5. Application of relational data model in traffic - Concepts of structural component of the model.									
	Integrity component.									
	 b. Types of dependencies in the relational database scheme in traffic. 7. Algorithms for designing relational database schemes in traffic. 									
	8. I colloquium									
Course content	9. The notion of data normalization and normal form. Relational data model - Concepts of the									
	operational component of the model.									
	10. Rela	10. Relational algebra and relational calculus Standard SQL query language. Inquiries								
	states a	11. Update the database. Views. Restrictions. Object data model - Type specification. Inheriting								
	12. Clas	12. Class diagrams. OQL object guery language. XML as a data model - Defining types of XMI								
	docume	ents.								
	13. Intro	oduction to the	concept of the bas	se of mobile ob	jects for trackin	g the routes of traffic				
	entities	Nov of GPS track	s of difforant type	s of vohiclos or	a digital man					
	15. II co	olloquium	s of unreferit type		ι α αιδιται Παρ.					
		•	Textbook	(s)						
Author/s		Nam	e of publication, p	oublisher	Year	Pages (from-to)				
Lazarević B., Marjanovi	ć Z.,	Database			2003					
Anicic N., Babarogić S.		Dripping	atabacas		1005					
IVIOGIN P., LUKOVIC I.		Principles of databases 1995								

Additional readings									
Author/s		Name of publication, editor Year				ages (from-to)			
Elmasri R., Navathe S. B.		"Fundamentals of Database Systems"5th Edition,	2006						
		Assesment methods		Poi	ints	Percentage			
	Pre-exar	n obligations							
		attendance at lectures / exe	rcises	5		5%			
		I am positively assessed. paper / project /	15		15%				
		case study - group							
Evaluation criteria		test / colloc	40		40%				
		laboratory work / lab. exe							
		practical							
	Final exam								
		for example. final exam (oral / wi	40		40%				
	IN TOTA	L		100)	100 %			
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ki-NPP-	II-cik	lus.pdf				
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in								
	Doboj								

RAILWAY TRAFFIC



UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj

II CYCLE TRAFFIC (Railway traffic)



	I year of study											
Number	Code	ourse status	ditionality	Semester	Hours per semester			ECTS				
			ပိ	Con		L	TE	LE				
1.	САФ12СЖ02118016,0320	Methodology of scientific research work	М		Ι	3	2	0	6			
2.	САФ12СЖ02118116,0320	Models, simulations and animations in traffic	М		Ι	3	1	1	6			
3.	САФ12СЖ02119516,0320	High-speed train systems	М		Ι	3	2	0	6			
	САФ12СЖ02219616,0320	1. Selected chapters from the tehnology for the exploitation of railway traffic			I	3	1					
4.	САФ12СЖ02219716,0320	2. Work theory of railway network operator and towing organization	O ₁					1	6			
	САФ12СЖ02219816,0320	3. Planning and design of railway lines										
	САФ12СЖ02219916,0320	 Selected chapters from the transport of passengers by rail 				3	1	1				
5.	САФ12СЖ02220016,0320	2. Quality and service system in railway traffic	O2		I				6			
	САФ12СЖ02220116,0320	 Selected chapters from the transport of goods by rail 										
	САФ12СЖ02220226,0320	 Automation of railway traffic through information technologies 										
6.	САФ12СЖ02220326,0320	 Strategic management in railway engineering 	O ₃		II	3	1	1	6			
	САФ12СЖ02219326,0320	3. Expertise of traffic accidents										
7	САФ12СЖ02218426,0320	1. Deterministic models of operational research	0			2	1	1	0			
1.	САФ12СЖ02220426,0320	Ф12СЖ02220426,0320 2. Risk analysis			11	3		I	6			
	САФ12СЖ02220526,0320	3. Modeling in railway transport										
8.	САФ12СЖ021194218,01600	MASTER THESIS	0		II	16	0	0	18			
				TO	TAL	37	9	5	60			

Profile: Master of traffic - 300 ECTS - railway traffic

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Railway traffic						2005 50 5 108 0 40 10 10 4060J		
Course title			l	METHODO	LOGY O	F SCIENTIFIC	RESEARCH	WOR	K	The Loop poly
Department	Dep	bartmen	t of Transpo	ort Engineer	ring - Fa	culty of Transpo	ort and Traffic	Engi	neering	Doboj
Code			Со	urse status	i	Seme	ster		ECTS	S credits
САФ12СЖ0211	8016,0320		m	nandatory	D 7	<u> </u>				6.00
Protessor/s	PnD Peri	ica Gojk	OVIC, FUILP	rotessor; Pr ant	nD Zorar	i Curguz, Asso	clate Protesso	or		
Wee	kly hours	15110, 00	511101 733131	Indivi	dual stu	dent hours (pe	er semester)		Stude	ent workload
	TE		16			ТС	15		CO	Sincient So
3	2		0	L X*15*9	2	Y*15*So	7*15*So			3 ₀ 1 4
Total teacher	workload (h	nours, p	er semeste	r)		Total studen	1 workload (h	OURS,	per sem	ester)
515+	2 13 + 0 1	5 – 75 Total w	orkload: W-	+T=Uont= 75	5 +105 =	180 hours per s	z 13 1,4 + 0 semester	10 1,4	4 - 1031	10015
Course aims and learning outcomes 1. Introducing students with methods used in the preparation of scientific research papers 2. Introducing students to the techniques used in the preparation of scientific research papers 3. mastering the writing and defense of the thesis 4. independent preparation of seminar paper						s ipers				
Teaching methods	Lectures	auditor	v exercises	. consultati	ons					
Course content	Teaching methods Lectures, auditory exercises, consultations 1. The concept, subject, significance and historical development of the methodology of scientific research 2. Basic scientific theories and research 3. Methods of scientific research 4. Conceptual foundations of research (concepts, theories and models, formulation and explanation of research topics and problems, defining the subject and goal of research, formulating research hypotheses) 5. Research approaches, strategies and planning (selection of research methods, determination of population and research sample) 6. Theoretical review of research (review of literature and research in accordance with the concept of research), first colloquium 7. Operationalization of research (measurement of economic variables, typology of data, search of primary and secondary sources, arranging and analyzing data, testing hypotheses) 8. Research instruments; notion of instruments, types of instruments, competition of instruments 9. Sample; concept, types, procedures and sampling techniques 10. Project of scientific research work 11. Methodology and technology of making a scientific work 12. Discussion of results 13. Writing a research report and conclusions							cientific explanation of esearch nination of e concept of search of uments		
Author/s			Name	of publica	tion, pu	blisher	Yea	r	Pag	es (from-to)
Zakic M.:			Methoo Fa	dology of so culty of Law	cientific re /, Banja I	esearch, ₋uka	200).		
Colakhodzic E.:		Me worl	thodology a k, Faculty o	nd technolo f Teacher E University	ogy of so ducatior , Mostar	ientific researcl , Džemal Bijed	n ić 202 ⁻	1.		
A (1 /				Addition	al readin	ngs ditor	V			
Author/s Stanivukovic D.:		Metho Science	Nan od of scienti ces, Novi S	n e ot publi fic work, Fa ad	cation, e	Fechnical	Yea	r	Pag	es (from-to)
Evaluation criteria		1	A	ssesment	method	S		Poi	ints	Percentage
	Pre-exam obligations									
-----------------	---	----------------	--------------	--	--	--	--	--		
	attendance at lectures / exercises	5	5%							
	teaching activity	5	5%							
	positively graded seminar paper	20	20%							
	colloquium	40	40%							
	Final exam									
	Oral exam	30	30%							
	IN TOTAL	100	100%							
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	lf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Eng	jineering in							

		UNIX Faculty of II cycle					
Course title		N	ODELS, SIMULAT	IONS AND ANIM	IATIONS IN 1	RAFFIC	
Department	Dep	partment of Trans	port Engineering - Fa	aculty of Transpo	rt and Traffic	Engineering	Doboj
Code	•	Co	ourse status	Seme	ster	ECT	S credits
САФ12СЖ0211	8116,0320		mandatory				6.00
Professor/s	PhD Mirk	ko Stojčić, Assista					
Associate/s		Ko Stojcić, Assista	nt Protessor			Stud	ont workload
We	ekly hours	16	Individual st	udent hours (pe	r semester)	CO	efficient So
2 L	1	1 LE	62	1E 21	 21		
J Tatal tagahar				ZI Totol student			I,4
	workioau (f - 1*15 + 1*1	5 = 75 hours		$3*15*1 4 \pm 1$	×15*1 Δ + 1*1	541 <u>4</u> = 105	hours
0.04		Total workload W	/+T=U _{opt} = 75 + 105 =	= 180 hours per	semester	ι, τ = 10J	
Course aims and learning outcomes Prerequisites Teaching methods Course content	A structures A	and the content of nizes traffic processes ates traf	eses eses	eling and models overview of simu ormal model spe Classification of ure nal cycles SIMUL8, PC CRE	ulation develo cification optimization	opment	
			Textbook (s)			
Author/s		Nam	e of publication, p	ublisher	Yea	r Pag	jes (from-to)
Averill M. Law		Simulation Mod Education	eling and Analysis, N	/IcGraw-Hill	2014	4	
Montgomery D.		Design and Ana Sons	lysis of Experiments	, John Wiley &	2012	2	
Božičković R		Metede optimiza Engineering Do	acije, Faculty of Tran boj	sport and Traffic	2007	7	1-257
			Additional read	ings			
Author/s		Na	me of publication,	editor	Year	r Pag	jes (from-to)
Čupić M. et al.		Specijalna pogla Sad	avlja iz teorije odlučiv	vanja, FTN Novi	2009)	1-135
			Assesment method	ds		Points	Percentage
Evaluation criteria	Pre-exan	n obligations		donno ot la sturre -	Loversizzz	10	100/
			atten	uance at lectures		10	10%
		ро	suively assessed se	minary work / pro	ject / essay	10	20%

	case study - group work	10	10%				
	test / colloquium	20	10%				
	Final exam						
	Final exam (oral / written)	50	50%				
	TOTAL	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	lf					
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in						
Applicable from	Doboj						

		F	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic Il cycle					AOEDJ		
Course title		Denertmen		HIGH-	SPEED TRAIN SY	STEMS	Dehei			
Department		Departmer		ort Engineering –						
	Code		Col	urse status	Semes	ter	EC	TS credits		
САФ12СЖ	02119516,0	0320	n Ni n	nandatory				6.00		
Protessor/s	PhL) Ratko Đuri Jimir Malčić	CIC, FUIL Pro	tessor istant						
ASSOCIATE/S	Weekly ho	ours	Individual student hours (per semester)					dent workload oefficient S₀		
L	TE		LE	L	TE	LE		S₀		
3	2		0	3*15*1,4=63	2*15*1,4=42	0*15*1,4=0	0	1,4		
Total tead 3*	cher worklo 15 + 2*15	bad (hours, p + 0*15 = 75	er semeste hours	r)	Total student 3*15*1,4 + 2	workload (ho *15*1,4 + 0*1	ours, per se 15*1,4 = 10	mester) 5 hours		
		Total w	orkload: W+	$T=U_{opt} = 75 + 105$	= 180 hours per s	emester				
Course aims and learning outcomes By mastering this course students will be able to: 1. get acquainted with high-speed trains, 2. analyze their technical and aerodynamic characteristics 3. independently work on the construction of high-speed trains, as well as performance calculation kinematics and dynamics, 4. simulating high-speed train movements as well as self-guiding curtain sets						calculations,				
Prerequisites	Non	e								
Teaching metho	ds Lec	tures, audito	ry exercises	s, consultations.						
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	Basic require Technical ar sets and set Basic charac Computer sy Signaling sy Telecommun Security sys Types and c Linear engin Numerical a Determination speed trains Calculation o Dimensionin Linear engin	ements and ad aerodyna s with self-lo cteristics of r /stems stems nication syst tems for the haracteristic les nalysis and bn and base of kinematic f self-assen g of stable e e calculation	basic performanc mic characteristic bading box magnetically-levita rems safety of the rout so of traction engir simulation of high line calculation of and dynamic perf hobly of sets in the electric power train n Textbook (e of high-speed tra s of diesel-engine s ation set e es speed gear sets basic aerodynamic ormances curve n units of high-spee s)	in sets and t sets of high-s c effects durin ed trains and	rack desigr speed trains	ement of high-		
Autho	or/s		Name	of publication,	oublisher	Yea	r P	ages (from-to)		
Rusov S.		High and T	speed trains raffic engin	s, authorized CD,F eering, Belgrade	aculty of Transpor	t 2008	3			
				Additional read	dings					
Autho	or/s		Nar	ne of publication	, editor	Yea	r P	ages (from-to)		
			Δ	ssesment metho	ods		Points	Percentage		
	Pre	exam obliga	ations				1 01113	i croentage		
		chain oblige			Presence duri	ng lectures	10	10%		
Evaluation criter	ia			Positi	velv evaluated sen	ninary work	20	20%		
					Project n	resentation	20	20%		
		Exam/colloquium 20 20%								

	Labaratory work-practice						
	Practical work						
	Final exam						
	wrriten	15	15%				
	verbally	15	15%				
	In total	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	<u>lf</u>					
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboi						

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic								
Course title		SELEC ⁻	TED CHAPT	ERS FROM	I THE T	EHNOLOGY FO	OR THE EXP	LOITATION	OF RAILWAY	
Department		Departmer	nt for Transp	ort Enginee	ering – F	aculty of Traffic	Engineering I	Doboj		
Co	ode		Co	urse status		Seme	ster	EC	TS credits	
САФ12СЖ02	2219616,0	0320	C	optional 1		I			6.00	
Professor/s	PhD) Branislav E	Bošković, Fu	Ill Professor						
Associate/s	Vlac	dimir Malčić,	Senior Ass	istant				01	1. (. 11 1	
V	Neekly h	ours		Indivi	dual stu	dent hours (pe	r semester)	Stu c	oefficient So	
L	TE		LE	L		TE	LE		S₀	
3	1		1	3*15*1	,4	1*15*1,4	1*15*1,4		1,4	
I otal teaci 3*1	ber workio	bad (nours, p + 1*15 = 75	ber semeste hours	r) 	. 105 -	1 otal studen 3*15*1,4 + 1	t workload (he 1*15*1,4 + 1**	ours, per se 15*1,4 = 10	mester) 5 hours	
Course sime and	Trai	TOIDI W	OFRIDAU. VV+	-T-U _{opt} - 70	0 + 100 - 000	n mothods and	models for d	otorminina t	ho normoshility	
learning outcome	s and	transport ca	anacity of the	e railways	stations	and railway syst	ems in dener	al	ne permeability	
Prerequisites	Atte	ndance, hor	nework, test	ts. self-stud	v. consu	Itations.	onio in gener	ui.		
Teaching method	s Tea	ching takes	place in the	form of lect	ures, au	ditory exercises	. Learning, te	sts, tasks a	nd consultations.	
Course content	2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	Planning the Planning wo Planning wo Modern tech Planning of Modern tech Techno-eco Quality of tra Optimizatior Models of tra Methods for Railway tarif	e developme e developme rk technolog terminal tech rk technolog nologies of passengers nologies of nomic evalu ansport serv of the deve ain formation improving the fs	nt of the ca nt of termin gy in railway hnology gy on indust organization transport or organization ation and e ices elopment of n he utilization	rial track rial track n of rail f n railway n of pass valuation the struct	railway stations ities senger transport of investment p sture of the freig ht wagons throu	t projects on th ht wagon par ugh demand p	e railway k of the railw prediction	vay	
Author			Name		tion nu	hlichar	Voa	r D	and (from to)	
Čičak M. Vesković	S	Orga	nization of F	ailway Traf	fic Relar	ade	2004			
Čičak M. Vesković	s.	Orga Orga task, Belgr	nization of F Faculty of T ade	Railway Traf	fic,a coll d Traffic	ection of solved Engineering,	1999	9		
Čičak M. Vesković	S.	Mode	els for deterr	nining the c	apacity	of the railway,	2004	2		
Mladenović S.		Facu	Ity of Transp	ort and Tra	ffic engi	neering, Belgrad	de 2002	<u> </u>		
				Addition	al readi	ngs				
Author	/s		Nar	ne of publi	cation, e	ditor	Yea	r Pa	ages (from-to)	
			AA	<u>ssesmen</u> t	method	S	·	Points	Percentage	
	Pre	examination	obligations							
						Presence dur	ring lectures	5	5%	
Evaluation criteria	a					Sei	minary work	25	25%	
						Collogi	uium I and II	2x15	30%	
	Fina	al examinatio	on					1		
		-				Oral	examination	40	40%	

	Total	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	lf	
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	nd Traffic Eng	ineering in

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic						AOEOJ		
Course title		WOR	(THEORY	OF RAILWAY NE	WORK OPERAT	OR AND TO	DWING ORGANIZATION			
Department		Departmer	nt for Transp I	ort Engineering –	Faculty of Traffic E	Ingineering	Doboj I			
0	Code		Co	urse status	Semes	ter		ECTS	S credits	
САФ12СЖ	02219716,0	0320 December 1	(optional 1					6.00	
Associate/s	PhL) Predrag Jo	ivanović, As Ivanović, As	sociate Professor						
	Weekly h	ours		Individual st	udent hours (per	semester)		Stude	ent workload efficient S₀	
L	TE		LE	L	TE	LE			L	
3	1		1	3*15*1,4=63	1*15*1,4=21	1*15*1,4=2	21		1,4	
Total tea	cher worklo 15 + 1*15	oad (hours, p + 1*15 = 75	per semeste hours	r)	Total student 3*15*1 4 + 1*	workload (h *15*1 4 + 1**	ours, 15*1 4	per sem 4 = 105 I	ester) hours	
		Total w	orkload: W+	-T=U _{opt} = 75 + 105	= 180 hours per s	emester				
Course aims and learning outcomesBy mastering this course the student will be able / able to:1. get acquainted with the basics of restructuring and deregulation of the railway system;2. calculates the turnover of locomotives and calculates the rotation of rolling stock;3. allocates costs from the spectrum of operators and infrastructure managers;4. get acquainted with the multi-criteria approach and the calculation of fees for the use of railw						of railway				
Prerequisites	Nor	ne								
Teaching metho	ds Lec	<u>tures, audito</u>	ry exercises	s, consultations.						
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	 Basic concept, principles and laws in railway traffic. Restructuring and deregulation of the railway system. Principles and concepts of railway traffic organization. Legality and quantitative and qualitative indicators of work and use of freight and passenger cars and locomotive parks. Locomotive trade. Owning a locomotive. Turnus of driving staff. Train costs from the aspect of operators and infrastructure managers. New approaches and techniques in the maintenance of railway vehicles. Impact of train delays and timetable disruptions on the operator and infrastructure manager. Fees as an element of railway market regulation. Harmonization of individual indicators of the railway subsystem. Harmonization of individual railway subsystems Elements for determining fees for access to and use of railway infrastructure. Multi-criteria approach to the choice of methods for determining the amount of compensation. Discussion of the applied methods of calculation of fees in certain countries. 								
Autho	or/s		Name	of publication, p	, ublisher	Yea	r	Pag	es (from-to)	
Mandić D.		Train Traffi	towing org c Engineerii	ganization, Facult	/ of Transport a	nd 200	2			
Dinić D.		Vuča propa	Vozova, Za agandnu del	ovod za novinsko-iz atnost JŽ, Beograd	davačku i 1	198	3			
Kovačević P.		Ekspi delati	loatacija žel nost JŽ, Bec	eznica knjiga I i II, ograd	∠avod za NIP	198	8			
				Additional read	lings					
Autho	or/s		Nar	ne of publication,	editor	Yea	r	Pag	jes (from-to)	
				4						
Evely attack with			A	ssesment metho	as		Poi	nts	Percentage	
	ia Pre	-exam obliga	auons		Presence duri	na lectures		10	10%	
					FIESEIICE UUII	ny lectures	I	IU	1070	

	Positively evaluated seminary work	20	20%
	Project presentation	20	20%
	Exam/colloquium	20	20%
	Labaratory work-practice		
	Practical work		
	Final exam		
	wrriten	15	15%
	verbally	15	15%
	In total	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	lf	
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Eng	jineering in

		F	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic Il cycle						ADED J		
Course title				PLANNING AN	ID DESIGN OF R		ES				
Department		Departmer	it for Transp	bort Engineering -	Faculty of Traffic	Engineering I	Joboj				
C	ode		Co	urse status	Seme	ster		ECT	S credits		
)2219816,0	0320 Milož Ivić I	(Tull Drofood	optional 1					6.00		
Protessor/s	PhL	dimir Malčić	Senior Ass	ietant							
ASSOCIATE/S	Weekly h	ours		Individual st	tudent hours (pe	r semester)		Stude	ent workload		
L	TE		LE	L	TE	LE			S _o		
3	1		1	3*15*1,4	1*15*1,4	1*15*1,4			1,4		
Total tead 3*	cher worklo 15 + 1*15	oad (hours, p + 1*15 = 75	er semeste hours	r)	Total student 3*15*1,4 + 1	workload (he 1*15*1,4 + 1*	ours,∣ 15*1,4	per sem 4 =105 ł	ester) nours		
		Total w	orkload: W+	-T=U _{opt} = 75 + 105	= 180 hours per s	semester					
Course aims and learning outcomes Compiting this course, the student will be enabled to: 1. to participates in the preparation of spatial plans, 2. to participates in the preparation of planning and design documents, 3. to participates in the evaluation of different railway line alignment s, 4. to evaluate the project documentation. The conditions for passing the course are: 1. regular attendance (lectures and exercises), 2. approximate											
	3. 4.	all colloquiur all test passe	ns passed, ed.								
Teaching method	ds Lec	tures, audito	ry and com	putational exercise	s, consultations						
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	Track constr Basic charac General sett Types and c General prin Horizontal a Vertialc aligr Railway line Final railway Bill of Quant Methodology Content and Railway line Conditions for Evaluation of	uctive elem cteristics of ings on the haracteristic ciples of de ignment desig cross sectio line geome ities for railway lin characteris reconstruct or designing f railway lin	ents. railway tracks and planning and desig cs of spatial plans sign. Conditions for esign (1 st colloqui gn ons - design etry design trics of project docu ion g other rail systems e alignment s (2 nd	their constructive gn of railway lines or the design of rai ium) umentation s (tram lines, metro colloquium)	elements Iway lines o lines, high s	speed	rails)			
Autho	rlo		Nom	l extbook (s	s) Nublicher	Vaa	. 1	Dee	(from to)		
Autilo	1/5	Railu	av tracks F	aculty of Transpor	t and Traffic	Tea		Pag	es (110111-10)		
lvić M.		Engir	eering, Bel	grade		2008	5				
Ivi Popović, Z. ć. N	И	Basic Engir	s of railway eering, Bel	, <i>line design</i> , Facul grade	ty of Civil	2004	1				
lvić M., Kosijer M.		Railw Traffi	ay tracks -v c Engineerii	<i>- vorkbook</i> Faculty o ng, Belgrade	f Transport and	1998	3				
				Additional read	lings						
Author	r/s		Nar	me of publication	editor	Yea	r	Pag	jes (from-to)		
lvić M.		Railw prese	ay line desi Intations	ign, Lectures in the	form of PP						
Evaluation criteri	ia		A	Assesment metho	ds		Poi	nts	Percentage		

	Preexamination obligations							
	The student's activity during lectures	5	5%					
	Elaborate	30	30%					
	Tests	15	15%					
	Colloquiums	30	30%					
	Final examination							
	Oral examination	20	20%					
	Total	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	lf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	nd Traffic Eng	jineering in					

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic								
Course title	De	S	ELECTED (CHAPTERS		THE TRANSPO	RT OF PASS	SENG	ERS BY	' RAIL
Code		epartmen		urse status	enng – i		ter			
	0040 000	<u>,</u>	00			Ocifica				
Professor/s	9916,0320 PhD Ra) tko Đurić	čić Full Pro	ptional 2 fessor					t	5.00
Associate/s	Vladimi	Malčić,	Senior Ass	istant						
Wee	ekly hours	5		Indivi	dual st	udent hours (per	r semester)		Stude coe	ent workload efficient S₀
L	TE		LE	L	00	TE	LE			L
3 Total tagebor	1 worklood	(houro n	1 or comosto	3*15*1,4 r\	=63	1*15*1,4=21	1*15*1,4=2	21	nor com	1,4
3*15 +	• 1*15 + 1*	15 = 75	hours	1)		3*15*1.4 + 1	*15*1.4 + 1*	5015, 15*1.4	per sern« 4 = 105 h	nours
		Total w	orkload: W+	-T=U _{opt} = 75	5 + 105	= 180 hours per s	semester			
Course aims and learning outcomes	Course aims and learning outcomes By mastering this course the student will be able / able to: 1. to get acquainted with the basic concepts of passenger transport; 2. organizes passenger traffic; 3. make timetables and calculate elements for timetables; 4. calculate the cost of passenger traffic.									
Prerequisites	INONE	auditor	v and labor	atory exerci	00 00	neultations				
Course content	1. Basi 2. Fact 3. Basi 4. Orga 5. Use 6. Calc 7. Rail 8. Pasi 9. Time 10. Elen 11. Tarii 12. Norr 13. Coss 14. Qua 15. Infor	 Basic concepts of passenger transport. Purpose and categories of travel Factors of choice of mode of transport Basics of passenger transport planning Organization of passenger traffic Use of passenger car park Calculation of the required number of train crew Rail systems for mass passenger transport Passenger station technology Timetables Elements for making timetables Tariff policy. Tariff systems Normative work in passenger traffic Costs of passenger traffic Quality of services in passenger traffic 								
Author/c			Nome		<u>000K (S</u>) ublichor	Vaa	r	Dag	os (from to)
Чичак М., Весковић С).	"Orga	inization of	Railway Tra	iffic II", /ersity.c	Faculty of Transp	ort 2006	ô	Pag	es (110111-10)
Чичак М., Весковић (<i>).</i>	"Colle Traffic	ction of sol	ved tasks", I ng, Universit	Faculty ty of Be	of Transport and	2006	ô		
				Addition	al read	ings				
Author/s			Nar	ne of publi	cation,	editor	Yea	r	Pag	es (from-to)
			Δ	ssesment	metho	ds		Poi	nts	Percentage
Evaluation criteria	Pre-exa	m obliga	tions		Deell	Presence duri	ng lectures		10	10%
_rulation ontend					Positiv	ely evaluated sen	ninary work		010	30%
						Project p Exam	resentation /colloquium		30	30%

	Labaratory work-practice							
	Practical work							
	Final exam							
	verbally	30	30%					
	In total	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pd	<u>df</u>						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in							

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic Il cycle I year of study							A OEDJ		
Course title	Der	artmen	QL for Transp	JALITY AN	D SER\ erina – F	ACCE SYSTEM IN	RAILWAY Engineering I	TRAF	FIC		
Code			Со	urse status	i i	Semes	Semester			S credits	
САФ12СЖ0222	0016,0320		c	ptional 2					(6.00	
Professor/s	PhD Rate	ko Đurič	ić, Full Pro	fessor							
Associate/s	Sanja Sir	nić, Ser	nior Assista	nt					01 1		
Wee	Weekly hours			Individua		udent hours (per	r semester)		coefficient S₀		
	1E		<u>LE</u>	L 2*15*1_4-02		1*15*1 /-01	LE 1*15*1 /-0	21		L 1.4	
J Total teacher	workload (h	nours n	ı ər semeste	5 13 1,4 r)	-03	Total student	workload (h		ner sem	I,4 ester)	
3*15 +	1*15 + 1*1	5 = 75	nours)		3*15*1.4 + 1	*15*1.4 + 1*	15*1.4	4 = 105 h	nours	
	-	Total wo	orkload: W+	T=U _{opt} = 75	5 + 105	= 180 hours per s	semester	,			
Course aims and learning outcomes	By master 1. under mode 1. use a 2. devel 3. meas 4. mana	 By mastering this course the student will be able to: understands the requirements of railway service users in the context of the needs imposed by the modern market, use and apply different approaches, models and methods of measuring and improving quality, develop and apply specific quality management models in real business conditions, measure and improve the quality of processes on the railway and railway system, manages resources within its competence more successfully in real business conditions. 									
Teaching methods		auditor	vovorcisos	seminary	work o	oncultations					
Course content	Lectures, auditory exercises, seminary work, consultations 1. Characteristics and specifics of the modern market of transport services 2. Defining the concept of transport service quality 3. Quality global vision of the future 4. The place and role of the quality system in the organization 5. Evolution of the concept of quality management 6. Quality management systems 7. I colloquium 8. Approach to the introduction of quality systems in the railway transport organization 9. Development of procedures. Building business processes. Flowchart 10. Process management through quality cost management 11. The concept of continuous quality improvement. Quality loop 12. Integrated quality management systems. Structure. Integration methods 13. Models of excellence. Quality management tools and techniques, 14. Development and application of specific models and approaches to quality management in the railway transport organization										
Author/s			Name	of publica	ition, p	, ublisher	Yea	r	Pag	es (from-to)	
Bobrek, M., Milekić, M Macanović, K.	.,	Quality accord	y manager ding to ISO	nent (Integra 9001: 2015	ated ma i), <i>Facu</i>	nagement systen Ity of Transport a	n nd 2014	4	3	1-284	
		Traille	Lingineeni	Addition	al readi	inas			l		
Author/s			Nan	ne of public	cation.	editor	Yea	r	Pag	es (from-to)	
Kilibard, M.,		Qualit	y manager	nent in logis	tics, Fa	culty of Transport	t 000	0		1 269	
Zečević, S.		and T	affic Engin	eering, Belg	grade	· · ·	2008	0		1-300	
			A	ssesment	method	ls		Poi	nts	Percentage	
Evaluation criteria	Pre-exan	n obliga	tions		Positiv	Presence dur ely evaluated sen	ing lectures ninary work		10 20	10% 20%	

	Exam/colloquium	2x35	70%							
	Final exam									
	wrriten									
	verbally									
	In total	100	100%							
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pd	<u>lf</u>								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj								

Vilice State		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic Il cycle									
Course title		SE	LECTE	D CHAPTERS	FRO	M THE TRANS	SPORT OF (S BY RA	NIL	
Department	De	partment for	Iranspo	ort Engineering	<u>-⊦a</u>	culty of Traffic	Engineering	Dobo	JODOJ		
Code			Cou	irse status		Semester			ECTS credits		
САФ12СЖ02220	0116,0320		0	ptional 2					(6.00	
Protessor/s	PhD Bra	NISIAV BOSKO	DVIC, FUI	I Protessor							
Wee	kly hours			Individual	stud	lent hours (pe	r semester)		Student workload		
L	TE	LE		L		TE LE				L	
3	1	1		3*15*1,4=63	15*1,4=63 1*15*1,4=21 1*		1*15*1,4=	21		1,4	
Total teacher 3*15 +	workload (l 1*15 + 1*1	hours, per se 15 = 75 hours	emester s)		Total studen 3*15*1,4 + 1	t workload (ł l*15*1,4 + 1'	ours, 15*1,	per sem 4 = 105 ł	ester) nours	
		Total workloa	ad: W+	$T = U_{opt} = 75 + 10$)5 =	180 hours per	semester				
Course aims and learning outcomes Prerequisites Teaching methods Course content	Iotal workload: W+1=Uopt = 7.5 + 105 = 180 hours per semester By mastering this course students will be able to / be able to: 1. get acquainted with the basic concepts of transport of goods; 2. organize the transport of goods; 3. organize the transport of dangerous goods; 4. calculate the costs in the transport of goods as well as to calculate the transport and transport capacities for the transport of goods; 5. participate in the construction of commodity tariffs; 6. apply the acquired knowledge in practice. Prerequisites None Teaching methods I ectures, auditory and calculation exercises, consultations 1. Basic concepts of transport of goods 2. Organization of transport of goods 3. Planning the volume of transport of goods 4. Train formation 5. Modern concepts in the transport of goods by rail 6. Transport of special consignments 9. Regulations in the transport of goods 7. Intermodal transport of goods 7. Intermodal transport of goods 10. Costs in the transport of goods 11. Calculation of traffic and transport of goods 12. Construction of commodity tariffs 13. Infrastructure costs										
Author/s		1	Name	of publication	(S) nuh	lishar	Ve	ar	Pag	es (from-to)	
Čičak M., Vesković S.		Railway T	Traffic O	or publication organization II",	Facu	lty of Transpor Relarade	t 200	6	гау		
				Johny, Universit	9 01 1	Doigiduo					
				Additional re	adin	gs			•		
Author/s	or/s Name of publication, editor Yea						ar 🗌	Pag	es (from-to)		
			A	ssesment met	nods			Po	ints	Percentage	
	Pre-exar	n obligations	5								
Evaluation criteria						Presence dur	ring lectures	1	10	10%	
				Pos	itively	y evaluated ser	minary work		20	20%	
						Project p	presentation				

	Exam/colloquium	30	30%
	Labaratory work-practice		
	Practical work		
	Final exam		
	Final exam(verbally)	40	40%
	In total	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pd	<u>lf</u>	
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Enç	gineering in

		F	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic Il cycle								
Course title		AUT	OMATION	OF RAILWA	AY TRA	FFIC THROUGH	INFORMAT	Dobo		OLOGIES	
C	ode	Departmen	Co	urse status	; ;	Semest	er		ECTS credits		
САФ12СЖ0	2220226,0	0320	(optional 3				6.00			
Professor/s	PhD) Ratko Đuri	čić, Full Pro	fessor							
Associate/s	PhL	D Ratko Đuri	CIC, FUII Pro	tessor					Stude	ent workload	
	Weekly he	ours	Indiv		dual st	udent hours (per	semester)		efficient S₀		
L	TE		LE	L		TE	LE			L	
3 Total taga	1 hor workle	ad (houro r	1	3*15*1,4 r\	=63	1*15*1,4=21	1*15*1,4=2	21	nor.com	1,4	
3*	15 + 1*15	+ 1*15 = 75	hours	1)		3*15*1.4 + 1*	15*1.4 + 1*1	Jurs, 15*1.4	per sern 1 = 105 ł	iours	
		Total w	orkload: W+	-T=U _{opt} = 75	5 + 105	= 180 hours per se	emester	- ,			
Course aims and learning outcome	 By mastering this course the student will be able / able to: knows modern systems for railway traffic automation. knows the application of information and communication technologies on the railway. follows world trends in this field and is qualified to propose applications in our country and has the knowledge to be able to get involved in their development. 								and		
Prerequisites	Cla		ducted in th	e form of le	ctures t	v teachers classr	nom evercis	202.2	nd demo	nstration	
Teaching method	ds exe con	classes are conducted in the form of lectures by teachers, classroom exercises and demonstration exercises on our railway and, if possible, foreign railways. Learning, tests, assignments and consultations.									
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 13. 14.	Introduction. Traffic teleco Line setting Automation of Automatic tra ETCS Automatic tra ERTMS Modern railv GSM-R Satellite trac Automation of Directions of Information of High speed	Basic terms ommand of railway tra ain guidance affic manage vay commur king of loco of shunting s developme echnologies trains	s. affic e ement nication syst motives and station oper ent of shuntii s on railway	tems d trains ration ng statio s	on automation					
Author	r/s		Name	of publica	tion n) ublisher	Yea	r	Pag	es (from-to)	
Zoran Ž. Avramov	ić	Mode	ling and Mi	crocompute	r Mana	gement of Shuntin	19 1995	5	ı ay	full book	
				~p.i/, 201110	, Doigit						
				Addition	al read	ings					
Author	r/s		Nar	ne of public	cation,	editor	Yea	r	Pag	es (from-to)	
Zoran Ž. Avramov	ić	Desig Facul Berar	n of relay s ty of Transp ne, <u>M</u> ontene	iation signal port, Commu egro	ung and unication	ns and Logistics,	2015	5		full book	
		•	A	ssesment	method	ls	-	Poi	nts	Percentage	
Evaluation criteri	a Pre-	-exam obliga	ations			Data		1	10	400/	
					Positiv	elv evaluated sem	ig iectures		10	10%	
									. •	1070	

	Project presentation								
	Exam/colloquium	2x25	50%						
	Labaratory work-practice								
	Practical work								
	Final exam								
	Final exam(verbally)	30	30%						
	In total	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	lf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Eng	jineering in						

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Pailway traffic							South Contraction		
Plan and a star			II cycle	Prome: Ra	nway tr	l vear of stud	łv			AOEOJ	
Course title			ST	RATEGIC N	IANAG	EMENT IN RAIL	WAY ENGIN	IEER	ING		
Department	De	partmer	t for Transp	ort Enginee	ring – F	aculty of Traffic I	Engineering [Dobo	j		
Code	•		Co	urse status		Semes	ter		ECTS credits		
САФ12СЖ0222	0326,0320		C	ptional 3					6	5.00	
Professor/s	PhD Slo	bodan S	Subotić, Ass	ociate Profe	ssor						
Associate/s	PhD Sin	iša Boži	čković, Ass	istant Protes	ssor				Ctuda	unt escendel a a d	
Wee	ekly hours	1		Individual stu		ident hours (pei		COE	efficient S _o		
2 L	1		1	2*15*1 /-	-62	1E 1*15*1 4-01	LE 1*15*1 /-0	01		L	
J Total teacher	workload (hours r	I or somosto	r)	-03	Total student	workload (h		ner semi	I,4 ester)	
3*15 +	· 1*15 + 1*	15 = 75	hours	')		3*15*1.4 + 1	*15*1.4 + 1*1	15*1.4	4 = 105 h	nours	
		Total w	orkload: W+	-T=U _{opt} = 75	+ 105 =	= 180 hours per s	semester				
	By mast	ering thi	s course the	e student wil	ll be abl	e / able to:					
Course aims and	1. gove	rn the b	asics and e	ssence of m	anagen	nent;					
learning outcomes	2. creat	e a visi	on, mission	and goals in	identify	ving competitiven	iess;				
	3. perto	orms per	tormance n	neasuremen	t;						
Droroquicitos	4. cond	ucts ele	ctronic dusi	ness.							
Teaching methods	Lectures	audito	rv and calci	Ilation exerc	ises co	nsultations					
readining methods	1 The	concept	and essent	ce of manage	ement	Fundamentals of	the strategic	: mar	agemen	t process	
Course content	Scho 2. Appr 3. The 4. Visio 5. Value 6. Form 7. Imple 8. Perfo 9. Portf 10. Expet 11. Prod 12. Strat 13. Elect 14. The 15. Busin	ols of s oaches concept n, missi e chain nulation ementat ormance olio ana erience o uct life o egic imp rronic bu concept ness pro	trategic mar to strategic and analys on, goals. Ic analysis. Pr of strategy ion of the st measurem lysis. SWO curve technic cycle concel portance of usiness of learning pocess reeng	nagement thinking. Mc is of the bus dentifying co ediction rategy. Strat ent T analysis. S que. Gap ar ot. Benchma information t organization ineering	odern bu iness en ompetitiv tegic co Scenaric nalysis arking. technolo	usiness environm nvironment of the reness ntrol. o method ogy in business	ent e company.				
				Textb	ook (s)						
Author/s		Treff	Name	of publicat	tion, pu	plisher	Yea	r	Pag	es (from-to)	
Vešović, V.		Facul of Be	c Managem ty of Transp Igrade	ort and Traf	fic Engi	nted Edition, neering, Univers	ity 2003	3			
Todorović, J., Đuričin, Janošević, S.	D.,	Strate for Ma	egic Manage arket Resea	ement, third a irch, <u>Belgr</u> ad	amende le	ed edition, Institu	te 2000	0			
				Additiona	al readi	ngs					
Author/s			Nar	ne of public	cation, e	editor	Yea	r	Pag	es (from-to)	
										_	
		1.9	A	ssesment r	method	S		Poi	nts	Percentage	
	Pre-exa	n obliga	tions			Drosserset	na la -t		10	100/	
Evaluation criteria	<u> </u>				Decition				10	10%	
	L				POSITIVE	ery evaluated sen	minary work		30	30%	
						Project p	resentation				

	Exam/colloquium	40	40%						
	Final exam								
	Final exam(verbally)	20	20%						
	In total	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Eng	ineering in						

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic								
Course title			.,	EXP	ERTISE	OF TRAFFIC	ACCIDENTS		-	
Department	De	epartmer	t for Transp	ort Enginee	ering – F	aculty of Traffic	Engineering I	Doboj		
Code	•		Course status			Seme		ECTS credits		
САФ12СЖ022	19326,032	0	optional 3 II						(5.00
Protessor/s		arko Vasi	IJEVIC, FUILF	Professor						
ASSOCIATE/S			ijevic, i uli r	10163301					Stude	ent workload
We	ekly hours	5		Individ	idual student hours (per semester)				COE	efficient S _o
L	TE		LE	L		TE	LE			L
3	1		1	3*15*1,4	1*15*1,4=2	21		1,4		
l otal teacher 3*15 -	workload + 1*15 + 1'	(hours, p *15 = 75	er semeste hours	r)		1 otal studen 3*15*1,4 + 1	t workload (he l*15*1,4 + 1*1	ours, p 15*1,4	per sem l = 105 ł	ester) nours
		Total w	orkload: W+	$T=U_{opt} = 75$	<u>+ 105 =</u>	= 180 hours per	semester			
Course aims and learning outcomes	By mas 1. und 2. corr 3. app 4. do a	tering thi erstands ectly inte lication o a simpler	s course the the concep prets the tr f scientific n analysis of	e student wi t and signifi- races of a transferred to the nethods in t traffic accid	ance of cance o affic acc he proce ents	e to: f traffic accident ident ess of traffic acc	expertise ident analysis	5		
Prerequisites	A stude	nt may ta	ake the exa	m if he has	passed	the "Railway Sa	fety" exam			
Teaching methods	Lecture	s ex cha	ir, workshop	os, discussio	on, focus	s groups, individ	ual and group	work	(
Course content	 Introduction, subject and method of study. Legal basis of expertise, place and role of traffic technical expertise in court proceedings Methodology of traffic-technical analysis of traffic accidents Ways of expressing the views of experts Content of the expert's findings and opinion: Basic data Classification of traces of a traffic accident Content of the expert's findings and opinion: Expert's report - analysis of injuries and damage to vehicles Content of the expert's findings and opinion: Expert's finding - analysis of traces of vehicle movement Content of the expert's findings and opinion: Expert's finding - analysis of traces on light bulbs Calculation of vehicle speeds that participated in a traffic accident Defining omissions in connection with a traffic accident Use of computers and specialized software in traffic accident expertise 									
Author/s			Name	of publica	tion. pl	ıblisher	Yea	r	Pag	es (from-to)
Dragač Radoslav i Vu Milan	janić	Traffie	c Safety Par eering, Univ	t II, Faculty versity of Be	of Tran	sport and Traffic	2002	2	3	79-220
Vujanić Milan, Antić Boris, Pešić Dalibor i Lipovac Krsto			ction of task ty of Transp grade	s in traffic s ort and Tra	afety, w ffic Engi	ith practicum, neering, Univers	sity 201	5		1-240
Author/s Name of publication aditor Voor						Pag	es (from-to)			
Lipovac Krsto		Inves	tigation of tr	affic accide	nts - Ele	ments of traffic	2000)	i uy	1-208
		trasol	ogy, Higher	School of li	nternal /	Attairs, Belgrade		Dair	nto	Doroontogo
	Pro-ova	am obliga	A	ssesment	method	3		P01	115	Fercentage
Evaluation criteria	110-070	an oblige				Presence du	rina lectures		10	10%
					Positive	ely evaluated se	minary work		20	20%

	Exam/colloquium	15	15%
	Final exam		
	35	35%	
	verbally	20	20%
	In total	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	lf	
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Eng	ineering in

		Facult	UNIVE y of Tra	RSITY OF ansport and Study prog Profile: Ra	EAST S Traffic gram: T ilway tu	GARAJEVO Engineering Dob raffic raffic I year of stud	oj				
Course title			Ó DE1	FERMINIST	IC MOL	DELS OF OPER	ATIONAL RE	SEAR	RCH		
Department	Dep	partment for	Transp	ort Enginee	ring – F	aculty of Traffic	Engineering I	Doboj			
Code			Cou	irse status		Semester			ECTS credits		
САФ12СЖ0221	8426,0320	AT A	0	ptional 4		I			6	5.00	
Protessor/s	PhD Suz	ana Miladic-	- I ESIC, <i>I</i> Accistar	Assistant Pi	rotessoi	•					
Wee	kly hours		13313141	Individ	dual stu	ident hours (pe	r semester)		Student workload		
L	TE	LE		L		TE	LE			L	
3	1	1		3*15*1,4:	=63	1*15*1,4=21	1*15*1,4=2	21		1,4	
Total teacher 3*15 +	workload (ł 1*15 + 1*1	hours, per se 5 = 75 hours	emester s	-)		Total student 3*15*1,4 + 1	: workload (ho *15*1,4 + 1* <i>1</i>	ours, p 15*1,4	oer seme = 105 h	ester) iours	
		Total workloa	ad: W+	T=U _{opt} = 75	+ 105 =	= 180 hours per s	semester				
Course aims and learning outcomes	InsertionStudents will be trained to.1. selection of the type of mathematical model for the given optimization tasks2. solving complex tasks by performing optimization by applying linear and integer programming3. performing sensitivity analysis to changes in input parameters4. Identifying the advantages and disadvantages of deterministic models of operational research5. monitoring the performance of traffic systems										
Prerequisites	None				• • • • •	1					
Course content	 Lectures, exercises, consultations, seminar work Modeling of practical tasks with linear and integer programming models Sensitivity analysis Application of appropriate software Duality Economic interpretation of dual variables Case studies Colloquium I Tasks of allocating workers and resources Multi-stage transport tasks Dynamic models Nonlinear programming Optimization of the function of one or more variables without and with constraints Applications in traffic and transport Simulation, Application of appropriate software 										
Author/s			Name	of publica	tion, pr	ublisher	Yea	r	Pag	es (from-to)	
F.S. Hillier, G.J. Lieber	man	Introductio	on to Op	perations Re	esearch	, McGraw-Hill	200	1	. ug	1-1240	
W.L.Winston, M. Venkataramanan		Introductio Research,	on to Ma Vol. 1,	athematical 4th Edition	Prograr , Thomp	mming: Operation Dison Learning	ns 2002	2		1-1348	
Author/a			Nor	Additiona	al readi	ngs editor	Vac	r	Doc	as (from to)	
Autior/S			Nafi		Janon,	cultur	Tea		rag		
	Pre-exan	n obligations	A	ssesment	method	Presence dur	ing lectures	Poin	nts	Percentage	
Evaluation criteria					Positive	elv evaluated ser	ninary work		20	20%	
						Exam	/colloquium	4	40	40%	
	Final exa	am									

	Final exam(verbally)	40	40%
	In total	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pd	<u>íf</u>	
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport ar Doboj	nd Traffic Eng	ineering in

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic Il cycle I year of study								
Course title							<u> </u>			
Department	Departm	ent for Transp	bort Enginee	ering – F	aculty of Traffic	Engineering I]		
C	ode		Co	urse status	i	Seme	ster		ECTS	credits
САФ12СЖО)2220426,	0320	(optional 4					6	5.00
Professor/s	PhL	J Ratko Đu	ricic, Full Pro	tessor						
ASSOCIATE/S	Jai	ija Simic, s	EIIIOI ASSISIA						Stude	ent workload
	Weekly h	ours		Indivi	dual st	udent hours (pe	r semester)		COE	fficient S _o
L	TE		LE	L		TE	LE			L
3	1		1	3*15*1,4	=63	1*15*1,4=21	1*15*1,4=2	21		1,4
Total tead	cher worklo	oad (hours	per semeste	er)		Total student	t workload (ho	ours,	per seme	ester)
3*	15 + 1*15	+ 1*15 = 7	5 hours	<u></u>	105	3*15*1,4 + 1	*15*1,4 + 1*1	15*1,4	4 = 105 h	iours
		lotal	workload: W+	$+1=U_{opt}=75$	<u> + 105</u>	= 180 hours per	semester			
Course aims and learning outcome	es 3.	 Perform risk identification; Assess and manage risk; Risk management at the enterprise level; Apply the acquired knowledge in practice. 								
Prerequisites	Nor	ne								
Teaching method	ds Lec	tures, audi	tory and calci	ulation exer	cises, co	onsultations				
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	 Risk identification. Risk classification - probability of events, impact assessment. Risk analysis and methods for risk analysis Modeling and simulation of risk as a basis for risk management Risk assessment and risk management. Evaluation, acceptability, risk measures, possibility of reduction, evaluation of options, role of cost / benefit analysis Static and adaptive risk control strategies Risk modeling - uncertainty, probability of events, simulations, "what-if", "decision tree". The impact of uncertainty on decision making. Ways of making decisions. The concept of acceptable risk and social norms. Qualitative and quantitative safety objectives. Risk evaluation: an overview of the basic principles of financial management. Financial estimates in decision making - present value, rate of return on capital, capital flow. Project planning and financing in conditions of uncertainty. Risk management in a neutral sense and under the influence of risk perception. Integral risk management: scenarios and overall consequences. Incorporate multiple objectives into risk analysis and management Risk assessment and risk management during the introduction of new technologies. Enterprise risk management to reduce impacts on organizational structure and financial performance due to potential negative internal and external factors 								
Autho	r/s		Name	e of publica	tion, p	ublisher	Yea	r	Pag	es (from-to)
Dale F. Cooper, S	tephen Gr	ey Geo	offrey Raymol	nd, Phil Wal	ker		2004	1		
Project Risk Mana	agement	Ma	naging Risk ir	n Large Proj	ects and	d Complex	200	1		
Guidelines		Pro	curements,Jo	hn Wiley			2002	t		
				Addition	al read	ings				
Autho	Author/s Name of publication, editor Year Pages (from-						es (from-to)			
			A	Assesment	method	ls		Poi	nts	Percentage
	Pre	-exam obli	gations					1		
Evaluation criter	ia					Presence dur	ing lectures		10	10%
					Positiv	ely evaluated ser	ninary work		20	20%
		Exam/colloquium 30 30%						30%		

	Final exam		
	Final exam(verbally)	40	40%
	In total	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pc	<u>If</u>	
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	nd Traffic Eng	ineering in

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj Study program: Traffic Profile: Railway traffic					South LIMB Oracity AOEDJ		
Course title		псус	MOE	DELING	IN RAILWAY T	RANSPORT			
Department	Dep	Pepartment for Transport Engineering – Faculty of Traffic Engineering Doboj							
Code			Course status		Semes	ster		ECTS	credits
САФ12СЖ0222	0526,0320		optional 4		II			6	5.00
Professor/s	PhD Pre	drag Jovanović Malžić, Saniar	c, Associate Prof	tessor					
ASSOCIATE/S			Assistant	ماريما مغر	alamt harma (ma			Stude	nt workload
vvee		·	Individ	dual stu	ident nours (pe	r semester)		coe	fficient S _o
	TE	LE	L	-62	TE	LE	4		
J Total teacher	Norkload (k		3"15"1,4: vester)	=63	Total student	1"15"1,4=2		or com	1,4
3*15 +	1*15 + 1*1	5 = 75 hours			3*15*1,4 + 1	*15*1,4 + 1*1	5*1.4	= 105 h	ours
		Total workload	: W+T=U _{opt} = 75	+ 105 =	= 180 hours per s	semester	,		
	Basic air	n of the subje	ct is to enable s	students	to apply different	nt models for	railw	ay trans	port and traffic
Course sime and	optimizat	tion of organization	ation, technolog	y, and c	capacity. After th	e course ead	ch stu	dent sho	ould be able to
learning outcomes	and to a	no and descrit pply specific o	optimization mod	lel Also	student should	tis of railway the able to i	under	stand ar	and technology
icuming outcomes	software	applications r	related to opera	tions re	search and stat	tistics. The b	est st	tudents	will be able to
	define a	problem and so	olve it by contem	nporary	software tools ar	nd methods.			
Prerequisites	None								
Teaching methods	Lectures	, auditory exer	cises, seminary	work, co	onsultations				
Course content	 Generally about Modeling Generally about Prediction and selecting factors, Methods and Models of Prediction Phase in process of prediction and application methods and models Optimization of Capacity Method "Monte Carlo" Problems of Capacity Allocation and Assignment I colloquium Basic in Decision Theory Decision in Risk Condition Multi-Criteria Decision Making (MCDM) Examples of MCDM Methods of multi-Criteria analysis Applications of Multi-Criteria Analysis in Railway Transport 								
Author/s		N	lame of publica	tion nu	ıhlisher	Yea	r	Page	es (from-to)
Mirko J. Čičak:	Mirko J. Čičak: Mirko J. Čičak: Mirko J. Čičak: Modeling in rail traffic (Modeliranje u železničkom saobraćaju), Faculty of Transport and Traffic engineering and ŽELNID Belgrade		2003	3	11-28;3	31-75; 463-502			
Čupić M., Rao Tumala	V.M.	Contemporar application (S primena), III	ry decision maki Savremeno odlu edition, FON, 19	ng - mel čivanje - 997, Belç	thods and – metode i grade	1997	7	1-5	7; 271-288
A. (1)			Addition	al readi	ngs			-	(fuero 4.)
Autnor/s			Name of public	cation, e	eaitor	Year	Γ	Page	es (trom-to)
			Assesment	method	S		Poir	nts	Percentage
	Pre-example	n obligations	Accoment		•		1 011		· or contrage
Evaluation criteria					Presence dur	ing lectures		10	10%
		Positively evaluated project work 20					20	20%	

	Solved all colloquiums(tasks)	20	20%				
	Solved all colloquiums(theory)	20	20%				
	Final exam						
	Final exam(verbally)	30	30%				
	In total	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Eng	ineering in				

LOGISTICS



UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Doboj

II CYCLE / TRAFFIC / Logistics



	l year of study												
Number	Code	Code Course title				Code Course title		tionality	iemester	Hours per semester			ECTS
			Co	Condi	05	L	TE	LE					
1.	САФ12СЛ02118016,0320	Methodology of scientific research work	М		I	3	2	0	6				
2.	САФ12СЛ02118116,0320	Models, simulations and animations in traffic	М		I	3	1	1	6				
3.	САФ12СЛ02120616,0320	Planning and design of logistics centers	М		I	3	1	1	6				
4	САФ12СЛ02220716,0320	1. Operational planning of transhipment processes			I	3	2	0	6				
4.	САФ12СЛ02220816,0320	2. Logistics system performance modeling	01					0	0				
	САФ12СЛ02220916,0320	3. Logistics marketing management											
	САФ12СЛ02221016,0320	1. Logistics of hazardous materials			I	3	1	1					
5.	САФ12СЛ02221116,0320	2.supply chain modeling and management	O2						6				
	САФ12СЛ02221216,0320	3.quality management methods in logistics											
	САФ12СЛ02221326,0320	1. Special areas of return logistics											
6.	САФ12СЛ02221426,0320	2. Special areas of city logistics	O3		Ш	3	2	0	6				
	САФ12СЛ02221526,0320	3. Goods terminals											
	САФ12СЛ02221626,0320	1. Intermodal transport technologies											
7.	САФ12СЛ02221726,0320	2. Logistics organization design	O4		Ш	3	2	0	6				
	САФ12СЛ02221826,0320	3. Warehouse systems management											
8.	САФ12СЛ021194218,01600	Master thesis	М			16	0	0	18				
				TO	TAL	37	11	3	60				

Profile: Master of traffic - 300 ECTS - Logistics

	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Logistics										
Course title		.	<u> </u>	METHODO		F SCIENTIFIC	RESEARCH	WOR	K		
Department		Departmer	nt for Transp	ort Enginee	ering – F	aculty of Traffic	Engineering	Dobo	<u> </u>		
C	Code		Co	urse status	5	Seme	ster		ECTS	3 credits	
САФ12СЛО)2118016,(0320	n	nandatory		<u> </u>				6.00	
Protessor/s	PhL) Perica Goj ana Pistić, S	Perica Gojković, Full Protessor; PhD Zoran Curguz, Associat			ciate Professo	or				
A33001010/3	Weekly h	ours	01101 733131	Indivi	dual stu	dent hours (pe	er semester)		Stude	ent workload	
	те		16						COE	efficient So	
L 3	2		0	L X*15*9	Sa	V*15*S	7*15*Sa			3 0 1 <i>4</i>	
Total tead	cher worklo	bad (hours, p	ber semeste	r)	50	Total studen	t workload (h	ours.	per sem	ester)	
3*	15 + 2*15	+ 0*15 = 75	hours	/		3*15*1,4 + 2	2*15*1,4 + 0*	15*1,4	4 = 105 k	nours	
		Total v	vorkload: W	+T=U _{opt} = 75	5 +105 =	180 hours per s	semester				
Course aims and learning outcome	 Introducing students with methods used in the preparation of scientific research papers Introducing students to the techniques used in the preparation of scientific research papers mastering the writing and defense of the thesis independent preparation of scientific research paper 								; pers		
Prerequisites	no										
Teaching method	ds Lec	tures, audito	ry exercises	s, consultati	ons		at of the meth			i e stifi e	
Course content	 The concept, subject, significance and historical development of the methodology of scientific research Basic scientific theories and research Methods of scientific research Conceptual foundations of research (concepts, theories and models, formulation and explanation of research topics and problems, defining the subject and goal of research, formulating research hypotheses) Research approaches, strategies and planning (selection of research methods, determination of population and research sample) Theoretical review of research (review of literature and research in accordance with the concept of research), first colloquium Operationalization of research (measurement of economic variables, typology of data, search of primary and secondary sources, arranging and analyzing data, testing hypotheses) Research instruments; notion of instruments, types of instruments, competition of instruments Sample; concept, types, procedures and sampling techniques Project of scientific research work Methodology and technology of making a scientific work Discussion of results Writing a research report and conclusions Preparation of bibliographic papers, technical processing of a scientific work, second colloquium 						xplanation of search ination of concept of search of uments olloquium				
Autho	or/s		Name	e of publica	ation, pu	blisher	Yea	r	Pag	es (from-to)	
Zakic M.:		Meth Facul	odology of s Ity of Law. B	cientific res anja Luka	earch,		200	D			
Colakhodzic E.:		Metho work, Unive	odology and Faculty of T ersity, Mosta	l technology Feacher Edu r	of scier ucation,	tific research Džemal Bijedić	202	1			
	1			Addition	al readi	ngs			-		
Autho Stanivukovic D.:	or/s	Metho	Nar od of scienti ices, Novi S	ne ot publi fic work, Fa ad	cation, e	eaitor Technical	Yea	r	Pag	es (from-to)	
Evaluation criter	ia	<u> </u>	A	ssesment	method	S	1	Poi	nts	Percentage	

	Pre-exam obligations						
	attendance at lectures / exercises	5	5%				
	teaching activity	5	5%				
	positively graded seminar paper	20	20%				
	colloquium	40	40%				
	Oral exam	30	30%				
	IN TOTAL	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport a Doboj	nd Traffic Eng	jineering in				

			UNIVE Faculty of II cycle	Transport and Tr	SARAJEVO affic Engineering Traffic tics I year of stud	dy				
Course title			, M	ODELS, SIMULAT	IONS AND ANIM	ÁTIONS IN 1	RAFF	IC		
Department	De	epartmen	t of Transpo	ort Engineering - F	aculty of Transpo	rt and Traffic	Engine	eering [Doboj	
Code			Co	urse status	Semes	ster		ECTS	S credits	
САФ12СЛ0211	8116,0320)	n	nandatory			6.00			
Professor/s	PhD Mi	rko Stojči	ć, Assistan	t Professor						
Associate/s		rko Stojci	c, Assistan	t Protessor				Chuda		
Weekly h		S		Individual s	udent hours (pe	r semester)		COE	efficient So	
2 L	1E			L 62	1E 01					
J Tatal tagahay		/hauna n		03	ZI Tatal atudant				1,4	
	workioad - 1*15 ± 1*	(100075, p)	ei seineste	')		. workioau (ni *15*1 / ⊥ 1*	ours, p 15*1 ∕I		esiei)	
0.10	1 10 7 1	Total wo	orkload: W+	T=U _{opt} = 75 + 105	= 180 hours per 4	semester	iu 1, 4	- 1001	10013	
Course aims and learning outcomes Prerequisites Teaching methods Course content	Jy mas 1. op 2. m 3. sii 4. ar Does no Lecture 1. M 2. Si 3. M 4. Es 5. Va 6. Pr 7. Pr 8. St 9. Pr 10. M 11. Ca 12. M 13. M 14. Ex 15. Ex	Total workload: W+T=U _{opt} = 75 + 105 = 180 hours per semester By mastering the content of this course, the student will be able to: 1. optimizes traffic processes 2. models traffic processes 3. simulates traffic processes 4. animates traffic processes 5. animates traffic processes 6. animates traffic processes 7. doeling. Definition, types of models. Modeling and models 2. Simulation. Computer simulation. Historical overview of simulation development 3. Model classification. Model classification. Formal model specification 4. Estimation of model parameters 5. Validation and verification of the model 6. Probability and statistics in simulation 7. Process simulation 8. Structure of simulation systems 9. Process optimization. Problem formulation. Classification of optimization methods 10. Modular simulation 11. Calculation blocks (modules) 12. Matrix form of technological scheme structure 13. Matrix methods for determining computational cycles								
				Textbook (s	<u>s)</u>					
Author/s		0	Name	of publication, p	ublisher	Yea	r	Pag	es (from-to)	
Averill M. Law		Simula	ation Model	ing and Analysis,	vicGraw-Hill	2014	4			
		Educa		in of Europine -+	b lobe Miley 9					
Montgomery D.		Sons	n anu Analy		s, JUIIII WIIEY &	2012	2			
		Meted	e optimizad	cije, Faculty of Tra	nsport and Traffic	200	4.057			
		Engine	eering Dob	oj		200	I	1-25/		
				Additional read	lings			_		
Author/s	or/s Name of publication, editor Year P				Pag	es (from-to)				
Čupić M. et al.		Specij Sad	aina poglav	vija iz teorije odluč	vanja, FIN Novi	2009	9		1-135	
			A	ssesment metho	ds		Poin	ts	Percentage	
Evaluation criteria	Pre-exa	am obliga	tions			· · ·			4001	
				atter	idance at lectures	/ exercises	1	10	10%	

	positively assessed seminary work / project / essay	10	20%				
	case study - group work						
	test / colloquium	20	10%				
	Final exam						
	Final exam (oral / written)	50	50%				
	TOTAL	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj						

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile:							
Course title			PLANNING	AND D	ESIGN OF LOGIS	TICS CENT	ERS		
Department	Departme	ent of Transpo	ort Engineer	ing - Fa	culty of Transport a	nd Traffic E	Ingineering	Doboj	
Code	40.0000	Co	urse status		Semeste	r	EC	rS credits	
CAΦ12CJI021206	16,0320 DhD Marka Va	niliovió Eull	handatory					6.00	
Associate/s	PhD Marko Va	siljević, Full F	Professor						
Weekl	y hours		Indi	vidual s	tudent hours (per	semester)		Student workload coefficient S₀	
			2*15*1 A	-62	TE	LE	-01	S ₀	
J Total teacher wi	I Inkload (hours	l ner semeste	r) 3151,4	-03	Total student we	rkload (bo		I,4 nester)	
3*15 -	+ 1*15 + 1*15	= 75	'/		3*15*1,4+ 1	*15*1,4+ 1	*15*1,4= 1)5	
	Total	workload: W-	+T=U _{opt} = 75	+ 105 =	180 hours per sem	ester			
 Course aims and learning outcomes Defines the fole and place of different logistics centers, Defines the structure of services and subsystems of the logistics center according to the requirements and dimensions of the subsystems of the logistics center; Quantifies the requirements and dimensions of the subsystems of the logistics center. 					he requirements enter;				
Prerequisites	No special cor	ditions			J				
Teaching methods	lectures, audit	ory exercises	, consultatio	ns					
Course content	 1. Tasks and goals of planning and designing logistics centers, 2. Basic concept of logistics center planning, 3. Design of logistics centers, 4. Macro and micro planning and design of logistics centers, 5. Methodology of designing and planning logistics centers, 6. Macro and micro logistics models of logistics centers, 7. Models of stochastic quantification of logistics centers, 8. Methodology of making the Layout of the logistics center, 9. Economic justification of the construction of the logistics center, 10. Methodology for calculating investments in the construction of a logistics center, 11. Analysis and calculation of costs in the construction of the logistics center, 12. Models and procedure for determining the prices of services in the logistics center, 13. Development of a simulation model of the justification for the construction of a logistics center, 14. Impact of risk on the construction of the logistics center, 15. Model of interactive optimization of logistics chains in order to improve the business of the company 								
Author/s		Name	of publica	tion, pu	blisher	Year	Pa	ges (from-to)	
Slobodan Zečević	; Ter	etni terminali	i teretni tran fakultet. E	sportni Beograd	centri, Saobraćajni	2006			
	R		Additiona	al readi	ngs				
Author/s Na			ne of public	cation, e	editor	Year	Pa	ges (from-to)	
Daganzo C. F.	L	ogistics Syste	ems Analysis Heidel	s, Spring berg	ger-Verlag Berlin	2005			
			Assesment	method	ls		Points	Percentage	
	Preexaminatio	n obligations							
_					attendance during	g lectures	5	5%	
Evaluation criteria		attendance during rootarios					5	C 0/	
					attendance during	exercise	5	5%	
					attendance during sem	inar work	10	5% 10%	
	oral examionation	30	30%						
-----------------	--	---------------	-------------						
	Overall	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in						

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Logistics Il cycle					ADEDJ				
Course title		Denertreer	OPE	RATIONAL	PLANN	ING OF TRANSHI	PMENT PR	OCESS	ES)ehei	
Department		Departmer	it of Transpo	ort Enginee	ring - Fa	cuity of Transport a	and I raffic E	Inginee	.ngineering Doboj		
CA#12CB	Code	220	Course status			Semester		ECTS credits		S credits	
Professor/s	02220716,0 Phr) Ratko Đuri	čić. Full Pro	fessor						0.00	
Associate/s	Sar	ja Simić, Se	nior Assista	nt							
Weekly hours				Ind	ividual s	student hours (pe	r semester)		Student workload coefficient S₀		
L	TE		LE	2*1 <i>E</i> *1 /	1-62	TE	0*15*1	4-0		S ₀	
J Total tea	Z Z	ad (hours r	U Der semeste	3"15"1,4 r)	1=03	Z"15"1,4=4Z Total student w	orkload (bo	4=0 urs ner	seme	1,4 aster)	
i otal tea	3*15 + 2*	15 + 0*15 =	75	')		3*15*1,4+	2*15*1,4+ 0	*15*1,4	= 105	5	
		Total w	orkload: W+	T=U _{opt} = 75	+ 105 =	180 hours per ser	mester				
Course aims and learning outcom	 knowledge of concepts and definitions of transshipment processes Introducing students to the concepts of operational management of transshipment processes in logistics systems application of optimization methods in the operational management of transhipment processes with the presentation of the effects achieved apply the acquired knowledge in practice 						esses in ocesses with				
Prerequisites	Tra	Transhipment mechanization, Transport logistics									
Teaching metho	ds Cla	Classes are conducted in the form of lectures, tutorials, seminar papers (team presentations), case									
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	Tasks and Operationa Possible p Focusing o Operationa Basic prine Preparatio Various va Quantitativ Ways of a Optimizatio Practical e Practical e	objectives (al planning of roblems dur on potential al planning i ciples and p n for the col riants and r re methods oplication of oplying oper on methods xamples an xamples an n for the col	of operation of transship ing operatio operational n transhipm laces of rati loquium nethods use in operationa applied in o d tasks-heu d tasks-heu loquium Textt	al plann ment pro- onal plar planning ionalizati ed in ope- nal plannin nning in o operatior uristic ap taheurist	ing of transshipmen ocesses uning of transshipm g issues eesses on of transshipmer erational planning of ing of transshipme g in means of cont cyclic transport veh nal planning proach ic approach	nt processes ent processes of transshipm nt processes inuous actic incles	s in logi ses s nent pro s on	stics	es	
Autho	or/s		Name	of publica	ation, pu	blisher	Year		Page	es (from-to)	
Vidović M.		Kvan Saob	titativna ana raćajni faku	liza sistema Itet, Beogra	a transpo d	orta materijala,	2007				
				Addition	al readi	ngs					
Autho	or/s	· ·	Nar Nar	ne of publi	cation, e	editor	Year		Page	es (from-to)	
Daganzo C. F.		Logis	tics System elberg	s Analysis,	Springer	-veriag Berlin	2005				
			1	Assesment	method	ls		Point	S	Percentage	
	Pre	examination	obligations			<u> </u>				4004	
Evaluation criter	ria				attenda	ance during lecture	s/exercise	10		10%	
						Project pro	esentation	10		10%	
						sen	ninar work	10		10%	

	Colloquium1	20	20%
	Colloquium2	20	20%
	Final examination		
	oral examionation	30	30%
	Overall	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf		
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in

			UNIVI Faculty of Il cycle						
Course title	Der	artment	of Transpo	LOGISTICS SYS	STEM PERFORMAG	CE MODELI and Traffic F	NG Indineerin	a Doboi	
Code			Cou	urse status	Semeste	er	E	ECTS credits	
САФ12СЛ02220	816,0320		optional 1					6.00	
Professor/s	PhD Željl	ko Stević	, Associat	e Professor					
Associate/s	PhD Zelji	ko Stević	, Associat	e Professor				0, 1, 1	
Weekly hours				Individual	student hours (pe	r semester))	Student workload coefficient So	
L	TE	L	LE	L	TE	LE		So	
3 Tatal ta a b any	2		0	3*15*1,4=63	2*15*1,4=42	0*15*1,4	4=0	1,4	
I Otal teacher V	workioad (r 5 + 2*15 + 1	1000000000000000000000000000000000000	r semestei 5	ŋ	1 otal student w 3*15*1 4+	01KI0a0 (NOL 2*15*1 4+ 0	urs, per se *15*1 4=	emester) 105	
510		Total wor	- rkload: W+	T=U _{opt} = 75 + 105	= 180 hours per ser	nester	10 1,4-		
Course aims and learning outcomes	 know Introc respe enviro tasks apply 	 knowledge of concepts and definitions of logistics systems Introducing students to the need to introduce a set of relevant indicators - logistics performance, while respecting the complexity of the processes that implement logistics systems in the business environment tasks of logistics performance, goals, functions and relations between functions in logistics systems 							
Prerequisites	None								
Teaching methods	Lectures	, exercise	es, video p	resentations, simu	lations, presentation	ns			
Course content	 Basic The r Probl Assoc Analy Prepa Prepa Probl Meas Pointi Probl mode Elabo Elabo Flexit Safet Relial Prepa 	 Basic logistics systems and their connection with the conflict of goals in the market The need to introduce a set of relevant indicators - logistics performance in the business environment Problems of applying different approaches and striving for harmonization in this area Associations whose goal is to develop performance models, their improvement Analysis of ten ISPI business performance standards Preparation for the colloquium Measuring and evaluating performance Pointing out the importance of performance analysis from the aspect of user requirements Problems, experiences and recommendations in designing performance measurement systems and models Elaboration of the significance of costs Degree service in performance modeling Safety in performance modeling Reliability in performance modeling Reliability in performance modeling 							
Author/s			Name	of publication, p	, ublisher	Year	P	ages (from-to)	
Radivojevic G., Miljus M Vidovic M	И.,	Logistic Transp Belgrad	cs controlli ort and Tra de	ng and performand affic Engineering, l	ce, Faculty of Jniversity of	2007			
				Additional read	lings				
Author/s			Nan	ne of publication,	editor	Year	P	ages (from-to)	
Bromley, P.:		A Meas	sure of Log	gistics Success, Lo	gistics Quarterly,	2001		-	
		,	o. o.	Assesment metho	ods		Points	Percentage	
Evelvetien with it	Preexam	ination o	bligations						
Evaluation criteria				attend	ance during lecture	s/exercise	5	5%	
						activity	5	5%	

	seminar work	20	20%
	tests	10	20%
	Colloquium1	15	15%
	Colloquium2	15	15%
	oral examionation	30	30%
	Overall	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf		
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Doboj	d Traffic Eng	ineering in

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Logistics					LINE ALINE CONTRACTOR		
215 4 5 KD 30 5 KT		II cycle		I year of study			QOEO1		
Course title			LOGISTICS	MARKETING MANA	GEMENT	<u>.</u>			
Department	Departme	partment of Transport Engineering - Faculty of Transport and Traffic Engineering Doboj							
Code		Cor	urse status	Semeste	r	ECTS credits			
САФ12СЛ022209	16,0320		optional 1			6.00			
Protessor/s	PhD Svetlana	l erzic, Assoc	ciate Protessor						
Weekl	y hours	Terzic, Assoc	Individua	l student hours (per	semester)		Student workload coefficient S₀		
L 1	ſE	LE	L	TE	LE		So		
3	2	0	3*15*1,4=63	2*15*1,4=42	0*15*1,4	4=0	1,4		
I otal teacher wo 3*15 -	orkload (hours, + 2*15 + 0*15 =	per semeste - 75	r)	1 otal student wo 3*15*1,4+ 2	orkload (hou 2*15*1,4+ 0	urs, per se *15*1,4= *	emester) 105		
	Total	workload: W-	+T=U _{opt} = 75 + 105	= 180 hours per sem	lester				
Course aims and learning outcomes	 knowledge of the concepts of approaches and dimensions of marketing management in logistics students get acquainted in more detail with different approaches and procedures of marketing management to be able to independently apply certain modalities of planning, organization and management of marketing activities of logistics systems apply the acquired knowledge in practice 								
Prerequisites	No special con	o special conditions							
Teaching methods	Lectures, exer	ectures, exercises, video presentations, simulations, presentations							
Course content	 Approach Research Planning Organiza Marketing Marketing Strategic Logistics Manage p Developm service a Value cha Managen Managen Managen Modeling Modeling 	es and dime the marketir and control of tion of marke g decision ma g Information analysis and market positi promotional a on marketing nent of a mar s an integral ain logistics s nent (CRM) nent of custor customer sa f behavior of	nsions of marketin ng environment of marketing activit sting functions in lo aking System (MIS) I selection of mark ioning strategy activities g instruments for lo keting plan and in part of the concept services managem mer service satisfa tisfaction and loya users of logistics Textbook (ig management in log ies ogistics systems eting strategies ogistics services oplementation of a ma t of value for the cons ent; Relationship Mar action; Retention strat lty services	arketing pro sumer rketing and regy	ogram; Cre Customer	eating a logistics Relationship		
Author/s		Name	e of publication.	oublisher	Year	P	ages (from-to)		
M.J. Kilibarda	Mar faku	keting u logis Itet. Beograd	tici, Autorizovana . Srbija	skripta, Saobraćajni	2008		C (1000 C)		
		.,	Additional read	dings					
Author/s		Nar	me of publication	, editor	Year	P	ages (from-to)		
A. Harrison and Remko v Hoek:	/an Logi New	stics Manage York, USA	ement and Strateg	y, Prentice Hall,	2005				
			Assesment meth	ods		Points	Percentage		
Evoluction oritoria	Preexamination	n obligations							
Evaluation criteria			atten	dance during lectures activitv durin	/exercise g classes	5 5	5% 5%		

	seminar work	20	20%
	Colloquium1	20	20%
	Colloquium2	20	20%
	Final examination		
	oral examionation	30	30%
	Overall	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf		
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	gineering in

		UNIVI Faculty of		1	Standing adding		
					AOED		
Course title		II cycle		I year of study			
Course title	Don	artmont of Transpo	LOGISTICS C	DF HAZARDOUS M/	ATERIALS	nainear	ing Doboi
Department	Dep		on Engineering - Fa			ligineer	
Code	016 0200	Cou	urse status	Semester	r	F	ECTS credits
CAU12CJI02221	016,0320 DbD Dorid	0 Coikoviá Eull D					6.00
Associate/s	Sania Sin	nić Senior Assista	nt				
Weel	kly hours		Individual	student hours (per	semester)		Student workload coefficient S₀
L	TE	LE	L	TE	LE		S₀
3	1	1	3*15*1,4=63	1*15*1,4=42	1*15*1,4	=0	1,4
Total teacher v 3*1	workload (h 5 + 1*15 +1	ours, per semester *15 = 75	r)	Total student wo 3*15*1,4+ 1	rkload (hou *15*1,4+ 1*	rs, per s 15*1,4=	semester) = 105
	7	Total workload: W+	T=U _{opt} = 75 + 105 =	= 180 hours per sem	ester		
	1. knowl	edge of the concep	ots of hazardous su	Ibstances			
	2. acqua	int students with th	ne characteristics of	f hazardous substan	ces		
Course aims and	3. to acq	luaint students with	the directions of a	ction that can affect	the increase	e of sat	ety in the
learning outcomes	proces	sses of transport, t	ransnipment and si	torage, as well as the	e significant	Impact	or this category of
	4 apply	the acquired know	ledge in practice				
Prerequisites	No specia	al conditions					
Teaching methods	Lectures.	exercises					
Course content	 The concept of hazardous substances Relevance and importance of logistics of hazardous materials Classification of hazardous substances and harmonization of regulations Hazardous substances in logistics and transport processes Characteristics of hazardous substances and requirements that work with this type of substance generates: packaging, method of storage, transportation, etc. Defining risks in working with hazardous substances Preventive protection against the adverse effects of hazardous substances Problems of routing and scheduling vehicles in the transport of dangerous Problems of choosing locations for storage of hazardous materials - problem settings Safety procedures and training as a form of preventive action in the event of an adverse event caused by hazardous substances Transport documentation Equipment of vehicles used for transport of dangerous goods Hazard sheets Obligations of participants in the transport of dangerous goods 						
A 41= =/=		Nama	l extbook (s)		Veer		
Autnor/s		Recommendation	for the Trans	port of Dangerous	rear		Pages (from-to)
UN Orange Book		Goods, Unated	Nations Economi	c Commission for			
E. Erkut, S.A. Tjandra,	V. Verter	Hazardou s Mate Laporte (Eds.), Ha and Management North Holland	rdou s Material Transportation, In: C. Bernhart, G. rte (Eds.), Handbooks in Operations Research Management Science, Vol. 14, Transportation, h Holland				
			Additional readi	ngs			
Author/s		Nan	ne of publication,	editor	Year		Pages (from-to)
		Journal of hazard	ous materials, Acci	dent Analysis and			

		Prevention, Transportation Science					
		Assesment methods		Points	Percentage		
	Preexam	ination obligations					
Fuele stine estimit		attendance during lectures/	exercise	5	5%		
		activity during	classes	5	5%		
		semi	25	25%			
Evaluation criteria		Colle	20	20%			
		Colle	20	20%			
	Final examination						
	oral examionation				25%		
	Overall				100%		
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf						
Applicable from	19.10.20 Doboj	23 213th session of the Academic Council, Faculty of Tra	ansport and	d Traffic En	gineering in		

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Logistics							
Course title	• 		II cycle			I year of study		л		
Department		Departm	nent of Transpo	ort Engineerin	ng - Fa	culty of Transport a	nd Traffic E	naineerin	a Doboi	
Co	ode		Cou	Irse status		Semeste	r	ECTS credits		
САФ12СЛ02	221116,0)320	0	ptional 2				6.00		
Professor/s	PhD) Sloboda	n Żečević, Full	Professor						
Associate/s	PhD) Sloboda	n Zečević, Full	Professor						
۷	Veekly h	ours		Indiv	vidual s	student hours (per	semester)		Student workload coefficient S _o	
L	TE		LE	L		TE	LE		S₀	
3	1		1	3*15*1,4=	=63	1*15*1,4=42	1*15*1,4	=0	1,4	
rotal teach	er worklo	bad (hours	s, per semestei – 75	.)		I otal student wo	rkload (hour	s, per sei	nester)	
Course aims and learning outcomes	s 1. 3. 4.	 Total workload: W+T=U_{opt}= 75 + 105 = 180 hours per semester 1. defines the structure of the process in the flows of materials from the source of raw materials to the final consumer 2. identifies and quantifies relevant parameters in the analysis and design of supply chains 3. choose the optimal supply chain strategy 4. masters supply chain management models 						materials to the hains		
Prerequisites	No	special co	nditions	<u> </u>						
Teaching methods	s lect	ures, tutor	rials, case stud	ies, debate c	classes					
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10 11 12 13 14 15	Defining Characte Researce manage Logistics Identifica Characte Effects of Determin The imp . Global s technolo . Basic pr strategie . Supplier . Supplier . Integrati logistics . Internet	supply chains eristic processe th on the interd ment and trans a network confi ation of relevar eristic models to of application o ning the perform ortance of prop upply chains, E ogies inciples of models and customer on of supply chains and customer on of supply chains activities within business and of	es in supply of ependence of guration at factors for the used in certa f some mode mance of supply chain n an performar relationship mains. Informar n the supply e-supply chain	chains of reso ithin su the dev in supp els on s oply ch forecas es, the chain m manag ation te chain ins. Co	urce location, produ pply chains velopment and impl oly chain configurati supply chain perform ains ting modeling in su importance of e-cor anagement. Supply d barriers to achievi ement echnologies and the lloquium 2.	ction dynam ementation o ons nance. Collo pply chains nmerce and v chain deve ng strategic ir impact on	nics, inver of supply oquium 1 modern i lopment p advantag the coord	ntory chains nformation planning and e dination of	
Author	e		Nama	of publicati	ion n	hlisher	Voor	Do	aps (from-to)	
	adic S	Lin	name ravlianie lancir	na snabdijev	ion, pl ania a	utorizovana skrinta	2016	- Pa	ges (nom-to)	
	uuio, 0.		avijarij e idričil	Additional	readir	atonzovana skripta	2010			
Author/	s		Nan	ne of publica	ation,	editor	Year	Pa	ges (from-to)	
Simchi-Levi, D., K and E. Simcl	aminsky, hi-Levi:	P.,	Designing and I Strategies, a Supply Chain	esigning and Managing the Supply Chain: Concepts, Strategies, and Case Studies, Irwin McGraw Hill, Boston, MA						
Stadler, H., Ki	ilger, C.:		Cocepts, N Sprin	odels, Softw ger-Verlag, E	are an Berlin F	d Case Studies, leidelberg	2002			
Evaluation criteria				Assesment n	netho	15		Points	Percentage	

	Preexamination obligations						
	attendance during lectures/exercise	5	5%				
	activity during classes	5	5%				
	seminar work	30	30%				
	Colloquium1	20	20%				
	Colloquium2	20	20%				
	Final examination						
	oral examionation	20	20%				
	Overall	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboi						

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering						2005 Sunaini ang	
82°		Il cycle Il cycle						D	AOEOJ
Course title			QUALITY N	IANAGE	MENT METHODS	IN LOGIS	TICS		
Department	Departme	ent of Transp	ort Enginee	ring - Fa	culty of Transport a	nd Traffic E	Engineer I	ing [Doboj
Code		Co	urse status	i	Semeste	r	E	CTS	credits
CAΦ12CJI02221	1216,0320 DhD Živko Ero) Accoriate	optional 2 I					t	5.00
Associate/s	PhD Siniša Bo	žičković. Ass	istant Profe	ssor					
Weekly hours			Indi	vidual s	tudent hours (per	semester)	C	Student workload pefficient S _o
L	TE	LE	L		TE	LE			S₀
3 Total tagaharu		1	3*15*1,4	=63	1*15*1,4=42	1*15*1,	4=0		1,4
3*1	workioad (nours, 5 + 1*15 +1*15 =	per semeste = 75	ii)		3*15*1.4+ 1	*15*1.4+ 1 ³	15, per s *15*1.4=	105	ster)
	Total	vorkload: W+	T=U _{opt} = 75	+ 105 =	180 hours per seme	ester	, -		
Course aims and learning outcomes 1. knowledge of concepts and definitions of quality 2. Introducing students to the methods, models and methodological procedures of modeling and quality management in logistics 3. to enable students to independently apply existing and develop new models of quality management 4. apply the acquired knowledge in practice					ling and				
Prerequisites	No special cor	ditions							
Course content	 Iectures, tutori The conce Evolutiona Quality of Quality fu Measuring Measuring Measuring Approach system do Developm Process r Quality m The conce Integrated Total qua TQM conce Models of 	 lectures, tutorials, case studies, debate classes The concept of quality. Definitions of quality Evolutionary development of quality management system Quality of logistics service, processes and systems Quality functions in logistics, introduction of quality functions in logistics systems Measuring the quality of logistics services, measurement models and methods Measuring customer satisfaction Approach to the introduction of quality management systems. Purpose of quality management system documentation Development of procedures. Building business processes. Flowchart Process management through quality cost management Quality management methods The concept of continuous quality improvement. Quality loop Integrated management (TQM) TQM concept and logistics 							
Author/s		Name	e of publica	tion, pu	blisher	Year		Page	es (from-to)
Kilibarda M., Zecev	vic, S.	ravljanje kval	itetom u log Beog	istici, Sa Irad	obraćajni fakultet,	2008			
Bobreg M. I dr	. Ur	oravljanje kva	litetom, Ma	śinski fal	kultet, Banja Luka	2006			
A 41 1		N	Additiona	I readin	gs	V			- (from t-)
Autnor/s		Nar	ne or publi	cation, e	uitor	Tear		-age	es (from-to)
			Assesment	method	s		Points	;	Percentage
	Preexaminatio	n obligations							
Evaluation criteria				attenda	ance during lectures sem	/exercise inar work	10 20		10% 20%
					Col	lloquium1	10		10%

	Colloquium2	10	10%					
	Final examination							
	oral examionation	30	30%					
	Overall	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in					

		UNIV Faculty o	FICE STATES OF E	EAST S	SARAJEVO			SPARA	005
		i dodity e	Study prog	ram: T	raffic			6 <mark>9</mark> 0	
		II cycle	Prome: L	ogisti	l year of study		~		AOEOJ
Course title			SPECIA	L ARE	AS OF RETURN L	OGISTICS			
Department	Depa	artment of Transp	ort Engineerir	ng - Fa	culty of Transport a	nd Traffic E	nginee	ing [Joboj
Code		Co	urse status	Semeste	r	E	ECTS credits		
САФ12СЛ02221	1326,0320		optional 3 II					6	3.00
Professor/s	PhD Rado	ovan Višković, As	sociate Profes	sor					
Associate/s	PND Rado	ovan viskovic, As	sociate Profes	sor					Student
Wee	kly hours		Indiv	idual s	tudent hours (per	semester))	C	workload pefficient So
L	TE	LE	L		TE	LE			S₀
3	2	0	3*15*1,4=	63	2*15*1,4=42	0*15*1,	4=0		1,4
I otal teacher 3*1	workload (ho <u>5 + 2*15 +0</u>	ours, per semeste *15 = 75	er)		l otal student wo 3*15*1,4+ 2	rkload (hou *15*1,4+ 0'	rs, per s 15*1,4=	eme 105	ster)
	To	otal workload: W+	T=U _{opt} = 75 +	105 =	180 hours per seme	ester			
	1. know 2. expa	ledge of concepts	s and definitio	ns ot re ts in the	eturn logistics e field of return flow	s in logistic	s by ge	ting	acquainted
Course aims and	with t	he concepts of m	odeling return	n flows	in the network of re	turn logistio	cs in the	colle	ection of
learning outcomes logistics flows									
	3. Introc	ducing students to	solving class	sic task	s in the field of retu	rn flows			
Prereguisites	4. apply	traffic	wiedge in pra	ictice					
Teaching methods	lectures. t	utorials. case stud	dies, debate c	lasses					
	1. Objec	ctives of return log	gistics						
	2. Back	flow logistics task	S						
	3. Logis	Logistics of return flows							
	4. Type:	. I ypes of problems in return logistics networks							
	6 Wast	. Detining problems and ways to solve return logistics processes Waste management in return flow logistics							
	7. Prepa	aration for the col	loquium	giotico					
	8. Type	s of problems and	d ways to solv	e them	in logistics of retur	n flows (co	llection)		
Course content	9. Mana	gement of electri	cal and electr	onic wa	aste in logistics of r	eturn flows			
	10. PET	materials and pac	ckaging in retu	urn logi	stics rebleme in return le	aiatiaa			
	12 Mode	ls for shaning the	structure of r	rving pi recvclin	a logistics network	gistics			
	13. Mode	els of return logisti	ics networks of	of empt	v logistics units	0			
	14. KANE	BAN system. (KAI	NBAN system	: probl	em analysis. Adapt	ation and ra	ationaliz	ation	ı of
	produ	uction and flows o	f materials an	id good	Is with the help of k	(ANBAN sy	stem. A	pplic	ation of
	KAN	BAN system.)							
	15. Prepa		Textbo	ok (s)					
Author/s		Name	e of publicati	on, pu	blisher	Year		Page	es (from-to)
		Kvantitativna ana	aliza sistema r	ukovar	nja materijalom,	2007			
		Saobraćajni faku	Itet Beograd			2007			
A. (1	N	Additional readings						- (f ue (-)	
Author/s		Nar	ne of publica	ation, e	eaitor	Year		Page	s (trom-to)
			Assesment n	nethod	s	I	Points		Percentage
	Preexamir	nation obligations					· vante		
Evaluation criteria			á	attenda	ince during lectures	/exercise	5		5%
						activity	5		5%
					sem	inar work	20		20%

	tests	10	10%
	Colloquium1	15	15%
	Colloquium2	15	15%
	Final examination		
	oral examionation	30	30%
	Overall	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf		
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic						San Million Contraction		
			II cycle	Profile	: Logist	ics I year of study				AOEOJ
Course title			- ,	SPE		REAS OF CITY LO	GISTICS			
Department	De	partmer	nt of Transp	ort Enginee	ring - Fa	culty of Transport a	and Traffic E	Engineer	ing [Doboj
Code			Course status			Semeste	er	E	ECTS credits	
САФ12СЛ0222	1426,0320	-	(optional 3		I			6	5.00
Professor/s		PhD S	Snežana Tadić, Associate Professor							
Associate/s		PhD S	Snežana Ta	dić, Associa	te Profe	ssor				
Wee	ekly hours	i		Ind	ividual	student hours (per	semester))	co	Student workload pefficient S ₀
L	TE		LE	L		TE	LE			S₀
3	2		0	3*15*1,4	=63	2*15*1,4=42	0*15*1,	4=0		1,4
Total teacher 3*1	workload (5 + 2*15 +	hours, p -0*15 =	per semeste 75	r)		Total student wo 3*15*1,4+ 2	rkload (hou *15*1,4+ 0*	irs, per s *15*1,4=	eme 105	ester)
		Total w	orkload: W+	T=U _{opt} = 75	+ 105 =	180 hours per sem	ester			
			etines the s	tructure of	the city I	ogistics database;			41	
Course aims and lear	rning		noose the t	ptimal con	cept of c	ity logistics for indiv	idual activit	les and	the e	entire city
outcomes		3 0	reates inter	modal solut	ions for	different structures	of logistics	requirer	nents	s in the city:
		 Greates intermodal solutions for different structures of logistics requirements in the city; Identifies and quantifies the effects of the city logistics solution 								
Prerequisites		No sp	ecial conditi	ons		<u> </u>				
Teaching methods		lecture	es, tutorials,	case studie	es, deba	te classes				
	 Concepts of city logistics of trade and industrial companies; Concepts of city logistics of construction and service companies; Concepts of city logistics of clinical facilities, cultural, administrative institutions, etc. Methodology of forming the city logistics performance base; 									
Course content		 Niethodology of forming the city logistics performance base; Techniques and methods for determining the parameters of city logistics; Modeling of city logistics flows through the city logistics terminal. Colloquium 1. Intermodal transport systems in city logistics. 								
		9. Underground transport systems.								
		11. The concept of integration of courier-express shipments in the city								
		12. Models of justification for the construction of a city logistics terminal.								
		13. 0	ity logistics	and sustair	able city	y development.				
			City logistics	and smart (cities.					
		15. E	xamples of	woria expe	riences i	n city logistics solut	ions. Colloc	quium 2.		
Author/s			Nam		ation n	uhlisher	Year		Page	es (from-to)
Tadić S., Zečević S.		Mode	eliranie konc	epcija citv l	oaistike		2016	;	ugu	-
Zečević S., Tadić S.		City I	ogistika, Sa	obraćajni fa	kultet Do	oboj	2013	}		-
				Additiona	al readir	ngs				
		1						-		
Hesse M.		The (and F	City as a Te Freight Tran	erminal - The Urban Context of Logistics 2012 -					-	
Rushton A.		The	Handbook	of Lo	gistics	and Distributio	n 2010)		-
		iviana	igement, Ko	yan Page F	method	15 1e		Dointo		Percentage
	Preevan	nination	obligations	างจะจากเรกเ	metho	13		FUILS	,	reicentage
Evaluation critoria	TICGAD		Jongations		attend	ance during lectures	s/exercise	10		10%
						sem	ninar work	30		30%
						 Co	lloquium1	20		20%
										20,5

	Colloquium2	20	20%					
	Final examination							
	oral examionation	20	30%					
	Overall	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in					

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic						2005	
			Profile:	: Logisti	cs				IOEOI
Course title				GO					
Department	Depart	tment of Transpo	ort Enginee	ring - Fa	culty of Transport a	and Traffic E	Engineer	ing D	Joboj
Code		Cou	Course status			Semester		ECTS credits	
САФ12СЛ0222	1526,0320	0	ptional 3					6	.00
Professor/s	PhD Slobod	dan Zečević, Full	Professor						
Associate/s	PhD Sneža	na Tadić, Assoc	ate Profess	sor					
Wee	kly hours		Indi	ividual s	student hours (pe	r semester))	со	Student workload pefficient S₀
L	TE	LE	L		TE	LE			S₀
3	2	0	3*15*1,4	=63	2*15*1,4=42	0*15*1,	4=0		1,4
Total teacher 3*1	workload (hou <u>5 + 2*15 +0*1</u>	urs, per semester 15 = 75	^) 		Total student wo 3*15*1,4+ 2	orkload (hou 2*15*1,4+ 0*	irs, per s *15*1,4=	eme 105	ster)
	Tota	al workload: W+	$T=U_{opt}=75$	+ 105 =	180 hours per sem	ester			
Course aims and learning outcomes	 Knowle to acqu Introdu catego apply tl 	 knowledge of concepts and definitions of goods flows to acquaint the student with the basic types and structures of logistics flows and logistics centers Introducing students to the preparation of studies on the structural and spatial functions of various categories of terminals and logistics centers apply the acquired knowledge in practice 							
Prerequisites	No special of	conditions							
Teaching methods	lectures, tut	torials, case stud	ies, debate	classes					
Course content	 Transic Types Objecti Termin Criteria Analysi Structu Analysi Technoc custom center, Integra Cooper Proced Analysi stochas Quantif Examp logistic 	of freight termina ives of developm nal gravity zone p a and procedure is of flows throug ure of functions a is of requiremen ological and spat as terminal, dang distribution cent ated free zone an ration in logistics dure for determin is and quantifica stic conditions tative-spatial ana oles of elaboratio as centers	als - logistic ient of freig parameters for selectin gh the logis nd subsyst ts for dimer ial characte ierous good ter, cross-d d logistics chains thre ing the cha tion of logis alysis of term n of structu	s center ht transp g the ma tics cent ems of th sioning eristics o ls termin ocking te center co bugh the racteristi stic requi minal su ral-spati	s port centers acro and micro loca er he freight transport of freight terminal s f logistics centers (ial, container termin erminal, goods and procept freight and transpo ics of goods flows i rements for termina bsystems al functions of vario	tion of the t center subsystems terminal for nal, border t transport co ort center n the gravit al subsyster ous categori	erminal differen erminal, enter, et y zone o ms in de ies of ter	: type good c.). f the rermi mina	es of goods, ds and trade terminal nistic Ils and
Author/s		Name	of publica	tion, pu	blisher	Year	F	ade	s (from-to)
Zecevic, S.	R	Robni terminali i r	obno-trans	portni ce	entri	2006.		~90	
			Additiona	al readin	gs				
Author/s		Nan	ne of publi	cation, e	editor	Year	F	Page	s (from-to)
		A	ssesment	method	ls		Points		Percentage
	Preexamina	ation obligations							
Evaluation criteria	L			attenda	ance during lecture	s/exercise	10		10%
	L				sen	ninar work	20		20%
		Colloquium1							15%

	Colloquium2	15	15%					
	Final examination							
	oral examionation	40	40%					
	Overall	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in					

		UNIV Eaculty o	ERSITY OF	EAST S	SARAJEVO			2005 46561HH @481	
		i douty o	Study pro	gram: T Logisti	raffic cs				
15 1.5x3 10		II cycle			I year of study			40E01	
Course title			INTERM	ÓDAL T	RANSPORT TECH	INOLOGIE	S		
Department	Depa	artment of Transpo	ort Engineer	ring - Fa	culty of Transport a	and Traffic E	Ingineer	ng Doboj	
Code		Со	urse status	Semeste	er	E	CTS credits		
САФ12СЛ02221	626,0320	C	ptional 4		II			6.00	
Professor/s	PhD Slobe	odan Zečević, Full	Professor						
Associate/s	PhD Snež	ana Tadić, Assoc	iate Protess	sor				01 1 1	
Wee	kly hours		Indi	vidual s	student hours (per	⁻ semester))	workload coefficient S	io i
L	TE	LE	L		TE	LE		S₀	
3	2	0	3*15*1,4	=63	2*15*1,4=42	0*15*1,	4=0	1,4	
Total teacher v 3*1	workload (ho 5 + 2*15 +0	ours, per semeste *15 = 75	r)		Total student wo 3*15*1,4+ 2	rkload (hou *15*1,4+ 0*	irs, per s *15*1,4=	emester) 105	
	To	otal workload: W+	T=U _{opt} = 75	+ 105 =	180 hours per sem	ester			
Course aims and learning outcomes	1. know 2. that t terms 3. Introd	 knowledge of concepts and definitions of intermodal transport that the student gets acquainted with the basic requirements of the commodity flows market in terms of the application of intermodal technologies Introducing students to the simulation experiment of the operation of the container terminal 							
Prerequisites	No specia	I conditions	mougo in p	40100					
Teaching methods	lectures, t	utorials, case stud	lies, debate	classes					
Course content	 Segn Segn Mode Rollir Trend Rollir Trend Analy Benc New optim Conc Conc Trans Conc Trans Conc Trans Meth Scen Requi Requi Introc IT ter 	nentation of the inf eling of goods flow ng Shelf technolog ds and requiremer ysis and planning of hmarking in intern generations of inter al location of inter epts of connecting port to IT requiren odology of forming odology of forming odology for calcula arios of strategic of irrements for the d lation experiment duction to software minal location stu	termodal tra s in intermodal transp of IT quality modal transp ermodal transp ermodal transp ermodal term g maritime a of intermodal nents g a database ating the log development esign of televelopment esign	Insport r adal tran perform port inals and land at termina e for IT gistics co it of Euro ematics r termina for plan	narket (internationa sport networks intermodal transport ance etworks and termina intermodal transpo als. Optimization ar optimization ar optimization ar systems in IT al operation ning and managing	I, regional, t units als. Develop rt. Dry port ad adaptatic ransport cha ansport the operatio	pment of concept on of cert ains on of cor	aspect) a model for the ain modes of ntainer terminals	s.
		N	Textb	ook (s)		V			
Autnor/S		Intermodal freight	t transport	LION, PU	DISTICT	2005	H	ages (from-to))
Bontekoning Y.:		Hub exchange of networks, IOS/De	perations in	intermo	dal hub-and-spoke	2005.		-	
		Additiona	l readin	igs	·	<u> </u>			
Author/s	Nan	ne of public	cation, e	editor	Year	F	Pages (from-to))	
		F	Assesment	method	ls		Points	Percentag	ge
Evaluation criteria	Preexami	nation obligations		-41 - 1	and the first of the		-		
				attenda	ance during lectures	s/exercise	5	5%	
						activity	5	5%	

	seminar work	15	15%					
	Colloquium1	20	20%					
	Colloquium2	20	20%					
	Final examination							
	oral examionation	35	35%					
	Overall	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in					

	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Logistics						CONTAINS CARL		
10 L 15 L 573 40 L	//		II cycle			I year of study			10 <u>1</u> 00
Course title				LOG		ORGANIZATION D	ESIGN		
Department		Departmen	nt of Transp	ort Engineei	ring - Fa	culty of Transport a	nd I raffic E	ngineerin	g Doboj
(Code		Course status			Semeste	r	EC	TS credits
САФ12СЛО)2221726,0	<u>)320</u>	(optional 4					6.00
Protessor/s	Phi) Zeljko Stev	/IC, ASSOCIAI	te Protessor					
ASSOCIATE/S	Weekly h	ours		Indi	ividual s	tudent hours (per	semester))	Student workload coefficient S₀
L	TE		LE	L		TE	LE		S₀
3	2		0	3*15*1,4	=63	2*15*1,4=42	0*15*1,	4=0	1,4
Total tea	cher workl 3*15 + 2	bad (hours, p <u>*15 +0</u> *15 =	per semeste	r)		Total student wor <u>3*</u> 15*1,4+ 2*	kload (hou 15*1,4+ 0*	rs, per sei 15*1,4= 1	mester) 05
		Total w	orkload: W+	T=U _{opt} = 75	+ 105 =	180 hours per seme	ester		
Course aims and learning outcom	1. 2. es 3. 4.	 knowledge of concepts and definitions of the science of organization Introducing students to design in the organization of logistics Introducing students to macro and micro logistics models apply the acquired knowledge in practice 							
Prerequisites	No	special conc	litions						
Teaching metho	ds lect	ures, tutoria	s, case stud	dies, debate	classes				
Course content	1. 2. 3. 4. 5. 6. 7. 8. 9. 10 11 12 13 14 15	 Fundamentals of organizational science Historical bases of development of the science of organization Three main schools of organization theory Modern theories of organization and management The concept and definitions of organization Organization of logistics Trends and approaches of logistics organization Tasks and goals of design in logistics Design of logistics centers Macro and micro planning and design in logistics Methodology of design and planning in logistics Models of stochastic quantification of logistics centers Models of stochastic quantification of logistics centers Methodological principles of designing individual subsystems 							
Autho	or/s		Name	e of publica	tion, pu	blisher	Year	Pa	iges (from-to)
Станивуковић Д.	:	Логи пред	стика-орган авања, Нов	изација и ви Сад	менаџм	ент, Биљешке са	2003		-
Rupper P.:		Trans	sport, Lage nisation, Zur	er und Lo ich	gistic, N	/erlag Industrielle	1990		-
				Additiona	l readin	gs			
Autho	or/s		Nar	ne ot publi	cation, e	editor	Year	Pa Deinte	iges (from-to)
	Pre	examination	obligations	Assesment	method	15	activity	Points	
							activity	10	10%
Evaluation criter	ria					^ 1		20	20%
						Col		15	15%
						Col	ioquium2	20	20%
	FIN	ai examinatio	זוו			oral exar	nionation	30	30%

	Overall	100	100%
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf		
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport an Doboj	d Traffic Eng	ineering in

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Logistics						ADED		
Course title			WAREH	IOUSE	SYSTEMS MANA	GEMENT				
Department	Dep	artment of Transpo	ort Engineerir	ng - Fa	culty of Transport a	nd Traffic E	Engineering Doboj			
Code	9	Co	urse status		Semeste	r	E	CTS credits		
САФ12СЛ0222	1826,0320	0	optional 4		II			6.00		
Professor/s	PhD Zeljk	o Stević, Associat	e Professor							
Associate/s	ekly hours	O Stevic, Associat	Indivi	idual s	tudent hours (per	semester)		Student workload coefficient S₀		
L	TE	LE	L		TE	LE		So		
3	2	0	3*15*1,4=	63	2*15*1,4=42	0*15*1,	4=0	1,4		
l otal teacher 3*	workload (h 15 + 2*15 +0	ours, per semeste)*15 = 75	r)		1 otal student wo 3*15*1,4+ 2	rkload (hou *15*1,4+ 0*	irs, per s *15*1,4=	emester) 105		
Course aims and	1. knowle 2. should 3. student	dge of concepts a enable students to ts should be able t	nd definitions o master the to to master the	of stor oasic co basic s	age systems mana oncepts of enginee oftware tools of en	gement ring graphic gineering d	cs lesign wi	h application to		
learning outcomes	the mana 4. apply the	gement of wareho	use processe edge in practi	s ice			-			
Prerequisites	No specia	al conditions								
Teaching methods	lectures, t	tutorials, special e	xercise at wai	rehous	e system					
Course content	 Initio Data Proc Inver Inver Inver Dime Dime Theo Mode Theo Mode Dime Theo Mode Dime Evalu Elect AHP 	 Introduction to storage systems management Data storage. Data bank Process management in warehouses Inventory management Inventory optimization methods Dimensioning of technological elements of the warehouse Mathematical models for quantification of technological requirements and sizing of technological elements of the warehouse Theory of queuing systems Models of simulation of real processes in warehouses Dimensioning of technological elements of the storage system Evaluation of variant technological solutions Multicriteria analysis Electre Method I Methods of Promothee I-IV 								
Author/s		Name	e of publicati	on, pu	blisher	Year	F	ages (from-to)		
S. Vukičević		Skladišta. Univer	zitet u Beogra	adu, Sa	obraćajni fakultet	1995		-		
			Additional	readin	gs					
Author/s		Nar	ne of publica	ation, e	ditor	Year	F	ages (from-to)		
	Dresser	nation ablights	Assesment n	nethod	S		Points	Percentage		
Evaluation criteria		attendance during lectures/exercis Seminar wo Colloquium					10 10 15	10% 10% 15%		
	Final exar	mination			oral exa	mionation	50 50	50% 100%		

Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj

TELECOMMUNICATIONS AND POSTAL TRAFFIC

UNIVERSITY OF EAST SARAJEVO

II CYCLE TRAFFIC/ (Telecommunications and postal traffic)



		First year							
inal number	Course code Course title		ditioned ourses moster		F	Iours fund	ECTS		
Ordi			5	Con Con	εs	L	TE	LE	I
1.	САФ12СТ02118016,0320	Methodology of scientific research work	0		Ι	3	2	0	6
2.	САФ12СТ02118116,0320	Models, simulations and animations in traffic	0		Ι	3	1	1	6
3.	САФ12СТ02121916,0320	Telematics systems	0		Ι	3	1	1	6
	САФ12СТ02222016,0320	1. Electronic systems in traffic							
4.	САФ12СТ02222116,0320	2. Project management in postal traffic	I_1		Ι	3	1	1	6
	САФ12СТ02210516,0320	1. Multimedia communications							
5.	САФ12СТ02222216,0320	2. Communication systems in postal traffic	I ₂		Ι	3	1	1	6
6	САФ12СТ02222326,0320	1. Selected chapters in the field of telecommunications	T		тт	2	1	1	6
0.	САФ12СТ02222426,0320	Description2. New technologies in postal traffic13							0
7.	САФ12СТ02222526,0320	1. Application of renewable energy sources in transport systems	I_4	I ₄		3	1	1	6
	САФ12СТ02222626,0320								
8.	САФ12СТ021194218,01600	master thesis	0		II	16	0	0	18
				ТОТ	AL:	37	8	6	60

	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Telecommunications and postal traffic								
A OF CASE			Il cycle I year of study						
Course title			METHODOLOGY OF SCIENTIFIC RESEARCH WORK						
Department		Departme Doboj	ent of Tran	sport Engineerin	g - Faculty of Tra	insport and	Traf	fic Engineering	
	Code		Cou	urse status	Semest	ter		ECTS credits	
САФ12СТ0	0320	0	bligatory	1			6		
Professor/s	Phi	D Perica Goj	ković, Full P	rofessor; PhD Zora	an Ćurguz, Associa	ate Professor	r		
Associate/s	Boj	ana Ristić, S	enior Assist	ant	-				
	Weekly h	ours		Individual st	udent hours (pe	r semester)		Student workload coefficient S _o	
L	TE		LE	L	TE	LE		So	
3	2		0	X*15*S₀	Y*15*S₀	Z*15*S₀		1,4	
Total teach	ner workl	oad (hours,	per semes	ter)	Total student v	vorkload (ho	ours,	, per semester)	
3*	15 + 2*15	+ 0*15 = 75	hours		3*15 [*] 1,4 + 2*	15*1,4 + 0*1	5*1,4	= 105 hours	
	-	Fotal workle	oad: W+T=	U _{opt} = 75 + 105	= 180 hours p	oer semeste	r		
	1.1	ntroducing	students v	vith methods use	ed in the prepara	tion of scie	ntifio	c research papers	
Course aims an	d 2.1	ntroducing	students t	o the techniques	used in the prep	paration of s	scier	ntific research papers	
learning outcor	nes 3. i	mastering t	he writing a	and defense of tl	ne thesis				
	4. i	ndepender	it preparat	ion of seminar pa	aper				
Prerequisites	no								
Teaching metho	ods Leo	ctures, audi	tory exerci	ses, consultation	S				
Course content	1. scie 2. I 3. I 4. (exp for 5. I det 6. 7. (sea 8. I ins 9. § 10. 11. 12. 13. 14.	Ine concept entific resea Basic scient Methods of Conceptual olanation of mulating re Research ap termination Theoretical ncept of res Operational arch of prim Research in truments Sample; cor Project of Methodolo Discussion Writing a r Preparatio	t, subject, s arch ific theorie scientific r foundatior f research t search hyp proaches, of popular review of r earch), firs lization of r hary and se struments; neept, type scientific re ogy and teo of results research re n of bibliog	significance and s and research research so of research (co copics and proble potheses) strategies and pl tion and research research (review t colloquium research (measur condary sources, notion of instru s, procedures an esearch work chnology of maki port and conclus graphic papers, t	nistorical develo oncepts, theories ems, defining the lanning (selection n sample) of literature and rement of econo , arranging and a ments, types of i d sampling techr ng a scientific we ions echnical process	pment of th s and model e subject and n of research l research ir mic variable inalyzing da nstruments niques ork ing of a scie	e mi d goa ch ma es, ty ta, ta cor	ethodology of rmulation and al of research, ethods, cordance with the ypology of data, esting hypotheses) mpetition of c work, second	
	COL	ioquium		Textbook (-				
Autho	or/s		Name	of publication	y publisher	Year		Pages (from-to)	
			Method	ology of scientifi	c research	i cai		. 4860 (110111 10)	
3. Z	akic M.:		Fac	ulty of Law, Banj	a Luka	2000			
4. Cola	khodzic E	.: I	Methodolo search wor	gy and technolog k, Faculty of Tea	gy of scientific cher Education,	2021			

		Džemal Bijedić University, Mostar								
	Additional readings									
Author/s		Name of publication, editor	Yea	ar Pag		es (from-to)				
2. Stanivukovi	c D.:	Method of scientific work, Faculty of Technical Sciences, Novi Sad								
		Assesment methods		Poi	nts	Percentage				
	Pre-exan	Pre-exam obligations								
		attendance at lectures / ex	5		5 %					
		teaching	5		5 %					
Evaluation criteria	positively graded seminar paper					20 %				
		coll	40		40 %					
	Final exam									
		Ora	30		30 %					
	IN TOTAL 100 %									
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ski-NPP-	II-cik	lus.pdf					
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic									
Applicable from	Enginee	ring in Doboj								

	F	UNIV aculty of ofile: Tele	ERSITY OF EAST Transport and Tr Study program: communications	SARAJEVO raffic Engineering Traffic s and postal traf	g ific		2003	
575 4.500 JO 505			II cycle		l year of stu	dy		40EOJ
Course title			MODELS, SIMULATIONS AND ANIMATIONS IN TRAFFIC					
Department	De Do	partme boj	nt of Tran	sport Engineerin	g - Faculty of Tra	ansport and	l Trat	ffic Engineering
Code	9		Coι	ırse status	Semes	ter		ECTS credits
САФ12СТ0211	8116,0320)	0	bligatory	I			6,00
Professor/s	PhD Mir	<o stojči<="" td=""><td>ić, Assistan</td><td>t Professor</td><td></td><td></td><td></td><td></td></o>	ić, Assistan	t Professor				
Associate/s	PhD Mir	<o stojči<="" td=""><td>ić, Assistan</td><td>t Professor</td><td></td><td></td><td></td><td></td></o>	ić, Assistan	t Professor				
We	ekly hours			Individual st	udent hours (pe	r semester))	Student workload coefficient S₀
L TE			LE	L	TE	LE		So
3	1		1	63	21	21		1,4
Total teacher v	workload (hours,	per semes	ter)	Total student v	workload (h	ours	, per semester)
3*15 +	1*15 + 1*1	5 = 75	hours		3*15*1,4 + 1*	*15*1,4 + 1*1	5*1,4	l = 105 hours
	Tot	al worl	<load: w+<sup="">-</load:>	Γ=U _{opt} = 75 + 105	= 180 hours pe	r semester		
Course aims and learning outcomes	By mast 1. optin 2. mode 3. simul 4. anim	ering ti nizes tra els traff ates tra ates tra	ne content affic proce ic process affic proce affic proce	t of this course, t sses es sses sses	the student will l	be able to:		
Prerequisites	Does no	ot have						
Teaching methods	Lecture	s, audit	ory exerci	ses, seminar pap	ber			
Course content	1. Mode 2. Simu 3. Mode 4. Estim 5. Valid 6. Probe 7. Proce 8. Struc 9. Proce 10. Mod 11. Calc 12. Mat 13. Mat 14. Exer 15. Exer	eling. D lation. (el classi lation o ation a ability a ess simu ture of ess opti dular sin ulation rix form rix met rcises o rcises o	efinition, t Computer fication. M of model part nd verifica und statisti ulation simulation biocks (m n of techno chods for d n modern <u>n modern</u>	ypes of models. simulation. Histo lodel classificati arameters tion of the mode cs in simulation n systems Problem formula odules) ological scheme etermining com simulation softw simulation softw	Modeling and m orical overview c on. Formal mode el ation. Classificati structure putational cycles vare: SIMUL8, PC vare: SIMUL8, PC	on of optim s C CRECH, SII	n dev ion nizati MIO <u>MIO</u>	velopment on methods
		r		Textbook (s)			
Author/s			Name	of publication,	publisher	Yea	r	Pages (from-to)
Averill M. Law		Simul Educa	lation Mod ation	leling and Analy	sis, McGraw-Hill	2014	1.	
Montgomery D.		Desig Sons	n and Ana	lysis of Experime	ents, John Wiley	& 2012	2.	
Božičković R		Mete Traffi	de optimiz c Engineer	zacije, Faculty of ing Doboj	Transport and	2007	7.	1-257
				Additional rea	dings			
Author/s			Nam	e of publication	, editor	Yea	r	Pages (from-to)
Čupić M. et al.		Speci	jalna pogla	avlja iz teorije od	llučivanja, FTN	2009	Э.	1-135

	Novi Sad							
	Assesment methods	Points	Percentage					
	Pre-exam obligations							
	attendance at lectures / exercises	10	10%					
	positively assessed seminary work / project / essay	10	20%					
Evaluation criteria	case study - group work	10	10%					
	test / colloquium	20	10%					
	Final exam							
	Final exam (oral / written)	50	50%					
	TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj							

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Telecommunications and postal traffic						A0EDJ	
Course title			TELEMATICS SYSTEMS						
Department		Departr Transpo	ment of Infor	mation - Com	mui	nication Systen	ns in Traffic	- Fac	ulty of
C	Code		Cou	irse status		Seme	ster		ECTS credits
САФ12СТ(2121916.0	0320		elective		1			6.0
Professor/s	Ph	D Aleksand	dar Stiepanovi	ć. Associate Pro	fes	sor			
Associate/s	PhD	D Mirko Sto	o Stojčić, Assistant Professor						
	ours		Individual student hours (per semester)					Student workload coefficient S _o	
L	TE		LE	L		TE	LE		So
3	1		1	3*15*1.4=63		1*15*1.4=21	1*15*1.4=2	1	1.4
Total teach	ner worklo	oad (hour	rs, per semes	ter)		Total student	workload (h	ours,	, per semester)
3*	15 + 1*15 -	+ 1*15 = 7	75 hours			3*15*1.4 + 1	*15*1.4 + 1*1	5*1.4	= 105 hours
	Т	otal worl	kload: W+T=	J _{opt} = 75 + 1	05	= 180 hours	per semeste	r	
Course aims and learning outcon	 Active knowledge of regulations and norms, European regulations related to ITS Proposal of solution of distributed information and communication systems for transport nonitoring Research of ITS and interaction with spatial information infrastructure ITS architecture By defining user requirements for the purpose of refixing transport problems 								
Prerequisites	The	ere is no p	prior conditio	nality					
Teaching metho	ods Lec	tures, au	ditory exerci	ses, laborator	/ ex	ercises, consul	tations		
Course content	 1. Traffic management. Traffic management strategies 2. Adaptable systems. Network capabilities 3. Basic definitions of ITS. ITS development. 4. European ITS projects, Standards, norms of the directive, legal bases, FRAME project 5. ITS architecture. Theoretical foundations, Possible applications of ITS 6. Traffic management - traffic distribution and application of ITS. 7. Technical preconditions for the application of ITS 8. Detectors and sensors 9. Simulation programs, Evaluation of effects 10. Spatial infrastructure of GIS and ITS. ITS and GPS 11. Variable signaling, standards 12. Traffic management on highways in urban areas 13. Congestion management and application of ITS in congestion management 							RAME project	
				Textbool	(s)				
Autho	or/s		Name	of publication	1, p	ublisher	Year	•	Pages (from-to)
A. Stjep Kos	panović, M stadinović		Telematski s	stemi, Universit	y of	East Sarajevo	2020)	
				Additional r	ead	ings		-	
Autho	or/s		Nam	e of publicati	on,	editor	Year	•	Pages (from-to)
Evaluation crite	ria Pre	-exam oh	A	ssesment met	hoo	ds		Poi	nts Percentage

	attendance at lectures / exercises	5	5%						
	positively graded seminar paper	15	15%						
	15	15%							
	Colloquium 2	15	15%						
	10	10%							
	Final exam								
	oral	40	40%						
	IN TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj								

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18.						meening			and the second s
· 82·		D	afile: Tele	stuay prog	ram: I	rajjic and nostal traff	i.e		
4572.00	-	PI		communic	ations	und postal trajj			AOEOJ
Course title			li cycle				TRAFFIC		and the state of t
Course title		Donortmo	nt of Infor	ELI		NIC STSTEIVIS IN	IRAFFIC	fie L	a ultu of Transport
Department		and Traffi	c Engineer	ing in Dob	a comi oi	numication syste		пс, г	acuity of fransport
			e Engineer		0)				
Coo	le		Cou	urse status	5	Semest	er		ECTS credits
САФ12СТ022	22016,0	320		elective		1			6,0
Professor/s	PhD	Miroslav Ko	ostadinović,	Associate I	Professo	br			·
Associate/s	PhD	Goran Kuz	mić, Assista	nt Professo	r				
W	eekly ho	ours		Individ	ual stu	dent hours (pei	semester)		Student workload
	- 		15						coefficient So
L			7	L V*1C*	c		2*1E*C		3 0
^	Ŷ		Z	X.12.	S 0	Total student w	2 · 15 · 30	ourc	nor comactor)
Total teacher	workloa	ad (hours,	per semes	ter)	т – 2	101al Student M *15*1 / ± 1*15*	/OFKIOAU (FI *1 /1 ± 1*15	0urs, *1 /	$-62 \pm 21 \pm 21 = 105$
W = 3*15 + 1*1	5 + 1*15	5 = 45 + 15	6 + 15 = 75	hours	1-5	15 1,4 + 1 15	1,4 + 1 15	, 1,4	- 03 + 21 + 21 - 103
	Т	Total work	- W beol	T = 1 lant = 7	75+ 105	– 180 hours ne	r somostor		
	The	student w	ill acquire:	1 - Oopt - 7	51 105	- 100 nours pe	i semester		
	1 th	eoretical l	nowledge	of telecor	nmunic	ation systems a	nd networ	ks an	d their applications
	in tra	in traffic and transport.							
Course aims and	2 ex	2. expertise in public broadcasting systems (RDS, DAB) in traffic from public broadcasting							
learning outcome	s syste	systems (RDS, DAB) in traffic and							
	3 kn	nowledge i	n the field	of sensor	and ad	-hoc networks f	or traffic m	onito	oring and regulation
	4. kn	4. knowledge of systems and networks intended for modern traffic and transport systems.							
Prereguisites	No	0 -							
Teaching methods	Lectu	ures, audit	ory exerci	ses, labora	tory ex	ercises, consult	ations		
	1 Tel	1 Telecommunication systems and networks and their potential applications in traffic and							
	trans	transport.							
	2 Ap	2 Application of public broadcasting systems (RDS, DAB) in traffic							
	3 Pu	3 Public networks for mobile communications							
	4 Mc	4 Mobile communications for closed user groups							
	5 Fix	5 Fixed and mobile wireless IP networks							
	6 Vir	6 Virtual Private Networks							
	7 Ra	7 Radio over optics (ROF)							
Course content	8 Sei	nsor and a	d-hoc net	works for t	raffic n	nonitoring and r	egulation		
	9 Sys	9 Systems designed for safe traffic.							
	10 Sa	atellite co	mmunicati	on system	S.				
	11 V	enicle pos	itioning an	id navigati	on syst	ems		TD	
	12 D	edicated i	adio netw	orks for da	ita tran	smission (IVIOBI	IEX, IEIRA	Λ, ΓRA	axys, ardis,
			KAI). Shart Bang	o Commun	vication	s in Road Traffi			
	14 G		hal system	e commun a of mobile		unications for r	- (DSRC) ailway ann	licati	ons
	14 G	ir transno	rt commur	ications F	liver in	formation service	.ec анмал аhh	ncati	0113
	15 A		e commu	Texth	nook (s				
Author/	s		Name	of publica	tion n	ublisher	Vea	r I	Pages (from-to)
Ferrari P Jakoby	R	Reco	nfigurahle	Circuits ar	nd Tech	nologies for	2022		. 4960 (11011 10)
Karabev. O H Ma	aune. H	Smar	t Millimet	er-wave Sv	stems	Cambridge	2022		
& Rehder. G.		Unive	ersity Pres	s.		earlier in the			
Gumbo. T., Movo	Т	Urba	n Public Tr	ansport Sv	stems	Innovation in th	e 2022		
Ndwandwe, B., Ris	imati, B.	., Four	th Industri	al Revoluti	on Era:	Global South			

& Mbatha, S. G.		Perspectives, Reflections and Conjectures.							
		Springer Nature.							
M. A. Chowdhury, A.	Sadek,	Fundamentals of Intelligent Transportation							
		Systems Planning, Artech House,							
H. Lehpamer,	H. Lehpamer, RFID Desing Principles, Artech House, 2008								
J. Lavergant, M. Sylv	ain,	Radio Wave Propagation: Principles and	2000						
		Techniques, Wiley,	echniques, Wiley,						
Additional readings									
Author/s		Name of publication, editor	Yea	r	Pag	es (from-to)			
		Assesment methods	Poi	nts	Percentage				
	Assesment methods								
	Pre-exa	m obligations							
		presence in lectures / ex	10		10%				
		positively evaluated semina	10		10%				
Evaluation criteria		Colloq	15		15%				
		Colloq	15		15%				
		laboratory ex	10		10%				
	Final exam								
		Theo	oretical	40		40%			
	TOTAL		100)	100 %				
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engle	ski-NPP-	II-cik	lus.pdf				
Analisable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic								
Applicable from	Enginee	ring in Doboj							

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Telecommunications and postal traffic							AOEO
Course title			PROJECT MANAGEMENT IN POSTAL TRAFFIC						and then an object
Department		Depa	artment of Infor	mation - Com	mun	ication Systen	ns in Traffic	- Fac	culty of Transport
(Code		Cou	Irse status		Semes	ster		ECTS credits
САФ12СТО	2222116.	0320		elective		1			6.00
Professor/s	Ph) Amel	Kosovac, Associa	ate Professor				1	- /
Associate/s	PhD) Amel	Kosovac, Associa	ate Professor					
	Weekly h	ours		Individual student hours (per semester))	Student workload coefficient So
L	TE		LE	L		TE	LE		So
3	1		1	3*15*1,4=63	3	1*15*1,4=2 1	1*15*1,4= 1	-2	1,4
Total teach 3*	ner worklo 15 + 1*15 -	oad (ho + 1*15	ours, per semes = 75 hours	ter)	-	Total student 3*15*1.4+ 1	workload (h *15*1,4+ 1*1;	ours 5*1,4	s, per semester) I= 105 hours
		Tota	l workload: W+	T=U _{opt} = 75 + 1	05 =	180 hours pe	r semester	,	
Course aims an learning outcor	By 1. a d 2. a nes the 3. r 4. F	 apply the latest knowledge in the field of project and investment management; application of methods and techniques of project and investment management, as well as the latest achievements in theory and practice; recognizes and defines the role and place of project and investment management; Performs performance improvement in project management. 							
Prerequisites	The	ere is n	o prior conditio	nality					
Teaching metho	ods Leo	tures,	auditory exercis	ses, laborator	y exe	ercises, consul	tations		
Course content 1. Concept and definition of the project. Types of projects. Projects in postal traffic. 2. Project Management according to PMI (Project Management Institute). 3. Project management concept. 4. Project management organization. 5. Human resource management 6. Contract Management. 6. Contract Management. 8. Project risk management. 9. Project communication management. 9. Project communication management. 10. Preparation and evaluation of investments in communications. 11. Investment process management. 12. Project realization planning. 13. Monitoring and control of project implementation. 14. Project realization reporting system. 15. Computer programs for project management. Project management methods and							nethods and		
				Textbool	k (s)				
Autho	or/s		Name	of publication	1, pu	iblisher	Yea	r	Pages (from-to)
Jovanović P.			upravijanje pro Sciences	jektom, Facul	τγ ο	or Organization	2004 2004	1.	
Jovanović P.			Upravljanje inve	esticijama, Gra	afosl	og, Belgrade	2002	2.	
				Additional re	eadi	ngs			
Autho Lock D.	or/s		Nam Project manage	e of publication ment, Gower	on, e Pres	editor ss, London, UK	Yea 1977	r7.	Pages (from-to)
Klein R.		Sheduling of resource - constrained projects, Kluwer Academics Publishers, Boston, MA2000							
----------------------------	--	--	----------	--------------	------------	--	--	--	
		Assesment methods		Points	Percentage				
	Pre-exa	n obligations							
		attendance con	10	10 %					
		activity during of	classes	5	5 %				
Evaluation criteria		positively graded seminar	10	15 %					
		СО	2 x 25	50%					
	Final exam								
		ora	l exam	50	50 %				
		writter	25	25 %					
	TOTAL			100	100%				
Web sources	http://s	ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ski-NPP-	II-ciklus.po	lf				
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj								

		P	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Telecommunications and postal traffic						Source in		
Course title			псусіе	М							
Department		Departm	artment of Information - Communication Systems in Traffic - Faculty of								
		Transpor				Correct				ana dita	
CA@12CT(200e	1320							ECIS		
	DZZ 105 10,0) Aleksanda	andar Stiepapović Associate Professor								
Associate/s	Ph) Aleksanda	nual Sijepanović, Associate Professor								
Associate	Weekly h	ours	rogopanovi	Individ	lual st	udent hours (p	er semester) 9	Stude	nt workload	
1	TF		IF	1		TF	IF		00	So	
3	1		1	3*15*1.4	=63	1*15*1.4=21	1*15*1.4=2	21		1.4	
Total teach	ner worklo	oad (hours.	per semes	ter)		Total student	workload (h	nours. p	er sei	mester)	
3*	15 + 1*15 ·	+ 1*15 = 75	hours	,		3*15*1.4 +	1*15*1.4 + 1*′	15*1.4 =	105 h	ours	
	٦	Fotal workl	oad: W+T=	U _{opt} = 75	+ 105	5 = 180 hours	s per semest	er			
	1. \	web applica	ations with	technolog	ies of	modern multin	nedia comm	unicatio	ons		
	2 . c	distributed	multimedia	a applicati	ons						
Course aims and	u 3. '	'Data minir	ng" of multi	media dat	a in tr	ansport					
learning outcom	4. 0	quality of so	ervice in m	ultimedia	comm	unications					
	5. c	developme	nt of multir	nedia app	licatio	ns for transpor	t purposes				
Prerequisites	The	ere is no pr	ior conditio	onality							
Teaching metho	ods Leo	tures, audi	tory exerci	ses, labora	atory e	xercises, consu	ltations				
	1.1	The concep	t of multim	edia and r	multim	iedia communi	cation in all	modes	of tra	nsport	
	2.1	Multimedia	elements	· image an	alysis,	edge detection	n, detection	of faces	s, obje	ects	
	3. (Creating m	ultimedia a	pplication	s for tr	ansport purpo	ses-applicati	on of H	ITML,	PHP, CSS	
	4.1	Multimedia	data minir	ng 							
	5.1	Viultimedia	communic	ations: mo	odern	trends					
	0.1	Viultimedia	edia web applications - integration with spatial information infrastructure (INSPIRE)								
	7.1 9 r	Viulumeula	signal prod	essing: co	and th	sion technique	in nassenge	r trackij	na co	ontrol and	
Course content	o. L	ormation s	inunineur istems	a systems	anu tr		in passenge		ng, co		
course content	9 1	Multimedia	on the Inte	ernet-goog	olemar	15					
	10.	Multimed	a commun	ication sta	indard	s					
	11.	Internet a	ccess netwo	orks FTTH.	ADSL	VDSL. DOCSIS					
	12.	Network s	tructure of	multimed	lia com	munication sy	stems				
	13.	Quality of	service in r	nultimedia	a comr	nunications-Qo	oE user expe	rience,	qualit	ty of QoS	
	ser	vice									
	14.	Automatic	image rec	ognition -	applica	ation in transpo	ort (use of to	ols in N	/lathla	ab)	
	15.	5G mobile	communic	ations, mu	ultime	dia in mobile co	ommunicatio	ons			
				Text	book (s	s)					
Autho	or/s		Name	of publica	ation, J	publisher	Yea	r	Page	es (from-to)	
K. R. Rao, Z. S. E	Bojkovic, D	. А	Multime	dia Commu	inicatio	n Systems:	200	2			
Milovan	IOVIC	le	cnniques,Sta	andards and	a Netwo	Drks, Prentice-Ha					
A		NI -	Addition	al rea	aings	V		Dee			
Autho	0r/S		Nam	le of publi	cation	, ealtor	rea	r	Page	es (from-to)	
Evaluation crite	ria		Α	ssesment	metho	ods		Point	S	Percentage	
	Pre	e-exam obli	gations								

	attendance at lectures / exercises	5	5%					
	positively graded seminar paper	15	15%					
	Colloquium 1	15	15%					
	Colloquium 2	15	15%					
	laboratory exercises	10	10%					
	Final exam							
	oral	40	40%					
	IN TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj							

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			Eaculty of J	ranchort /	EASI 3	SARAJEVO			PATAINA OAFL		
•18•							5		Ser I Fait		
· 82·			Brofiles Tolos	ocuay prog	rum: I ations	rajjic and nostal traf	Gir.				
	III				AOEOJ						
Course title			псусіе				μγ Ποςται το				
Course title		Dona	rtmont of Infor	mation (nication System	PUSTAL IR	AFFI Fac	L Sulty of Transport		
Department		and T	Traffic Engineeri	information - Communication Systems in Traffic - Faculty of Transport							
	Code		Cou	irse status	1	Semes	ter		ECTS credits		
САФ12СТО	2222216.	0320		elective		1			6.00		
Professor/s	Phi) Amel	Kosovac, Associa	ate Professo	or				- /		
Associate/s	Phi	D Amel	Kosovac, Associa	ate Professo	or						
			,						Student workload		
Weekly hours				Individ	ual stu	dent hours (pe	r semester)		coefficient S _o		
L	LE	L		TE	LE		So				
2	4		4	2*45*4		1*15*1,4=2	1*15*1,4=	2	1.4		
3	1		1	3*15*1,4	1=63	1	1		1,4		
Total teach	ner workl	oad (ho	ours, per semes	ter)		Total student v	vorkload (h	ours	, per semester)		
3*	15 + 1*15	+ 1*15	= 75 hours			3*15*1,4+ 1	*15*1,4+ 1 [*] 15	5*1,4	= 105 hours		
			Total workload	l: 75 + 105	= 180	hours per seme	ester				
	Ву	master	ring the content	of this co	urse th	e student will a	cquire and l	be a	ble to apply:		
Course aims an	a 1.1	heoret	tical,								
learning outcor	2.	profess	sional,								
learning outcor	3.	oractica	al knowledge in	the field o	of telec	ommunication	technologie	s,			
	4.	nowle	dge of systems	and netwo	orks int	ended for mod	ern traffic a	nd t	ransport systems.		
Prerequisites	The	ere is n	o prior conditio	nality							
Teaching metho	ods Leo	tures,	auditory exercis	ses, labora	tory ex	ercises, consult	ations				
	1.	Intro	duction to telec	ommunica	ation sy	stems and thei	r potential a	appl	ications in traffic and		
		trans	sport.			(000 04)					
	2.	Appii	ication of public	: broadcasting systems (RDS, DAB) in traffic.							
	5.	Public		nobile cor	nmum	cations. Mobile	communica		is for closed user		
	1	Dodic	ps. cated radio net	works for a	lata tra	nemission (MO	DITEN TETD	ол т			
		RICO	CHFT)	tworks for data transmission (MOBITEX, TETRA, TRAXYS, ARDIS,							
	5	Fixed	l and mobile wir	eless IP ne	- twork	s					
	6.	Virtu	al Private Netw	orks. Radio	o over	optics (ROF).					
	7.	Senso	or and ad-hoc n	etworks fo	or traffi	c monitoring ar	nd regulatio	n. Tv	pes of sensor		
Course content		techr	nologies			0	0				
	8.	Wirel	less communica	ition syste	ms des	igned for safe t	raffic.				
	9.	Dedic	cated Short Ran	ge Commi	unicatio	ons in Road Tra	ffic (DSRC).	Wire	eless local area		
		netw	orks								
	10). Satel	lite communica	tion syster	ns and	their application	ons in traffic				
	11	L. Vehic	cle positioning,	navigation	and tr	acking systems.					
	12	2. Comr	munication syst	ems for th	e need	s of electronic	payment for	r ser	vices (toll, ticket		
		sales,	, etc.)								
	13	s.GSM-	-к - giobal mobi	ie commu	nicatio	ns system for ra	anway appli	catio	ons		
	14	i. Air tr	anic communic	ation syste	ems.	maritima traffic	Divor infor	mat	ion convicos		
	1:	s. com	munication syst			nantime traffic	. River infor	mat	ion services.		
Autho	or/s		Name	of publics	tion n	/ ublisher	Voor	-	Pages (from to)		
Autro	// 5		Fundamentals	of Into	lligent	Transportatio	n		rages (110111-10)		
M. A. Chowdhu	ry, A. Sad	ek,	Systems Diannir	on inte	House	Tansportatio	2003	5.			
1			Systems Flamilli		nouse,						

J. Lavergant, M. Sylva	ain,	Radio Wave Propagation: Principles and Techniques, Wiley, Одабрани чланци из часописа IEEE Vehicular Technology Magazine						
		Additional readings						
Author/s		Name of publication, editor	Year	r Pag	es (from-to)			
		Assesment methods		Points	Percentage			
	Pre-exa	n obligations						
		attendance at lectures / exe	ercises	5	5%			
		positively graded seminar	15	15%				
		Colloqu	15	15%				
Evaluation criteria		Colloqu	15	15%				
		laboratory exe	10	10%				
	Final exa	am			•			
		ora	lexam	40	40%			
	TOTAL		100	100 %				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf							
Applicable from	19.10.20 Enginee	023 213th session of the Academic Council, Faculty ring in Doboj	of Tran	sport and Ti	affic			

		UNIV Faculty of T Profile: Il cycle	Transport a Study prog The road t	EAST S and Tra gram: T transpo	SARAJEVO offic Engineerin Fraffic ort and traffic I year of stu	ng Judy		ACED A				
Course title			SELECT	SELECTED CHAPTERS IN THE FIELD OF TELECOMMUNICATIONS								
Department			[
C	Code		Cou	Course status Semester					ECTS credits			
САФ12СТ0	2222326,	0320										
Professor/s												
Associate/s												
	Weekly h	ours		Individ	lual stu	dent hours (p	er semester))	Stude coe	ent workload efficient So		
L	TE		LE	L		TE	LE			So		
Х	Y		Z	X*15*S	S₀	Y*15*S₀	Z*15*S₀					
Total teach X*	ner worklo 15 + Y*15	oad (hours, + Z*15 = W	per semes hours	ter) Total student workload (hours, per semester) $X^{15*}S_0 + Y^{15*}S_0 + Z^{15*}S_0 = T$ hours						mester) urs		
		Total v	vorkload: V	V+T=U _{opt} =	+ =	= hours per s	semester					
Course aims an	d											
learning outcom	nes											
Prerequisites												
Teaching metho	ods											
Course content				Toyth	hook (s	1						
Autho	or/s		Name	of publica	otion n) Jublisher	Vea	r	Dag	es (from-to)		
Autic	///3		Name		ition, p	ublisher	Tea	ear Pages (from-to)				
				Addition	al read	lings						
Autho	or/s		Nam	e of publi	cation,	editor	Yea	r	Page	es (from-to)		
			Α	ssesment	metho	ds	I	Poi	nts	Percentage		
										· –		
Evaluation crite	eria											
										1		
Web sources	htt	n·//sf ues r	s ha/eng/v	vn-conten	t/unloa	ds/2024/01/Fi	ngleski-NPP-	ll-cik	lus ndf			
	19	10.2023 -	213th sessi	on of the	Acaden	nic Council. Fac	culty of Tran	sport	t and Tr	affic		
Applicable from	Eng	ineering in	Doboj									

	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Telecommunications and postal traffic						2005 Suming Original				
15 45 30 JU			ll cycle		l year of stu	dy		A O E O J			
Course title	STAL TRAFFI	С									
Department		Departm and Traf	ent of Infor fic Engineer	mation - Communication Systems in Traffic - Faculty of Transport ing Doboj							
C	Code		Cou	Course status Semeste				ECTS credits			
САФ12СТО	2222426,	0320		elective				6,00			
Professor/s	Ph	Dejan Ma	rković, Full P	rofessor							
Associate/s	Ph) Dejan Ma	rković, Full P	rofessor							
	Weekly h	ours		Individual st	udent hours (pe	er semester)		Student workload coefficient So			
L	TE		LE	L	TE	LE		So			
3	1		1	3*15*1,4=63	1*15*1,4=21	1*15*1,4=2	1	1,4			
Total teach	ner worklo	oad (hours	, per semes	iter)	Total student	workload (ho	ours,	, per semester)			
3*	15 + 1*15 -	+ 1*15 = 75	hours		3*15*1,4+1	*15*1,4+ 1*15	5*1,4=	= 105 hours			
	A.C.	Total wo	rkload: W+	T=U _{opt} = 75 + 105	= 180 hours pe	er semester		- I			
		er success	rully passing	g the course, the	student will be	able to appl	y the	e knowledge from			
Course aims an	d 1.0	nformatio	n technolog	riorugy ries in nostal traf	fic						
learning outcom	nes 2.1	Electronic services in postal traffic									
	4. 4	Automatio	n of monev	transactions in t	he post office						
	Cor	nditions fo	r taking the	course are:							
Duous autisitas	1. r	egular clas	s attendan	ce (lectures and	exercises),						
Prerequisites	2. 0	ompleted	and defend	led project task,							
	3. p	bassed all o	colloquia								
Teaching metho	ods Leo	tures, aud	itory exerci	ses, laboratory e	xercises, consul	tations					
	1.4	Automatio	n of counte	r operations. Mo	dern counters						
	2.0	Counter sy	stem config	jurations		of a cotal our					
	3.1	 Informatization (information kiosks) and management of postal systems management Electronic and hybrid mail in modern systemated processes 									
	4.6	4. Electronic and hybrid mail in modern automated processes 5. Automation in electronic services, e-mail, electronic brand and user applications									
	6.1	The impact	nation in electronic services, e-mail, electronic brand and user applications								
	7.1	colloquiu	n		-,						
Course content	8. A	Automatic	and mobile	office							
	9. F	Postal info	rmation sys	tem							
	10.	Automati	on of new s	ervices in postal	traffic						
	11.	Automati	on in postal	logistics system	S						
	12.	Automati	of automat	tic technical syst	ems and autom	atic diagnost	ICS				
	13.	Computer	-assisted a	uality		post office					
	14.		um	aanty							
				Textbook (s)						
Autho	or/s		Name	of publication,	publisher	Year		Pages (from-to)			
	Automatizacija procesa rada u poštanskim										
Bukumirović M.		siste	emima, Facu	ulty of Transport	and Traffic	1999					
		Eng	Engineering, Belgrade								
				Additional rea	dings						
Autho	or/s		Nam	e of publication	, editor	Year		Pages (from-to)			
Dobrodolac, M.	; Markovi	ć, Eksp	oloatacija po	oštanskog saobra	aćaja, Faculty of	2016.					

D., Blagojević, M.		Transport and Traffic Engineering, Belgrade							
		Assesment methods	Points	Percentage					
	Pre-exa	n obligations							
		attendance at lectures / ex	ercises	10	10%				
		completed and positively evaluated proje	ct task	20	20%				
		Collog	20	20%					
Evaluation criteria		Colloq	20	20%					
		Passe	10	10 %					
	Final exa	am							
		ora	l exam	20	20%				
	TOTAL		100	100 %					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic								
	Enginee	ring in Doboj							

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Telecommunications and postal traffic							A OEDJ	
Course title						I year of stud				
Department		Departmo	ent of Infor	mation an	d Com	munication Syst	ems in Traffi	ic, Fa	aculty of Transport	
					0]					
CA@12CT0	Code	0220	Cou	urse status Semester			ter	ECTS credits		
Professor/s	2222320, Ph[26,0320 elective li							0,0	
Associate/s	Ph) Slobodan I	Lubura, Full	Professor						
Weekly hours Individual student hours (per semeste							r semester)		Student workload coefficient So	
L	TE		LE	L		TE	LE		So	
3	1		1	3*15*1,4	1=63	1*15*1,4 =21	1*15*1,4 =21		1,4	
Total teach 3*1	ner worklo .5 + 1*15	oad (hours, + 1*15 = 7	per semes 5 hours	ter)		Total student v 3*15*1,4+ 1*	vorkload (ho 15*1,4+ 1*1	urs, 5*1,	per semester) 4= 105 hours	
		Total work	doad: W +	$T = U_{opt} = 7$	75+ 105	5 = 180 hours pe	r semester	,		
Course aims an learning outcor	The 1. r 2. a nes 3. c 4. r tra	e student w nonitors tr acquires ba differs in th nonitors th nsport.	vill be able ends in the sic knowled e construct le economi	to: field of re dge of alte tion of elec c aspects o	newab rnative ctric ve of the a	le energy source propulsion in v hicles and hybri pplication of alt	es, ehicles, d vehicles, ernative pov	wer s	sources in	
Prerequisites	No									
Teaching metho	ods Leo	tures, audi	tory exerci	ses, labora	atory ex	ercises, consult	ations			
Course content1. Introduction: Energy. Renewable sources of energy. Environmental protection. Trend the world, EU and BiH. 2. Legislation. 3. Solar energy: Basic properties of solar radiation. Converting solar energy into electricit 4. Solar energy: Practical examples. Economic significance. World trends. EU and BIH 5. Electric vehicles. Types of electric vehicles 6. Fully electric vehicles (EV). Hybrid Electric Vehicles (HEV) 7. Sources of electricity. Modern batteries and autonomy of electric vehicles 8. Charging the battery. Solar cells, fuel cells and reformers 9. Modern heat engines. 10. Construction of EV and HEV 11. Specifics of EV construction 12. Ecology and HEV 13. HEV development trends 14. Alternative energy sources and new fuels								ection. Trends in y into electricity. EU and BIH es		
				Text	book (s)				
Autho	or/s	-	Name	of publica	ition, p	ublisher	Year		Pages (from-to)	
Labudović, B.		Renewable energy sources, Energy marketing, 2002 Zagreb.								
Sljivac, D., Simić	:, Z.	Rene	ewable en	ergy sour	rces w	vith a focus c	on 2008			
		man	agement, t	extbook, E	IF Osij	ek.				
A4h.	~/c		New	Addition	al read	aditor	Ver		Dagos (from to)	
Autho	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Nafi	ie or publi	cation,	Cuitor	real		rages (non-to)	

		Assesment methods	Poi	nts	Percen	tage	
	Pre-exa	n obligations					
		presence in lectures / ex		5		5%	
		positively evaluated semina		15		15%	
Fuelwetien eriterie		Colloq		15		15%	
Evaluation criteria		Colloq		15		15%	
		laboratory ex		10		10%	
	Final exa	im					
		Theo	oretical		40		40%
	TOTAL			100)	100 %	
Web sources	http://s	ues.rs.ba/eng/wp-content/uploads/2024/01/Engle	ski-NPP-	II-cik	lus.pdf		
Analisahla fuon	19.10.20	23 213th session of the Academic Council, Faculty	of Tran	spor	t and Tr	affic	
	Enginee	ring in Doboj					

-18-C	021683		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic							South	ALIAN O'AS PLAN
**************************************			Dro	sfile: Tele	stuay prog communic	rum: 1 ations	and nostal traf	fic			
\$1915 4.5V9 30 1415			770	II cycle	communic		l year of stu	dv			AOEOJ I
Course title					QUALITY	MAN	AGEMENT IN P		FFIC		
Department		Dep Dob	artmer oj	nt of Trans	sport Engi	neering	g - Faculty of Tra	ansport and	l Traf	fic Eng	ineering
Co	ode			Course status Semester			ster		ECTS	6 credits	
САФ12СТ02	222626,	0320		(elective		II				6,00
Professor/s	Ph) Đorđ	đe Pop	ović, Asso	ciate Prof	essor					
Associate/s	Ph) Đorđ	đe Pop	ović, Asso	ciate Prof	essor					
v	ours			Individ	ual stu	ident hours (pe	r semester))	Stude coe	ent workload efficient So	
L	TE			LE	L		TE	LE			So
3	1	1 1 3*15*1,4=63 1*15*1,4 =21 arkload (bours, per semester) Total student w						1*15*1,4 =21	1		1,4
Total teache 3*15	er worklo 5 + 1*15 +	oad (h ⊦ 1*15	iours, p = 75 h	per semes nours	ter)		Total student v 3*15*1,4+ 1	workload (h *15*1,4+ 1*1	iours, 5*1,4=	per se = 105 h	mester) ours
		Tota	al work	load: W+	T=U _{opt} = 75	+ 105	= 180 hours per	r semester	,		
Course aims and	Aft	er acq	quainti	ng the stu	dent with	the ba	sic concepts and	d aspects of	fqual	ity ma	nagement,
learning outcom	es and	succ	essfull	y passing	the course	e, the st	udent will be a	ble to indep	pende	ently ap	oply existing
Duran and ditag	and	deve	elop ne	w models	of quality	mana	gement.				
Prerequisites		There is no prior conditionality									
Teaching method		Juality	, auulu v and c	uuality ma	nagement		oncent of quali	ty			
	2.0	Juality	y globa	al vision of	f the futur	e Oual	ity and social re	ey. Asnonsihility	,		
	3.0)efinit	tions ir	n the field	of quality	manag	rement.	sponsionity	<i>,</i> .		
	4. 0	Develo	opmen	t of qualit	v assuranc	ce. ie a	uality managem	nent.			
	5. P	rodu	ct qual	ity.	,	-,	,				
	6. S	PC m	ethods	, 5.							
	7. A	Analys	sis of p	rocess sta	bility and a	accura	cy.				
Course content	8. A	Approa	ach to	ch to the introduction of quality management systems. Purpose of quality							
course content	ma	nagen	nent sy	t system documentation.							
	9. 0	Develo	opmen	t of proce	dures. Bui	lding b	usiness process	es. Flowcha	art.		
	10.	Proce	ess ma	nagement	through c	quality	cost manageme	ent.			
	11.	The c	oncep	t of contir	nuous qua	lity imp	provement. Qua	lity loop.			
	12.	Integ	rated r	managem	ent system	ns. Stru	cture. Integrati	on method	s.		
	13.	Iotal	Qualit	y wallonge	ement (IQ	IVI). The	e role of TQIVI.				
	14.			and techni	iauos						
	13.	QIVIS	10015 0		Tevt	ook (s)				
Author	/s			Name	of publica	tion. n	, ublisher	Yea	r I	Pag	es (from-to)
			QMS	Design, Fa	aculty of I	Mechai	nical Engineerir	ng,		0	(
Bobrek, M.	Banja Luka,										
			Uprav	ljanje kv	alitetom,	Facult	y of Mechanio	cal	_ †		
воргек, M. Tdr.			Engin	eering, Ba	nja Luka			2006	D .		
					Addition	al read	lings				
Author	/s			Nam	e of publi	cation,	editor	Year Pages (from		es (from-to)	
Franke et al.	•			A	ssesment	metho	ds		Poir	nts	Percentage
Evaluation criter	Pre	-exam	n oblig	ations					·		

	attendance at lectures / exercises	10	10%					
	completed and positively evaluated project task	20	20%					
	Colloquium 1	20	20%					
	Colloquium 2	20	20%					
	passed tests	10	10 %					
	Final exam							
	Oral exam	20	20%					
	TOTAL	100	100 %					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic					

INFORMATICS IN TRAFFIC



UNIVERSITY OF EAST SARAJEVO

II CYCLE TRAFFIC / (Informatics in traffic)



		First year							
linal number	Course code	Course title	Status	nditioned courses	emester	Hours fund			ECTS
Ord			Co	S	L	TE	LE		
1.	САФ12СИ02118016,0320	Methodology of scientific research work	0		Ι	3	2	0	6
2.	САФ12СИ02118116,0320	Models, simulations and animations in traffic	0		Ι	3	1	1	6
3.	САФ12СИ02124516,0320	Selected chapters in software engineering	0		Ι	3	1	1	6
	САФ12СИ02209316,0320	1. Design and application of digital systems							
4.	САФ12СИ02224616,0320	2. Design of computer networks	I_1		Ι	3	1	1	6
	САФ12СИ02224716,0320	3. Design and application of information systems							
_	САФ12СИ02224816,0320	1. Design of microprocessor systems	-		-				
5.	САФ12СИ02221916,0320	2. Telematics systems	I_2		Ι	3	1	1	6
	САФ12СИ02222016,0320	3. Electronic systems in traffic							
	САФ12СИ02210326,0320	1. Network management and services							
6.	САФ12СИ02223826,0320	2. Application of GIS	I ₃		II	3	1	1	6
	САФ12СИ02224926,0320	3. Wireless Sensor Networks							
	САФ12СИ02225026,0320	1. Parallel computing systems							
7	САФ12СИ02225126,0320	2. User interfaces programming	L		П	3	1	1	6
/.	САФ12СИ02222526,0320	3. Application of renewable energy sources in transport systems	-4			5	1	1	0
8.	САФ12СИ021194218,01600	Master thesis	0		II	16	0	0	18
				TOT	AL:	37	8	6	60

Output profile: master of traffic - 300 ECTS - informatics in traffic

244 2741 2741 2741 2741 2741 2741 2741 2		UNI Faculty of	VERSITY OF EAST Transport and Tr Study program:	SARAJEVO affic Engineering Traffic	5	Saven and Contract			
		Pr	ofile: Informatics	in traffic					
13 4.5mg 30 355		ll cycle		I year of stud	dy		dono1		
Course title			METHODOLOGY	OF SCIENTIFIC R	RESEARCH V	VORK			
Department	De Do	partment of Tra boj	nsport Engineerin	g - Faculty of Tra	ansport and	Traffic E	Engineering		
Co	de	Co	ourse status	Semes	ter	E	ECTS credits		
САФ12СИ022	18016,032	0	obligatory	1			6		
Professor/s	PhD Per	ica Gojković, Full	Professor; PhD Zora	an Ćurguz, Associ	ate Professor	•			
Associate/s	Bojana	Ristić, Senior As	sistant						
w	eekly hours	5	Individual st	udent hours (pe	r semester)	St	udent workload coefficient So		
L	TE	LE	L	TE	LE		So		
3	2	0	X*15*S₀	Y*15*S₀	Z*15*S₀		1,4		
Total teache	r workload (hours, per seme	ster)	Total student v	vorkload (ho	ours, pe	r semester)		
3*15	+ 2*15 + 0*1	5 = 75 hours		3*15*1,4 + 2*	15*1,4 + 0*1	5*1,4 = 1	105 hours		
	Total	workload: W+T	=U _{opt} = 75 + 105	= 180 hours p	per semeste	r			
	1. Intro	ducing students	with methods use	ed in the prepara	ation of scie	ntific re	search papers		
Course aims and	2. Intro	ducing students	to the techniques	used in the pre	paration of s	scientifi	c research papers		
learning outcome	s 3. mast	astering the writing and defense of the thesis							
	4. inde	pendent prepara	tion of seminar pa	aper					
Prerequisites	no								
Teaching method	s Lecture	s, auditory exer	cises, consultation	S					
	1. The c	concept, subject,	significance and	historical develo	pment of th	e meth	odology of		
	scientif	ic research							
	2. Basic	pasic scientific tresearch Methods of scientific research							
	3. Metr	viethous of scientific research (concents, theories and models, formulation and							
	4. Conc	eptual foundation	ons of research (co	oncepts, theories	s and model	s, tormi	ulation and		
	formula	lanation of research topics and problems, defining the subject and goal of research,							
		arch approachor	(poineses)	anning (coloctio	n of rocoard	h moth	odc		
	J. Rese	instion of popul	, strategies and p	anning (Selectio	II OI TESEAIC	minetine	ous,		
	6 Theo	retical review of	research (review	of literature and	l research ir	accord	lance with the		
	concen	t of research) fi	st colloquium	of interactine and		laccora	iance with the		
Course content	7 Oper	ationalization of	research (measu	rement of econo	mic variable	es typol	logy of data		
	search	of primary and s	econdary sources	arranging and a	analyzing da	ta, testi	ing hypotheses)		
	8. Rese	arch instrument	; notion of instru	ments, types of i	instruments	, compe	etition of		
	instrum	ients	,	, ,,		/ I			
	9. Samp	ole; concept, typ	es, procedures an	d sampling tech	niques				
	10. Pro	ject of scientific	research work						
	11. Me	thodology and te	chnology of maki	ng a scientific we	ork				
	12. Disc	cussion of results	- -						
	13. Wri	ting a research r	eport and conclus	ions					
	14. Pre	paration of biblio	ographic papers, t	echnical process	ing of a scie	ntific w	ork, second		
	colloqu	ium							
			Textbook (5)					
Author/	s	Nam	e of publication,	publisher	Year		Pages (from-to)		
5 704	ic M ·	Metho	dology of scientifi	c research,	2000				
J. ZdK	IC IVI	Fa	culty of Law, Banj	a Luka	2000.				
6 Colokh	odzic E ·	Methodol	ogy and technolog	gy of scientific	2021				
0. CUIAKI		research wo	ork, Faculty of Tea	cher Education,	2021	•			

		Džemal Bijedić University, Mostar									
	Additional readings										
Author/s		Name of publication, editor	Yea	ir Pag		es (from-to)					
3. Stanivukovi	c D.:	Method of scientific work, Faculty of Technical Sciences, Novi Sad									
		Assesment methods	Poi	nts	Percentage						
	Pre-exan	n obligations									
		attendance at lectures / ex	5		5 %						
	teaching activity					5 %					
Evaluation criteria	positively graded seminar paper					20 %					
	colloquium					40 %					
	Final exa	m									
		Ora	al exam	30		30 %					
	IN TOTA	L		100		100 %					
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ski-NPP-	II-cik	lus.pdf						
Applicable from	19.10.20	023 213th session of the Academic Council, Faculty	of Tran	spor	t and Tr	raffic					
Applicable from	Enginee	ring in Doboj									

	statest to		UNIV Faculty of	2005					
)		Pro	file: Informatics	in traffic			Δοδο	
Course title			II cycle		I year of stud	Y ATIONS IN	TDA		
course title		Denartm	ment of Transport Engineering - Faculty of Transport and Traffic Engineering						
Department		Doboj						ine Engineering	
c	ode		Cou	urse status	Semest	er		ECTS credits	
САФ12СИО	2118116,	0320	Obligatory I 6,00						
Professor/s	PhD) Mirko Sto	jčić, Assistan	t Professor					
Associate/s	PhD) Mirko Sto	ičić, Assistan	t Professor					
	Weekly h	ours		Individual student hours (per semester)				Student workload coefficient S _o	
L	TE		LE	L	TE	LE		So	
3	1		1	63	21	21		1,4	
Total teach	er worklo	oad (hours	, per semes	ter)	Total student w	orkload (h	ours,	, per semester)	
3*1	15 + 1*15 -	+ 1*15 = 7	5 hours		3*15*1,4 + 1*	15*1,4 + 1*1	5*1,4	= 105 hours	
		Total wo	rkload: W+	T=U _{opt} = 75 + 105	= 180 hours per	semester			
Course aims and learning outcon	By 1. c 2. r 3. s 4. a	mastering optimizes f nodels tra imulates t inimates t	the conten raffic proce ffic process raffic proce raffic proce	t of this course, t esses es sses sses	he student will b	e able to:			
Prerequisites	Doe	es not hav	e						
Teaching metho	ods Lec	tures, auc	itory exerci	ses, seminar pap	er				
Course content	1. M 2. S 3. M 4. E 5. V 6. F 7. F 8. S 9. F 10. 11. 12. 13. 14. 15.	Aodeling. Simulation Aodel class Estimation /alidation Probability Process sir Structure of Process op Modular Calculatio Matrix fo Matrix m Exercises Exercises	Definition, 1 . Computer sification. N of model p and verifica and statisti- nulation of simulation timization. simulation on blocks (m rm of techn ethods for c on modern on modern	sypes of models. simulation. Histo Aodel classification arameters tion of the mode cs in simulation n systems Problem formula odules) ological scheme letermining com simulation softw	Modeling and m prical overview o on. Formal mode el ation. Classificatio structure putational cycles vare: SIMUL8, PC vare: SIMUL8, PC	odels f simulation l specificat on of optim CRECH, SII CRECH, SII	n dev ion nizati MIO MIO	velopment on methods	
				Textbook (5)	,			
Autho	r/s		Name	of publication,	publisher	Yea	r	Pages (from-to)	
Averill M. Law		Sim Edu	ulation Moo	deling and Analys	sis, McGraw-Hill	2014	ŀ.		
Montgomery D.		Des Son	ign and Ana s	lysis of Experime	ents, John Wiley	^{&} 2012	2.		
Božičković R		Me ⁻ Trat	ede optimi fic Enginee	zacije, Faculty of ring Doboj	Transport and	2007	<i>.</i>	1-257	
			Additional readings						
Autho	r/s		Nam	Name of publication, editor			r	Pages (from-to)	
Čupić M. et al.		Spe	cijalna pogl	avlja iz teorije oc	llučivanja, FTN	2009).	1-135	

		Novi Sad							
		Assesment methods		Points	Percentage				
	Pre-exar	Pre-exam obligations							
Evaluation criteria		attendance at lectures / exe	10	10%					
		positively assessed seminary work / project ,	10	20%					
		case study - grou	10	10%					
		test / collo	20	10%					
	Final exa	am							
		Final exam (oral / w	50	50%					
	TOTAL			100	100%				
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ski-NPP-I	II-ciklus.	pdf				
Applicable from	19.10.20	023 213th session of the Academic Council, Faculty	of Trans	sport an	d Traffic				
Applicable from	Enginee	ring in Doboj							

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic						State Million Contraction		
*82°		Pro	file: Inform	natics i	n traffic					
215 45 w 30 155		ll cycle			l year of stu	ıdy		AOEOJ		
Course title		9	SELECTED C	HAPTE	RS IN SOFTWA	ARE ENGINE	ERING	ì		
Department	De of	partment of com East Sarajevo	puters, info	rmatio	n technologie	s and biotecl	nnolo	gy, ETF, University		
Cod	e	Со	urse status		Seme	ster		ECTS credits		
САФ12СИ0212	24516,032	0 m	andatory		I			6,0		
Professor/s	PhD Go	rdana Jotanović, As	sociate Prof	essor						
Associate/s	PhD Go	rdana Jotanović, As	sociate Prof	essor			_			
We	ekly hour	S	Individu	lividual student hours (per semester)				Student workload coefficient S _o		
L	TE	LE	L		TE	LE		So		
3	1	1	63		21	21		1,4		
Total teacher	workload	(hours, per semes	ter)	-	Total student	workload (h	ours, l	per semester)		
W = 3*15 + 1*1	5 + 1*15 =	45 + 15 + 15 = 75	hours	1 = 31	*15*1,4 + 1*15	5*1,4 + 1*15	*1,4 =	= 63 + 21 + 21 = 105		
	Tot	al workload: W+	T = 11 . = 71	5± 105	- 190 hours n	nours				
	Δfter th	ne training.	1 - Oopt - 7.	J+ 10J	- 180 Hours p	er semester				
	1. stud	ents should inder	endently m	nanage	the software	process.				
Course aims and	2. stud	ents should indep	endently m	nodel s	oftware syster	ns applicable	e in tra	affic,		
learning outcomes	a stud	ents should mast	ar the desig	n of so	ftware system	os in traffic				
	J. Stuu		er the desig	11 01 30	ntware system	is in trainc,				
	4. stud	ents should desig	n user inter	face w	ith applicatior	n in traffic.				
Prerequisites	No									
Teaching methods	Lecture	es and laboratory	exercises							
	1. Basic	concepts related	to softwar	e engir	neering.					
	2. Mod	els for software p	rocesses.							
	3. Soft	ware process man	agement.							
	4. Mod	elling of software	systems ap	plicabl	le in traffic.					
	5. Use	of prototypes in ti	amc.							
	7 Desi	an of software sys	tems in tra	ffic						
Course content	8. Collo	auium 1		inc.						
	9. User	interface design	with traffic	applica	ation.					
	10. Sta	tistical verificatior	ı.							
	11. Sof	tware testing.								
	12. Ma	intenance and evo	olution.							
	13. Cor	figuration Manag	ement.							
	14. Sof	tware re-engineer	ring.							
	15. Col	loquium 2	Tauth	l+ (-)						
Author/s	•	Namo	of publicat	ion n	ıhlisher	Vear		Pages (from-to)		
Tsui Frank Orland	o Karam	Essentials of so	ftware engi	neerin	g lones &	Teal				
and Barbara Berna		Bartlett Learnin	ig.		5. Jones &	2022				
Haberfellner, Reinh	nard, et	Systems engine	ering. Char	n: Sprii	nger					
al.	-,	International P	nal Publishing.							
lan Sommerville		Software Engin Wesley, Boston	eering, 9th , MA, USA	editior	n. Addison-	2011				

Pierre B. and Richard	ΪE	Guide to the Software Engineering Body of Knowledge, Version 3.0, SWEBOK. IEEE	2014					
Shari Lawrence Pflee Joanne M. Atlee	eger,	Software Engineering Theory and 2006 Practice,Pearson Education						
		Additional readings						
Author/s		Name of publication, editor	Yea	r	Page	es (from-to)		
		Assesment methods		Poi	nts	Percentage		
	Pre-exa	m obligations						
		presence in lectures / ex	10		10%			
		positively evaluated semina	10		10%			
Evoluation critoria		Colloq	15		15%			
Evaluation criteria		Colloq	15		15%			
		laboratory ex	10		10%			
	Final exa	am				•		
		Theo	oretical	40		40%		
	TOTAL		100)	100 %			
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engle	ski-NPP-	II-cik	lus.pdf			
Applicable from	19.10.20 Enginee	023 213th session of the Academic Council, Faculty ring in Doboj	of Tran	spor	t and Tr	affic		

	A CAN LER	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering						South Hill Organization		
B 82°			Pro	Study prog	ram: Ti natics i	raffic n traffic				
\$1515 4.580 30 VS	III		II cycle	ijne. mjorn		l year of stu	ıdy		AOE0J	
Course title			- 1	DESIGN A	ND APP	LICATION OF I	DIGITAL SYS	TEM	S	
Department		Departm	ent of Elect	tronics and	Electro	onic Systems -	ETF East Sar	ajevo	0	
	Code		Cou	urse status		Seme	ster		ECTS credits	
САФ12СИС)2209316,	0320		elective					6,0	
Professor/s	Ph	<u>) Miroslav K</u>	ostadinović,	Associate F	Professo	r				
Associate/s	PhL) Goran Kuz	mić, Assista	ant Professo	r					
	Weekly h	ours		Individ	ual stu	dent hours (pe	er semester)		coefficient So	
L	TE			L	_	TE			So	
X	Y		Z	X*15*	So	Y*15*So	Z*15*S ₀			
Total teach	her worklo	oad (hours,	per semes	ster)	т _ ว*	10tal student *	WORKIOAD (N	ours *1 4	, per semester) $= 62 \pm 21 \pm 21 = 105$	
W = 3*15 + 1	L*15 + 1*1	15 = 45 + 1	5 + 15 = 75	hours	1 - 5	15 1,4 + 1 15	hours	1,4	- 05 + 21 + 21 - 105	
		Total work	doad: W +	T = U _{ont} = 7	/5+ 105	= 180 hours n	er semester			
	Stu	dents will a	get acquain	ted with a	nd mas	ter the knowle	edge in the fi	ield (of:	
Course aims an	d -co	nstruction,	structure,	application	n of dig	ital systems,				
learning outcor	nes -pr	, ocedures a	nd phases	of design, (design o	of combination	n and sequer	ntial	systems,	
_	-de	sign of digi	digital systems.							
Prerequisites	No									
Teaching metho	ods Leo	tures, audi	tory exerci	ses, labora	tory ex	ercises, consul	ltations			
	1 Ir	ntroductior	. Construct	tion and st	ructure	of digital system	ems. Applica	tion	of digital systems	
	2 P	2 Procedures and basic stages in digital system design								
	3 V	Vays and st	/s and styles of design. Project documentation ic parameters of digital circuits and systems							
	4 B	asic param	c parameters of digital circuits and systems							
	5 D	esign and a	n and application of combination assemblies and systems							
	50	omponent:	ponents and criteria for selection of real combination systems							
Course content	. 90	late Auton	Automats and State Diagrams (Colloquium 1)							
course content	90	ntimizatio	n of real se	quential sy	uai asso istems	emblies and sy	3101113			
	10	Programm	able logic c	ircuits and	their a	pplication in d	igital system	des	ign	
	11	Combinatio	onal and se	quential p	rogram	mable logic co	mponents		.0	
	12	Design app	roach with	microproc	cessors	and microcont	trollers			
	13	Display of a	a specific m	nicrocontro	oller					
	14	Hardware a	and softwa	re design s	upport	with microcor	ntrollers			
	15	Independe	nt realizati	on of a sm	all proje	ect (Colloquiun	n 2)			
				Textb	ook (s)					
Autho	or/s		Name	of publica	tion, pu	ublisher	Year	r	Pages (from-to)	
Morshed, Bashi	rI.	Emb	edded Syst	ems-A Har	dware	Software Co-	2021.			
		Desi	y <i>n Approa</i> a ishing	.n. springe	rintern	allolldi				
		Teac	hing Micro	controller	s-using	Arduino as a	2022			
Navak. Aruna e	et al.	Platf	form. IEFF (Global Fna	ineerind	Education	2022			
		Conf	erence (ED	UCON). IEE	ΞΕ.	,				
Deepa, M., et a	Ι.	Enric	ched blend	ed learning	g throug	gh virtual	2021			
		expe	rience in m	nicroproce	ssors ar	nd				
		micr	ocontroller	rs course. J	ournal	of Engineering	1.			
		Educ	ation Tran	sformation	<i>s,</i> 34.SI	P ICTIEE (2021)):			
		642-	650.							

Vassiliev, A. E.		Increasing the Accuracy of the Approximation of	2021			
		Microprocessor Fuzzy Solvers Supporting				
		Membership Functions of an Arbitrary Type.				
		Journal of Communications Technology and				
		<i>Electronics</i> 66.3 300-317.				
		Additional readings				
Author/s		Name of publication, editor	Yea	r	Page	es (from-to)
		Assesment methods		Poi	nts	Percentage
		Assesment methods		-		
	Pre-exa	m obligations				
		presence in lectures / ex	10		10%	
		positively evaluated semina	10		10%	
Evaluation criteria		Colloq	15		15%	
		Colloq	15		15%	
		laboratory ex	10		10%	
	Final exa	am				
		Theo	oretical	40		40%
	TOTAL			100)	100 %
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engle	ski-NPP-	II-cik	lus.pdf	
Analisable from	19.10.20	023 213th session of the Academic Council, Faculty	of Tran	spor	t and Tr	affic
Applicable from	Enginee	ring in Doboj				

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic						South A life oggan		
• • 82•			Pro	ofile: Inforr	natics i	n traffic					
10 CT 6782 ETS	/		ll cycle	-		l year of stu	ıdy		40E0J		
Course title				DES	SIGN OF		NETWORKS				
Department		Departmen	t of computers	s, information	technolo	gies and biotechr	nology, ETF, Ur	nivers	ity of East Sarajevo		
	Code		Cou	urse status	5	Seme	ster		ECTS credits		
САФ12СИС)2224616,	0320) elective I					6,00			
Professor/s	Phi	Coran Jau	sevac, Assis	stant Professo	sor						
Associate/s			.IIIIC, ASSISIC		<u>и</u>				Student workload		
	Weekly h	ours		Individ	lual stu	dent hours (po	er semester))	coefficient So		
L	TE			L		TE	LE		So		
3	1	! (!	1	63		<u>21</u>	21		1,4		
W = 3*	15+ 1*15+	1*15=45 + 1	per semes 15 + 15 =75	ster)	1	= 3*15*1,4+ 1*	15*1,4+ 1*15	ours *1,4=	63+ 21 + 21 = 105		
		Total wo	kload: W+	T= Uopt= 7	5+ 105 =	= 180 hours pe	er semester				
	By	mastering	this course	the stude	nt will k	e able to / wil	l be able to:				
Course aims an	d 1./	Apply the a	cquired kn	owledge in	n practio	ce,					
learning outcom	mes $\begin{bmatrix} 2.1\\ 2 \end{bmatrix}$	dentifies, f	ormulates	and solves	proble	ms of practical	I importance	ć			
	3. 6	appiy differ	litterent network protocols in practice,								
Proroquisitos	4. j	Jialis, ilista	lis, uses all		STIELW	JIKS.					
Teaching meth		tures and l	aboratory	ovorcisos							
Teaching meth	1 I	ntroductio	aboratory	iter netwo	rkc						
	2 1	Division and	tonology	of network	/ K.5 / K.5						
	3 1	3. Network hardware and multimedia networks									
	4. (DSI model a	and its lave	rs							
	5.1	CP / IP net	IP network protocols								
	6. 6	thernet, T	net, Token Ring, FDDI, Gigabit Ethernet								
	7. (Connection	ection Oriented Networks (X.25, Frame Relay, ATM) (I colloquium)								
Course content	8.>	DSL and C	and CATV								
	9.8	302.3 (WLA									
	10.	Bluetooth	802.15								
	11.	IPV4, IPV6	addressing	g modes							
	12.	DNS, ARP	protocols								
	13.	NAT proto	col, Firewa	IIIS							
	14.	Internet a	oplications	used in tra	affic						
	15.	li colloqui	um	Tauth	aak (a)						
Autho	or/c		Namo	of publics	JOOK (S)	ublichor	Vaa	~	Dagas (from to)		
Autin	JI/S	Daži	INdiffe		nio Mi		Tea	1	Pages (Ironi-to)		
A.Tanenbaum, Wetherall.	D.	Beog	rad	eze, v izda	nje, ivili	kroknjiga,	2012				
W. Stallings	W. Stallings			vorking Wi nc.	th Inter	rnet Protocols,	2009				
S. Bigelow		Raču	Računartske mreže, instaliranje, održavanje i 2004								
		рорг	avljanje, N	likroknjiga	, Beogr	ad aationa District	1 2010				
Salmon, A., Lev	Vij, V. Salmon, A., Levesque, W., &		ied Netwo	rk Security	. Packt	Publishing.	2018				
wiceanerty, wi.			Additional readings								
Autho	or/s		Nam	ne of public	cation	editor	Yea	r	Pages (from-to)		
					,						

		Assesment methods		Poi	nts	Percentage		
	Pre-exa	Pre-exam obligations						
		attendance at lea	ctures	10		10%		
		laboratory exe	10		10%			
Evaluation criteria		l Colloc	quium	20		20%		
		II Colloc	20		20%			
	Final exam							
		Writing	40		40%			
	TOTAL			100)	100%		
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ki-NPP-	II-cik	lus.pdf			
Applicable from	19.10.20	023 213th session of the Academic Council, Faculty	of Tran	sport	t and Tr	affic		
Applicable from	Enginee	ring in Doboj						

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Informatics in traffic							AOEOJ		
Course title		II C	cle of stud			I year of stud	Y NAATION	CVCT	CDAC		
Course title	r	Jonartme	DE3	nutor and I	nform	ATION OF INFO	d Bioinfor	mati		act Saraiovo	
Department		Jepartine			morma				LSEIFE	ast Salajevo	
Co	de		Coι	urse status		Semest	er		ECTS	credits	
САФ12СИ022	224716,032	20					6,0				
Professor/s	PhD Z	<u>eljko Stje</u>	panović, Ful	l Protessor							
Associate/s	PhD Z	eljko Stje	banovic, Ful	l Professor					a , 1		
w	eekly hou	urs		Individ	ual stu	dent hours (per	semester))	Stude coe	nt workload efficient So	
L	TE		LE	L		TE	LE			So	
3	1		1	63		21	21			1,4	
Total teacher 3	r workload *15 + 1*15	d (hours, + 1*15 =	per semes 75	ter)		Total student w 3*15*1,4 +	orkload (h <u>1*15*1,</u> 4 +	ours 1*15	, per se *1,4 = 1(mester))5	
Total workload: W+T=U _{opt} = 75 + 105 = 180 hours per semeste								r			
Course aims and learning outcomes1. Use of software for information systems design.2. Techniques and methods of designing information systems on specific examples.3. Theoretical bases for the development of information systems in the field of traffic.4. Information systems and their application in traffic.								es. raffic.			
Prerequisites	Basics	asics from and Database and Information Systems Design									
Teaching method	s Lectur	res, audito	ry exercises	s, laboratory	exercis	es, consultations					
Course content	2. UN 3. Dia 4. Cla 5. Sec 6. Me 7. Imj 8. I cc 9. Mu 10. Aj 11. Do 12. Do 13. Te 14. U: archit 15. II	AL standa agrams of ss diagra quence a ethods of plementa olloquium ilti-layer pplication esign of t esign of t echnique se of app tectures. <u>colloquiu</u>	rd, basic e rd, basic e use cases m. nd collabor object des tion of info architectur n of object ogistics, te raffic infor s and meth ropriate st	lements, di applied in ration diagr ign in traffi ormation sys re of traffic method. lecommun mation sys nods of des andard sof	iagram traffic. rams. ic. ystems inform ication tems u igning tware o	s. in traffic. nation system de s and postal info ising class diagra information syst environment for	esign comp prmation s ims. eems on a multi-laye	ooner yster conc ered	nts. ns. rete exa informa	ample. ation systems	
Author/	's		Name	of publicat	tion. p	ublisher	Yea	r	Page	es (from-to)	
Fowler. N	Λ.			UML in a r	nutshe	11	2004	4			
				Additiona	al read	ings					
Author/	's		Nam	e of public	ation,	editor	Yea	r	Page	es (from-to)	
			Α	ssesment r	nethoo	ls		Poi	nts	Percentage	
	atten	dance at	lectures /	exercises				5			
	positi	ively grad	ed semina	r paper				15			
Evaluation criteria	a coller	nium 1	-					15			
	collec	nium 2						15			
	Jahor		rcises					10			
	laboli		101303					10			

	Final exam - oral	40				
	IN TOTAL	100				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf				
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic					
Applicable from	Engineering in Doboj					

			UNIV Faculty of T Pro	ERSITY OF Fransport a Study prog file: Inforr	EAST S and Tra gram: T matics i	GARAJEVO ffic Engineering raffic in traffic			
2 4 5 co 2 6 6 6 6 7 4 5 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0			II cycle			I year of stud	y		
Course title				DESIG	N OF N	IICROPROCESSO	OR SYSTEM	IS	
Department	De of	epartme f East Sa	nt of comprajevo	outers, info	ormatic	on technologies	and biotec	hnol	ogy, ETF, University
Code	2		Cou	urse status	5	Semest	er		ECTS credits
САФ12СИ0222	4816,032	20	(elective		I			6,00
Professor/s	PhD Go	oran Jauè	śevac, Assis	stant Profes	sor				
Associate/s	PhD Go	oran Jauè	śevac, Assis	tant Profes	sor				
Wee	ekly hour	rs		Individ	lual stu	dent hours (per	semester)		Student workload coefficient S _o
L	TE		LE	L		TE	LE		So
3	1		1	62		21	21		1,4
Total teacher v W = 3*15 + 1*15	vorkload + 1*15 =	(hours, = 45 + 15	per semes 5 + 15 = 75	ter) hours	T = 3'	Total student w *15*1,4 + 1*15*	orkload (h 1,4 + 1*15 hours	ours, 5*1,4	, per semester) = 63 + 21 + 21 = 105
		Total v	vorkload:	J _{opt} = 75+ 1	LO5 = 18	30 hours per ser	nester		
Course aims and learning outcomes	 nd 1. Students should acquire knowledge about the functioning of microprocessor systems. 2. Students should acquire knowledge of the principles, methods and tools for designing microprocessor systems. 3. Students should acquire knowledge about the application of microprocessor systems in traffic 						cessor systems. Is for designing cessor systems in		
Prerequisites	No.								
Teaching methods	Lectur	es. Audi	tory exerci	ses. Labor	atory e	xercises. Semina	ary work.		
Course content	1. Com 2. Instr 3. Para 4. Logi 5. Pipe 6. Mer 7. Virtu 8. Con 9. Desi 10. Par 11. Mu 12. Sha 13. Clu 14. Mu 15. Ap	 Lectures. Auditory exercises. Laboratory exercises. Seminary work. Computer abstractions and technology. Instructions. x86 instructions. Parallelism and synchronization. Logical processor design. Pipeline of data and control. Memory system hierarchy. Virtual machines. Connecting processors, memory and input / output devices. Design of input / output systems. Parallel program execution. Multi-core processors and multi-processors. Shared memory. Clusters. Multiprocessor network topologies. 							
		-		Text	000k (s)) 			
Author/s		0	Name	of publica	ition, p	uplisher	Yea	r	Pages (from-to)
William Stallings		funko Beog	nizacija i ciji perforr rad.	nansi. Pre	vod 9-1	nara: Projekat tog izdanja. CE	u 2013 T.		
David A. Patterson	and John	n Com	outer or	ganization	n and	design: th	e 2012		
L. Hennessy		hard	ware/softv	vare interf	ace, 4tl	n edition			
				Addition	al read	ings			
Author/s			Nam	e of publi	cation,	editor	Year	r	Pages (from-to)
Kip R. Irvine		Asser editio	mbly lang on). Pears	uage for on Educat	x86 ion, Ind	processors (6t c., Upper Sadd	h 2011. e		

		River, New Jersey, USA.						
		Assesment methods		Poi	nts	Percentage		
	Pre-exa	n obligations						
	presence in lectures / exercises					10%		
		positively graded seminar	40		40%			
Evaluation criteria		laboratory ex	10		10%			
	Final exam							
		Written exam				40%		
	TOTAL							
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ski-NPP-	II-cik	lus.pdf			
Annelias bla fram	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic							
Applicable Irolli	Enginee	ring in Doboj						

	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering						AIRE PARTY				
Pync		9	Study progr	am: T	raffic						
)	Profile: Informatics in traffic						-		AOEOJ	
Course title			ll cycle		TELL	l year of stu	dy				
Course title		Dopart	mont of Infor	mation Co	IEL	Pication System	IVIS	Fac	ulty of		
Department		Transpo	ortation Dobo	niation - Co Di	mmu	incation system		- rac	uity of		
) a d a		Car			Como			БОТО	ana dita	
CA@12CH0	.00e	0220				Semes	ster		ECIS		
Professor/s	2221910, Ph) Aleksan	idar Stienanovi	h Δesociate I	Profes	sor			0.0		
Associate/s	Ph) Mirko St	toičić. Assistant	t Professor	10100	501					
	Weekly h	ours		Individu	al stu	dent hours (pe	er semester))	Stude	ent workload efficient So	
L	TE		LE	L		TE	LE			So	
3	1		1	3*15*1.4=6	63	1*15*1.4=21	1*15*1.4=2	21		1.4	
Total teach	ner worklo	oad (hou	rs, per semes	ter)		Total student	workload (h	ours,	per se	mester)	
3*	15 + 1*15 -	+ 1*15 = 1	75 hours			3*15*1.4 + 1	*15*1.4 + 1*1	5*1.4	= 105 ł	nours	
	1	otal wor	rkload: W+T=I	J _{opt} = 75 +	105	= 180 hours	per semeste	er			
	1. /	Active kn	owledge of re	gulations a	nd no	rms, European	regulations	relat	ed to l	TS	
	2. F	Proposal	of solution of	distributed	infor	mation and cor	mmunicatio	n sys	tems fo	or transport	
Course aims and	d mo	onitoring									
learning outcon	nes 3. H	kesearch	of ITS and int	eraction wi	th spa	atial informatio	n infrastruc	ture			
	4.1	15 archit Ny dofinir	ecture	omonts for	tha n	urposo of rofivi	ng transpor	t nro	bloms		
Proroquisitos	J. C	ore is no	nrior conditio	entents tor	the p		ing transpor	τρισ	DIEITIS		
Teaching metho	ods Lec	tures au	iditory exercit	ses laborati	orvex	ercises consul	tations				
	1. 1	raffic ma	anagement. T	raffic mana	geme	nt strategies					
	2. /	Adaptable	e systems. Ne	twork capa	bilitie	S					
	3. E	3. Basic definitions of ITS. ITS development.									
	4. E	European	n ITS projects,	Standards,	norm	s of the directiv	ve, legal bas	ses, F	RAME	project	
	5. ľ	5. ITS architecture. Theoretical foundations, Possible applications of ITS									
	6. 1	6. Traffic management - traffic distribution and application of ITS.									
	7.1	echnical	echnical preconditions for the application of ITS								
Course content	8.0	Detectors	s and sensors								
	9.5	Simulatio	on programs, I	valuation o	of effe	icts					
	10.	Spatial II	nfrastructure	of GIS and I	115.11	S and GPS					
	11.	Traffic m	nanagement (niuarus n highways	s in ur	han areas					
	13	Congest	tion managem	ent and an	nlicati	ion of ITS in cor	ngestion ma	inage	ment		
	14.	Informir	ng traffic part	icipants, Hu	man f	factor, QoE, Qo	S				
	15.	Internet	t and ITS.	. , .							
				Textbo	ook (s)						
Author/s Name of publication, publish					ublisher	Yea	r	Pag	es (from-to)		
B. Stjep Kos	anović, N tadinović	1.	Telematski sis	temi, Unive	ersity o	of East Sarajevo	202	0			
				Additiona	l read	ings					
Autho	or/s		Nam	e of publica	ation,	editor	Yea	r	Pag	es (from-to)	
			A	ssesment m	etho	ds		Poi	nts	Percentage	
Evaluation crite	ria Pre	-exam ol	bligations								
			0	atte	endan	nce at lectures /	exercises	5		5%	

	positively graded seminar paper	15	15%					
	15	15%						
	Colloquium 2	Colloquium 2 15 15%						
	laboratory exercises	10	10%					
Final exam								
	oral 40							
	IN TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic					

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Informatics in traffic						AUGON	
Course title			II cycle	ELL		I year of stud			
Course title		Departme	ent of Infor	mation an	d Com	nunication System	ms in Traff	ic F	aculty of Transport
Department		and Traff	ic Engineer	ing in Dob	oj	numeation syst		10, 1	active of manapolit
	Code		Cou	urse status	5	Semest	Semester		ECTS credits
САФ12СИО	2222016,	0320		elective		I			6,0
Professor/s	Ph) Dragan Pe	raković, Ful	Professor		·			
Associate/s	Ph) Dragan Pe	raković, Ful	Professor					
	Weekly h	ours		Individ	lual stu	dent hours (per	semester)		Student workload coefficient S₀
L	TE		LE	L		TE	LE		So
3	1		1	63		21	21		1,4
Total teach	ner worklo	oad (hours.	per semes	ter)		Total student w	orkload (ho	ours,	, per semester)
W = 3*15 + 1	*15 + 1*2	15 = 45 + 1	5 + 15 = 75	hours	T = 3'	*15*1,4 + 1*15`	1,4 + 1*15* hours	*1,4	= 63 + 21 + 21 = 105
		Total work	load: W +	$T = U_{opt} = 7$	75+ 105	= 180 hours pe	r semester		
Course aims and learning outcomes I the student will acquir 1. theoretical knowledg in traffic and transport, 2. expertise in public bu systems (RDS, DAB) in t 3. knowledge in the fie				of telecor adcasting affic and of sensor and netwo	mmunic system: and ad- orks int	ation systems a s (RDS, DAB) in t -hoc networks fr ended for mode	nd network raffic from or traffic mo ern traffic ar	s an pub onito	nd their applications lic broadcasting oring and regulation, ransport systems.
Prerequisites	No								
Teaching metho	ods Leo	tures, audi	tory exerci	ses, labora	atory ex	ercises, consult	ations		
Course content1 Telecommunication systems and networks and their potential applications in traffic transport. 2 Application of public broadcasting systems (RDS, DAB) in traffic 3 Public networks for mobile communications 4 Mobile communications for closed user groups 5 Fixed and mobile wireless IP networks 6 Virtual Private Networks 7 Radio over optics (ROF)Course content8 Sensor and ad-hoc networks for traffic monitoring and regulation 9 Systems designed for safe traffic. 10 Satellite communication systems 11 Vehicle positioning and navigation systems 12 Dedicated radio networks for data transmission (MOBITEX, TETRA, TRAXYS, ARDIS, RICOCHET, ARRAY). 13 Dedicated Short Range Communications in Road Traffic (DSRC) 14 GSM-R - global system of mobile communications for railway applications					ons in traffic and AXYS, ARDIS, ons				
				Text	book (s)				
Autho	or/s		Name	of publica	tion, p	ublisher	Year		Pages (from-to)
Ferrari, P., Jakol	oy, R.,	Reco	onfigurable	Circuits ar	nd Tech	nologies for	2022		
Karabey, O. H.,	Maune, H	., Smai	rt Millimet	er-wave Sy	vstems.	Cambridge			
& Kender, G.		Univ	ersity Pres	5.					
Gumbo, I., Moy	/O, I.,	Urban Public Transport Systems Innovation in the 2022							

Fourth Industrial Revolution Era: Global South

Ndwandwe, B., Risimati, B.,

& Mbatha, S. G.		Perspectives, Reflections and Conjectures.							
		Springer Nature.							
M. A. Chowdhury, A.	Sadek,	Fundamentals of Intelligent Transportation	2003						
		Systems Planning, Artech House,							
H. Lehpamer,	RFID Desing Principles, Artech House, 2008								
J. Lavergant, M. Sylv	ain,	Radio Wave Propagation: Principles and	2000						
		Techniques, Wiley,	niques, Wiley,						
		Additional readings							
Author/s		Name of publication, editor	Yea	Year		es (from-to)			
		Assesment methods		Poi	nts	Percentage			
		Assesment methods							
	Pre-exa	m obligations							
		presence in lectures / ex	10		10%				
		positively evaluated semina	10		10%				
Evaluation criteria		Colloq	15		15%				
		Colloq	15		15%				
		laboratory ex	ercises	10		10%			
	Final ex	am							
		Theo	retical	40		40%			
	TOTAL	OTAL 100 %							
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engle	ski-NPP-	II-cik	lus.pdf				
Analisable from	19.10.2	023 213th session of the Academic Council, Faculty	of Tran	spor	t and Tr	raffic			
Applicable from	Enginee	ring in Doboj							

			UNIV Faculty of T Pro Il cycle	VERSITY OF EAST Transport and Tr Study program: ofile: Informatics	SARAJEVO raffic Engineering Traffic t in traffic	V		AUED A	
Course title			il cycle	NETWORK N			s		
Department		Departmer Sarajevo	nt of comput	ers, information te	chnologies and bio	technology, E	ETF, Ur	niversity of East	
C	Code		Сон	urse status	Semest	er		F, University of East ECTS credits 6,00 Student workload coefficient So So 1,4 rs, per semester) 4=63+ 21 + 21 = 105 computer networks elecommunication e maintenance concept	
САФ12СИО	2210326,	0320		elective	I			6,00	
Professor/s	PhD) Goran Jau	ševac, Assis	stant Professor					
Associate/s	PhD) Goran Jau	ševac, Assis	stant Professor					
	Weekly h	ours		Individual st	udent hours (per	semester)	S	Student workload coefficient S _o	
L	TE		LE	L	TE	LE		So	
3	1		1	63	21	21		1,4	
Total teach	ner worklo	bad (hours,	per semes	ster)	Total student w	orkload (ho	ours, p	er semester)	
W = 3*	15+ 1*15+	1*15=45 + 1	<u> 5 + 15 =75</u>	T 11 1 75 105	<u>T = 3*15*1,4+ 1*1</u>	5*1,4+ 1*15*1	1,4=63-	+ 21 + 21 = 105	
Course aims an learning outcor Prerequisites Teaching metho	d nes b b c d nes b d d d d d d d d d d d d d d d d d d	Total workload: W+ I = Uopt= /5+ 105 = 180 hours per semesterBy mastering this course the student will be able to / will be able to:1. Master the basic techniques of network and service management.2. Master the basic techniques of maintaining telecommunications and computer networksand services.3. To use various application software for management and design of telecommunicationnetworks (eg Opnet, Cisco Packet Tracer,).4. Configure and manage the telecommunication networks.NoLectures and laboratory exercises1. Introduction. Changing the maintenance philosophy according to the maintenance concept2. Processes in telecommunications3. International organizations and standards in the field of network and service management							
Course content	7. P 8.IT 9. A 10. 11. 12. 13. 13. 14. 15.	 5.TMN6.TCP / IP protocols (I colloquium) 7. Platforms for management implementation 8.ITU-U recommendations 9. Application of the concept of network and service management 10. Management tools 11.SDH management 12.ATM management 13.GSM and UMTS management 14. Service management: TOM and eTOM 15. II colloquium 							
Autho	or/s		Name	of publication	s, publisher	Year		Pages (from-to)	
A Tanenhaum D	Wetherall	l Rašu	narske mre	že. V izdanie Mikr	okniiga, Beograd	2012			
Held, G.		Unde Wilev	rstanding D	ata Communicatio	ns (3rd Edition), J.	2001.			
Held, G.		Interr & Sor	networking L	ANs and WANs (2	2nd Edition), J. Wile	² 2001.			
				Additional rea	dings				
Autho	or/s		Nam	ne of publication	, editor	Year		Pages (from-to)	

		Assesment methods		Poi	nts	Percentage			
	Pre-exa	n obligations							
		attendance at le	ectures	10		10%			
		laboratory ex	ercises	10		10%			
Evaluation criteria		I Collo	20		20%				
		II Colloquium 20 20%							
	Final exam								
		Writing	40		40%				
	TOTAL			100)	100%			
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ski-NPP-	II-cik	lus.pdf				
Annilian bla fuana	19.10.20	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic							
Applicable from	Enginee	ring in Doboj							

CT THETOTHOT		UNIV		SARAJEVO			2005 556 ht HB @ 44		
-18-		Faculty of	Study program: 1	Traffic			Source and the		
* * * * * * * * * * * * * * * * * * *		Pro	file: Informatics	in traffic					
975 4.503 30 158 ⁵		II cycle		I year of stud	у		40E0J		
Course title		-	AP	PLICATION OF G	IS				
Department	De	partment of Infor	mation - Commu	nication Systems	in Traffic	- Fac	culty of Transport		
	an	d Traffic Engineer	ing Doboj						
Code	2	Сон	urse status	Semest	er		ECTS credits		
САФ12СИ0222	3826,0320)	elective	II			6.0		
Professor/s	PhD Ljul	oiša Preradović, Fu	ll Professor						
Associate/s	PhD Ljul	piša Preradović, Fu	Il Professor			_			
Wee	ekly hours	;	Individual stu	ident hours (per	semester))	Student workload coefficient S _o		
L	TE	LE	L	TE	LE		So		
3	1	1	63	21	21		1,4		
Total teacher w	vorkload (hours, per semes	iter)	Total student w	orkload (h	ours	, per semester)		
3^15 +	1°15 + 1°1 T-+-!	5 = 15 hours		<u>3°15°1.4 + 1*1</u>	5°1.4 + 1*1	ວ 1.4	105 hours		
	After ci	workioad: W+I=	$u_{opt} = 75 + 105$	- 180 nours p		rill h	e able to:		
Course aims and	-model	s snatial objects	ing the content t	on the course, the	student w				
learning outcomes	-decom	poses the elemer	nts of space.						
	-work w	ith GIS tools							
Prerequisites	No prio	r conditionality							
Teaching methods	Lecture	s, auditory exerci	ses, laboratory ex	kercises, consulta	ations				
	1 The p	lace and role of g	eoinformation sy	stems (GIS).					
	2 Introc	troduction to GIS. Basic concepts and terminology.							
	3 Geosp	spatial data infrastructure. Spatial reference frames.							
	4 Spatia	ial object modeling, GIS data model, raster and vector models, geometry, topology and							
	topogra	ipny of space.	a alamanta						
	6 GIS sv	stem architectur	e elements. el Snace database	20					
	7 Interr	ystem architecture. Space databases.							
Course content	8 I collo	oquium.							
	9 Introd	luction to geospa	tial data visualiza	tion. Spatial ana	lysis. GIS to	ools.			
	10 Stan	dardization in the	e field of geoinfor	mation systems	and techno	ologi	es - OpenGis, ISO		
	TC211.								
	11 Serv	ice Oriented Arch	itecture.						
	12 GIS -	three-layer arch	itecture.						
	13 Appi	ication of standa	ras in the implem	t areas	systems.				
	15 II co	loquium	sterns in unreren	t aleas.					
			Textbook (s)					
Author/s		Nam	e of publication,	publisher	Ye	ar	Pages (from-to)		
C. Jones,		Geographical Ir	formation Syster	ns and Compute	r				
		Cartography, Po	earson Education	Inc.	199	97.			
S. Shekhar, S. Chaw	la,	Spatial Databas	es: A Tour, Pears	on Education Inc	200	03.			
Peter A. Burrough, I	Rachael	Principi geograf	tskih informacion	ih sistema,		oc			
A. WICDONNEIL,		Gradevinski fak	uitet Beograd	ion Sustama Dar	200	Ub.			
REILLI R. IVICCIOY		Sensing GIS an	d Modelling Tay	lon & Francis	2010	06			
		Jensing, Gis all	Additional read	lings	200	50.			
Author/s		Na	me of publicatio	n, editor	Ye	ar	Pages (from-to)		
		Assesment methods	Ро	ints	Percentage				
---------------------	------------	--	------------	----------	------------	--	--	--	
	Pre-exa	n obligations							
		Attendance at lectures / exerci	ses	5	5%				
		Positively graded seminar pa	per	15	15%				
Evaluation critoria		Colloquiur	n 1	15	15%				
		Colloquiur	m 2	15	15%				
		Laboratory exerci	ses	10	10%				
	Final exam								
		Oral examinat	ion	40	40%				
	TOTAL			100	100%				
Web sources	http://s	ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-I	NPP-II-cil	klus.pdf					
Applicable from	19.10.20	23 213th session of the Academic Council, Faculty of	Transpor	t and Tr	affic				
Applicable from	Enginee	ring in Doboj							

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Informatics in traffic						AOED				
Course title				ll cycle		I year of study							
Course title		Dor	aartmo	nt of Floct	v ropics and		S SENSOR NEI	WORKS	ity of	Eact Sa	raiovo		
Department		_ Det	Jartine			Lieun	file Systems, E	TF, UNIVERSI		Last Ja	lajevo		
(Code			Cou	urse status	;	Semes	ter		ECTS	credits		
САФ12СИС)222492	6,0320)		elective					e	5,00		
Professor/s	P	PhD Dagan Peraković, Full Professor											
Associate/s	P	hD Dagan Peraković, Full Professor											
	Weekly	hours	-		Individ	ual stu	dent hours (pe	r semester))	Stude coe	nt workload fficient So		
L	TI	E		LE	L		TE	LE			So		
3	1			1	63		21	21			1,4		
Total teach W = 3*	her worl 15+ 1*15	kload (l 5+ 1*15=	hours, =45 + 1	per semes 5 + 15 =75	ster)	Т	Total student v = 3*15*1,4+ 1*1	workload (h 5*1,4+ 1*15'	ours *1,4=	, per sei 63+ 21 +	mester) · 21 = 105		
		Tot	al wor	kload: W+	T= Uopt= 7	5+ 105 =	= 180 hours pe	r semester	.,.				
Course aims an learning outcor	 By mastering this course the student will be able to / will be able to: Plan, install, uses and maintain wireless sensor networks, Apply different network protocols in practice, Apply the acquired knowledge in practice, Identifies, formulates and solves problems of practical importance. 												
Prerequisites	N	lo				-							
Teaching metho	ods L	ectures	s and la	aboratory	exercises								
Course content	1 2 3 4 5 6 7 7 8 9 1 1 1 1 1 1 1	. Defini . Revie . Basic . Revie . Overv . Proto . Classe . I collo . Overv 0. Netv 1. Exan 2. Wire 3. Over 4. Prob 5. II col	itions c w of th proper w of IE view of col for es of el oquium view of work to nples c eless de rview c olems c lloquiu	of basic con the structur ties of cor EE 1451 st network of communic ectrical int existing ir pologies, of industria edicated so of standarc of data trai	ncepts of c re of compl mplex sens candards fo communica cation and terfaces wi ndustrial w interface s al interface s al interface ensor netw d wireless i nsmission p Texts	complex lex sens or netwo or smart ation m synchru- ith exan ired int pecifica so vorks, h nterfac pook (s)	e sensor netwo sor networks, vorks t converter net odel onization nples of impler erfaces., ations and com ub architecture es, routing pro ion and reduction	rks. working mentations munication e, tocols for w ion of senso	prot virele	ocols ss senso de cons	or networks umption		
Autho	or/s			Name	of publica	tion, p	ublisher	Yea	r	Page	es (from-to)		
Haenselmann, T.			Wirele	ess Sensor	Networks: E	Design P	rinciples for	2011					
López, J., & Zhou	ı, J. (Eds	.).	Wirele	ess sensor i	network sec	urity (Vo	ol. 1). los Press.	2008					
Anjum, F., & Mou	ichtaris, F	D.	Secur	ity for wirele	ess ad hoc i	networks	s. John Wiley &	2007					
			00115.		Addition	al readi	ings						
Autho	or/s			Nam	ne of public	cation.	editor	Yea	r	Page	es (from-to)		
				Α	ssesment	method	ls		Poi	nts	Percentage		
_	. P	re-exar	m oblig	gations									
Evaluation crite	eria						attendance a	at lectures	10		10%		
							laboratory	v exercises	10		10%		

	I Colloquium	20	20%							
	II Colloquium	20	20%							
	Final exam									
	Writing exam	40	40%							
	TOTAL	100	100%							
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic									
	Engineering in Doboj									

HE C			UNIV Faculty of 1 ع	ERSITY OF EAST Transport and Tr Study program:	SARAJEVO affic Engineering Traffic	5		Southall a start		
			Proj	file: Informatics	in traffic			AOEOJ		
Sector Contents			Il cycle I year of study							
Course title				PARALLI		SYSTEMS		Facultura f		
Department		Depa	artment of comp	outer and inform	lation sciences a	na biointor	matics,	Faculty of		
				g Last Salajevo						
0	Code		Cou	Course status Semester			ECTS credits			
САФ12СИ02225026,0320				elective	II			6,0		
Professor/s	Ph	D Gorar	n Kuzmić, Assista	nt Professor						
Associate/s	Ph	D Gorar	n Kuzmić, Assista	nt Professor						
	Weekly I	nours		Individual st	udent hours (pe	r semester)) 51	coefficient So		
L	L TE LE				L TE			So		
3	1		1	63	21	21		1,4		
Total teach	ner workl	oad (ho	ours, per semes	ter)	Fotal student v	workload (h	ours, pe	er semester)		
W = 3*15	+ 1*15 +	1*15 =	= 45 + 15 + 15 =	<u>/5 I = 3</u>	3*15*1,4+1*15	*1,4 + 1*15	5*1,4 = t	53 + 21 + 21 = 105		
	۸ <i>۴</i>	Total V	WORKIOAD: W+I=	$U_{opt} = 75 + 105 =$	180 = nours p	er semeste	r vill ha ak			
Course aims an		nlies f	ast Fourier trans	form with the u	of the course, th	ie student v	viii be at	Die to:		
learning outcom		lves th	e problem of N	hodies with the	use of parallelis	n, m				
		nducts	s Monte Carlo a	halvsis using nar	allelism	··· <i>·</i> ,				
Prerequisites	Th	ere are	no prior prerec	uisites	anchistit					
Teaching metho	ods Le	ctures.	auditory exercis	ses, laboratory e	xercises, consult	tations				
	1	Hardwa	re for parallel p	rocessing						
	21	nstruct	ion-level paralle	elism						
	3 F	Paralleli	ism at the share	d memory level	, parallelism at d	listributed r	nemory			
	41	Typolog	gies of communi	cation networks	and their impac	t on perfor	mances			
	5 5	Softwar	ftware protocols for parallel processing							
	61	Messag	lessage Forwarding Protocol (MPI) protocol: Basics, 1-N, N-1 and N-M communication.							
Course content	hv 7 F	Parallel	allel Virtual Machine (PVM)							
weeks	81	colloqu								
	9 E	Example	kamples of parallelization of numerical algorithms							
	10	Algorit	thms in linear al	gebra using para	allelisms					
	11	Fast Fo	ourier transform	i using parallelis	ms of porollolisms					
	12	Monto		ies with the use						
	1/	Ffficio	ncy of parallel o	omputing	15					
	15		auium	omputing						
			4	Textbook (s)					
Autho	or/s		Name	of publication,	publisher	Yea	r	Pages (from-to)		
M. Dubois, M. A	nnavaram	, P.	Parallel Compute	r Organization and	d Design,	2011	,			
Stenst	röm		Cambridge Unive	rsity Press		2012	<u>-</u>			
A. F. Lorenzon, A.C.S. B. Filho Parallel computing hits the power wall: principles, challenges, and a survey of solutions. Springer Nature.						e. 2019	Ð			
				Additional rea	dings					
Autho	or/s		Nam	e of publication	, editor	Yea	r	Pages (from-to)		
			As	ssesment metho	ods		Points	Percentage		
Evaluation crite	e ria Pro	e-exam	obligations							
				attend	ance at lectures	/exercises	5	5%		
							•	•		

	positively evaluated seminar work	15	15%							
	Colloquium 1	15	15%							
	15	15%								
	10	10%								
	Final exam									
	oral exam	40	40%							
	IN TOTAL	100	100%							
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic							

	Course title			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Informatics in traffic II cycle I year of study					AGED C
Course title			псусіе			REACES PROGR			ange (in the field spinling
Department		Departmo	ent of com	puters, info	ormati	on technologies	and biotec	hnol	ogy, ETF, University
Co	de		Cou	urse status	5	Semes	ter		ECTS credits
САФ12СИ022	225126,	0320	elective						6,00
Professor/s	PhD) Gordana J	otanović, As	sociate Pro	fessor				
Associate/s	PhD	PhD Gordana Jotanović, Associate Professor							
w	eekly h	ours		Individ	lual stu	ident hours (pe	r semester)		Student workload coefficient S _o
L	TE		LE	L		TE	LE		So
3	1		1	45	_	0	45		1,5
Total teacher W = 3*15 + 1*1	r worklo 15 + 1*1	Total student workload (hours, per semester) 1*15 = 45 + 15 + 15 = 75 hours T = 3*15*1,4 + 1*15*1,4 + 1*15*1,4 = 63 + 21 + 21 = 105							
		Total	workload:	U _{opt} = 75+ 1	L05 = 1	80 hours per se	mester		
	1. S	tudents sh	ould acqui	re knowled	dge abo	out user interfac	es and hun	nan d	computer
Course aims and	2. S	tudents sh	ould acqui	re knowled	dge abo	out principles, m	ethods and	d too	ols for user interface
learning outcome	s dev	elopment.			0				
Ŭ	3. S	tudents sh	ould acqui	re knowled	dge on	design and deve	elopment o	f use	er interfaces for
	traf	fic enginee	ering doma	in.	•	2			
Prerequisites	Obj	ect-oriente	ed program	iming in Ja	va.				
Teaching method	s Lec	tures. Aud	itory exerci	ses. Labor	atory e	exercises. Semin	ary work.		
	1. li	nteractive	systems. H	uman-com	puter	interaction.			
	2 G	uides, prin	ciples and	theories.					
	3 U	ser-centric	design.						
	4. L	Jser interfa	erface design principles.						
	5. C	Design, pro	prototyping and construction.						
	6. L	Jser interfa	ice design e	evaluation	•				
	7.1	nteraction	styles						
Course content	8.0	Fraphic des	sign.						
	9. 0	/isualizatio	n of inform	lation.					
	10.	Internatio	nalization.	as and usa	r intorf				
	12	Interaction		es allu use	i interi	aces.			
	12.	Web base	d and mobi	le user int	erfaces				
	14	Liser mani	ials online	heln and a	ouides	Documentation	1		
	15.	Examples	of applicati	on of user	interfa	aces in traffic.	•		
		1	1.1	Text	book (s	.)			
Author/s Name of publication, publisher						Yea	r	Pages (from-to)	
B. Shneiderman, C	C. Plaisa	nt Diza	niranje ko	risničkog i	nterfei	sa. Cet. Beogra	d. 2005.		, , , , , , , , , , , , , , , , ,
, , , , , , , , , , , , , , , , , , ,		Srbij	a						
Horbort Cabildt	-	Java	JDK9: Ko	ompletan	priruč	nik, prevod 1	0. 2019		
		izdaı	nja. Mikrok	njiga, Beog	grad, S	rbija.	2018		
				Addition	al read	lings			
Author/	s		Nam	e of publi	cation,	editor	Year	r	Pages (from-to)
Jennifer Preece	e, He	elen Inter	action De	esign: Bey	ond I	Human-Comput	er 2015		
Sharp, Yvonne Rog	gers	Inter	action, 4th	Edition. V	Viley. L	JSA.	2013.		

	Assesment methods	Points	Percentage						
Evaluation criteria	Pre-exam obligations								
	presence in lectures / exercises	10	10%						
	positively graded seminar paper	40	40%						
	laboratory exercises	10	10%						
	Final exam								
	Written exam	40	40%						
	TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf								
Annlinghla from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic								
Applicable from	Engineering in Doboj								

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile: Informatics in traffic							COOST CONTRACTOR OF CONTRACTOR		
No. OF CASE 52		Il cycle I year of study							A NEW CONTRACTOR		
Course title		APPL	LICATION	OF RENE	WABL	E ENERGY SOUR	CES IN TRA	ANSP	ORT SYSTEMS		
Department	De ar	epartment nd Traffic E	t of Infor Engineeri	mation an ing in Dob	id Comi oj	munication Syst	ems in Trat	ffic, I	Faculty of Transport		
Code	e		Cou	Irse status	;	Semes	er		ECTS credits		
САФ12СИ0222	2526,032	20		elective					6,0		
Professor/s	PhD Slo	obodan Lub	oura, Full	Professor		I					
Associate/s	PhD Sk	obodan Lub	oura, Full	Professor							
We	Weekly hours Individual student hours (per semester) Student workload coefficient So				
L	TE	LI	E	L		TE	LE		So		
3	1	<u>1 1 63 21 21</u>							1,4		
Total teacher	workload	orkload (bours, per semester) Total student workload (ours	s, per semester)		
W = 3*15 + 1*15	5 + 1*15 =	: 45 + 15 +	15 = 75	hours	T = 3	*15*1,4 + 1*15	1,4 + 1*15* hours	5*1,4	l = 63 + 21 + 21 = 105		
	Tot	Total workload: W + T = U _{opt} = 75+ 105 = 180 hours per semester									
Course aims and learning outcomes1. monitors trends in the field of renewable energy sources, 2. acquires basic knowledge of alternative propulsion in vehicles, 3. differs in the construction of electric vehicles and hybrid vehicles, 4. monitors the economic aspects of the application of alternative power sources in transport.											
Prerequisites	No										
Teaching methods	Lecture	es, auditor	ry exercis	ses, labora	atory ex	kercises, consult	ations				
Course content1. Introduction: Energy. Renewable sources of energy. Environmental protection. Trends in the world, EU and BiH. 2. Legislation. 3. Solar energy: Basic properties of solar radiation. Converting solar energy into electricity. 4. Solar energy: Practical examples. Economic significance. World trends. EU and BIH 5. Electric vehicles. Types of electric vehicles 6. Fully electric vehicles (EV). Hybrid Electric Vehicles (HEV) 7. Sources of electricity. Modern batteries and autonomy of electric vehicles 8. Charging the battery. Solar cells, fuel cells and reformers 9. Modern heat engines. 10. Construction of EV and HEV 11. Specifics of EV construction 12. Ecology and HEV 13. HEV development trends 14. Alternative energy sources and new fuels 14. Alternative energy sources and new fuels								otection. Trends in gy into electricity. . EU and BIH cles			
A		-	N	Text	book (s) 	No.		Dense (from to)		
Autnor/s Labudović, B.		Renewa	able ene	ergy sour	ces, Ei	nergy marketin	g, 2002	r	Pages (from-to)		
Šljivac, D., Šimić, Z.	Zagreb. Imić, Z. Renewable energy sources with a focus on 2008 management, textbook, FTF Osijek. Imic, Z.										
				Addition	al read	lings					
Author/s			Nam	e of publi	cation,	editor	Yea	r	Pages (from-to)		

		Assesment methods		Poi	nts	Percen	tage
	Pre-exa	n obligations					
		presence in lectures / ex	ercises		5		5%
		positively evaluated semina		15		15%	
Fuch setion ententie		Colloq	uium 1		15		15%
Evaluation criteria		Colloq		15		15%	
		laboratory ex		10		10%	
	Final exa	im					
		Theo	oretical		40		40%
	TOTAL		100)	100 %		
Web sources	http://s	ues.rs.ba/eng/wp-content/uploads/2024/01/Engle	ski-NPP-	II-cik	lus.pdf		
Applicable from	19.10.20	23 213th session of the Academic Council, Faculty	/ of Tran	spor	t and Tr	affic	
Applicable from	Enginee	ring in Doboj					

MOTOR VEHICLES



UNIVERSITY OF EASTERN SARAJEVO

II CYCLE TRAFFIC / (MOTOR VEHICLES)



First year											
erial number	ltem code	Name of the subject	Status	onditional subjects	emester	Fun	ours	ECTS			
Še				ŭ	S	L	ΤE	LE			
1.	САФ12СМ02118016,0320	METHODOLOGY OF SCIENTIFIC RESEARCH WORK	0		Ι	3	2	0	6		
2.	САФ12СМ02118116,0320	MODELS, SIMULATIONS AND ANIMATIONS IN TRAFFIC	0		Ι	3	1	1	6		
3.	САФ12СМ02125216,0320	SENIOR ENGINEERING MATHEMATICS	0		Ι	3	2	0	6		
	САФ12СМ02225316,0320	1. ADVANCED FLUID-GAS DYNAMICS									
4	САФ12СМ02225416,0320	2. ELASTICITY THEORY	11		1	R	2	0	6		
ч.	САФ12СМ02225516,0320	11		•	5	2	U	Ū			
	САФ12СМ02225616,0320	1. SUS ENGINE CHARGING									
5.	САФ12СМ02225716,0320	2. ENGINE DYNAMICS SUS	l ₂		Ι	3	2	0	6		
	САФ12СМ02225816,0320	3. PROCESS MODELING IN ENGINES									
	САФ12СМ02225926,0320	1. VEHICLE ACTIVE SAFETY SYSTEM									
6.	САФ12СМ02226026,0320	2. SPECIAL PURPOSE VEHICLES	I ₃		П	3	2	0	6		
	САФ12СМ02226126,0320	3. ACCIDENT ANALYSIS									
	САФ12СМ02226226,0320	1. AERODYNAMICS AND VEHICLE DESIGN									
7.	САФ12СМ02226326,0320	2. VEHICLE TRANSMISSION	I 4		П	3	2	0	6		
	САФ12СМ02226426,0320	3. UNCONVENTIONAL VEHICLE DRIVES									
8.	САФ12СМ021194218,01600	MASTER WORK	0		II	16	0	0	18		
				UKUF	NO:	37	13	1	60		

Output profile: master of traffic - 300 ECTS - motor vehicles

S 4 WCTOWNO			UNIV	ERSITY OF E	AST S	ARAJEVO			2005	
			Faculty of	Fransport an	d Tra	ffic Engineering	5		SUGARA ING @ PALA	
- YNC	+ ×83			Study progra	am: T	raffic				
				Profile:Moto	or Veh	nicles				
4503 JO LUS			II cycle			I year of stud	dy		Touros	
Course title			[METHODOL	OGY (OF SCIENTIFIC F	RESEARCH W	ORK		
Department										
	ode		Cou	urso status		Somos	tor		ECTS credits	
	Jour					Jenies				
САФ12СМ0	2118016	0320	0	bligatory		ļ			6	
Professor/s	PhD) Perica Goj	ković, Full P	rofessor; PhD	Zorai	n Curguz, Associ	ate Professor			
Associate/s	Boja	ana Ristić, S	Senior Assist	ant						
	Weekly h	ours		Individua	al stu	dent hours (pe	r semester)		Student workload coefficient S₀	
L	TE		LE	L		TE	LE		So	
3	2		0	X*15*S₀		Y*15*S₀ Z*15*S₀			1,4	
Total teach	ner worklo	oad (hours,	per semes	ter)		Total student w	vorkload (ho	urs, p	per semester)	
3**	15 + 2*15 -	+ 0*15 = 75	hours			3*15*1,4 + 2*	15*1,4 + 0*15	*1,4 =	105 hours	
	1	otal workl	oad: W+T=	U _{opt} = 75 +	105	= 180 hours p	per semester			
	1.1	ntroducing	students v	vith method	s used	d in the prepara	ation of scien	tific r	research papers	
Course aims and	d 2.1	ntroducing	students t	o the technic	ques	used in the pre	paration of s	cienti	ific research papers	
learning outcon	nes 3. r	nastering t	he writing	and defense	of th	e thesis				
Duran and alter	4.1	ndependent preparation of seminar paper								
Prerequisites	no									
Teaching metho		tures, audi	tory exercit	ses, consulta	ations		www.ent.of.th		hedeless of	
	1. 1	ne concep	t, subject, s	significance	and n	istorical develo	pment of the	e met	nodology of	
		2. Basic scientific theories and research								
	3 1	Aethods of	scientific r	esearch	CII					
	4 (onceptual foundations of research (concepts, theories and models, formulation and								
	exp	lanation of research topics and problems, defining the subject and goal of research,								
	for	nulating research hypotheses)								
	5. F	. Research approaches, strategies and planning (selection of research methods,								
	det	termination of population and research sample)								
	6. 1	heoretical	review of r	esearch (rev	view c	of literature and	d research in	ассон	rdance with the	
Course content	cor	cept of res	earch), firs	t colloquium	۱					
course content	7.0	Operationa	lization of r	esearch (me	easure	ement of econo	mic variable	s, typ	ology of data,	
	sea	rch of prim	hary and se	condary sou	rces,	arranging and a	analyzing dat	a, tes	sting hypotheses)	
	8. F	Research in	struments;	notion of in	strun	nents, types of i	instruments,	comp	petition of	
	inst	truments								
	9.5	ample; cor	icept, type	s, proceaure	s and	sampling tech	niques			
	10.	Project of	scientific re	search work	(makin	a a sciontific w	ork			
	11.	Discussion	of results	linology of i	Hakin		UIK			
	12.	Writing a	research re	nort and cor	nclusi	ons				
14 Preparation of hibliographic papers techn							ing of a scier	ntific	work second	
	col	loquium			,					
				Textbo	ok (s)					
Autho	or/s		Name	of publication	on, pi	ublisher	Year		Pages (from-to)	
			Method	ology of scie	ntific	research,	2000			
/. Za	akic IVI.:		Fac	ulty of Law,	Banja	Luka	2000.			
			Methodolo	gy and techr	nolog	y of scientific				
8. Colal	khodzic E	.: re	search wor	k, Faculty of	Teac	her Education,	2021.			
			Džemal	Bijedić Univ	versity	, Mostar				

		Additional readings						
Author/s		Name of publication, editor	Yea	r	Page	es (from-to)		
4. Stanivukovi	c D.:	Method of scientific work, Faculty of Technical						
				1				
		Assesment methods	Poi	nts	Percentage			
	Pre-exan	n obligations						
		attendance at lectures / ex	5		5 %			
		teaching	5		5 %			
Evaluation criteria		positively graded semina	20		20 %			
		coll	40		40 %			
	Final exam							
		Ora	al exam	30		30 %		
	IN TOTA		100)	100 %			
Web sources	http://s	ues.rs.ba/eng/wp-content/uploads/2024/01/Engles	ski-NPP-	II-cik	lus.pdf			
Annlischle from	19.10.20	023 213th session of the Academic Council, Faculty	of Tran	spor	t and Tr	affic		
Applicable from	Enginee	ring in Doboj						

Profile:Motor Vehicles Automation II cycle I year of study I year of study Course title MODELS, SIMULATIONS AND ANIMATIONS IN TRAFFIC Department Department of Transport Engineering - Faculty of Transport and Traffic Engineering Doboj Code Course status Semester
Il cycle I year of study Course title MODELS, SIMULATIONS AND ANIMATIONS IN TRAFFIC Department Department of Transport Engineering - Faculty of Transport and Traffic Engineering Doboj Code Course status Semester ECTS credits
Course title MODELS, SIMULATIONS AND ANIMATIONS IN TRAFFIC Department Department of Transport Engineering - Faculty of Transport and Traffic Engineering Doboj Code Course status Semester ECTS credits
Department Department of Transport Engineering - Faculty of Transport and Traffic Engineering Doboj Code Course status Semester ECTS credits
Code Course status Semester ECTS credits
CAΦ12CM02118116,0320 Obligatory I 6,00
Professor/s PhD Mirko Stojčić, Assistant Professor
Associate/s PhD Mirko Stojčić, Assistant Professor
Weekly hours Individual student hours (per semester) Student workloat coefficient So
L TE LE L TE LE So
<u> </u>
Total teacher workload (hours, per semester) Total student workload (hours, per semester)
3*15 + 1*15 + 1*15 = 75 hours 3*15*1,4 + 1*15*1,4 + 1*15*1,4 = 105 hours
Total workload: W+T=U _{opt} = 75 + 105 = 180 hours per semester
Course aims and learning outcomes By mastering the content of this course, the student will be able to: 1. optimizes traffic processes 2. models traffic processes 3. simulates traffic processes 4. animates traffic processes
4. dnimates trainc processes
Teaching methods Lectures auditory exercises seminar paper
1 Modeling Definition types of models Modeling and models
2 Simulation Computer simulation Historical overview of simulation development
3. Model classification. Model classification. Formal model specification
4. Estimation of model parameters
5. Validation and verification of the model
6. Probability and statistics in simulation
7. Process simulation
Course content 8. Structure of simulation systems
9. Process optimization. Problem formulation. Classification of optimization methods
10. Modular simulation
11. Calculation blocks (modules)
12. Matrix form of technological scheme structure
13. Matrix methods for determining computational cycles
14. Exercises on modern simulation software: SIMUL8, PC CRECH, SIMIO
Textbook (s)
Author/s Name of publication, publisher Year Pages (from-to)
Simulation Modeling and Analysis. McGraw-Hill
Averill M. Law 2014.
Design and Analysis of Experiments. John Wiley &
Montgomery D. Sons 2012.
Metede optimizacije. Faculty of Transport and
Božičković R Traffic Engineering Doboi 2007. 1-257
Additional readings
Author/s Name of publication. editor Year Pages (from-to)
Čupić M. et al. Specijalna poglavlja iz teorije odlučivanja, FTN 2009.

	Novi Sad							
	Assesment methods	Points	Percentage					
	Pre-exam obligations							
	attendance at lectures / exercises	10	10%					
	positively assessed seminary work / project / essay	10	20%					
Evaluation criteria	case study - group work	10	10%					
	test / colloquium	20	10%					
	Final exam							
	Final exam (oral / written)	50	50%					
	TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic					

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic						Searchaine age 1				
				Profile:Mo	tor Vel	hicles			AOEOJ			
01 61 62 62 62 62 62 62 62 62 62 62 62 62 62			l cycle			I year of stu	idy					
Course title			SENIOR ENGINEERING MATHEMATICS									
Department												
C	ode		Co	urse status	;	Semes	ster		ECTS credits			
САФ12СМ0	2125216,	0320										
Professor/s	PhD) Dagana N	ledić, Associ	ate Professo	or							
Associate/s	PhD) Dagana N	ledić, Associ	ate Professo	or							
١	Weekly h	ours		Individ	ual stu	dent hours (pe	er semester)		Student workload coefficient S _o			
L	TE		LE	L		TE	LE		So			
3	2		0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=0)	1,4			
Total teach	er worklo	ad (hours	, per semes	ster)		Total student	workload (h	ours	s, per semester)			
3*15	+2*15	$+ 0^{*}15 =$	15 hours		a+\; 75	$5^{1}15^{1},4+2^{*}$	$13^{1}, 4 + 0^{*}$	15*	1,4 = 105 hours			
	Iota	I subject l	bad (teachii	ng + studer	1t): 75 -	+105 = 180 ho	urs per seme	estei	r			
	Dy 1	umerical	conies the c	scutterits v		gence and the	nocossary a	nd ci	ufficient conditions			
Course aims and		onvergen	се.	oncept of	conver	gence and the	necessary a	nu s				
learning outcom	2 differentiation and integration of degree series:											
J. J	3. ii	3. integral theory:										
	4. c	4. classification of linear partial equations of the second order, reduction to canonical forms.										
Prerequisites	doe	es not hav	e									
Teaching metho	ds Lec	tures, aud	litory exerci	ses, consu	ltations	5						
	1. N	L. Numerical series. The concept of convergence, necessary and sufficient conditions of convergence										
		2 Functional rows Uniform convergence										
	3 Г	2. Purctional rows. Oniorni convergence 3. Developing functions in the Taylor and Mac-Laurent orders										
	4. 0	Degrees of order, convergence intervals										
	5. C	Differentia	tion and int	egration o	f degre	e series						
	6. F	ourier ser	ies. Develo	ping a Four	rier ord	er function on	an arbitrary	segi	ment			
	7.1	colloquiu	m									
Course content	8. 0	Developme	ent of Fouri	er series fu	inctions	s by sines or co	sines of mul	ltiple	e angles			
	9. F	Partial diff	erential equ	iations (cla	ssificat	ion, general fir	st order par	tial e	equation)			
	10.	Integral t	neory. Lagra	ange-Charp r partial of	oita me	thod	d ordor rodu	uctio	on to canonical forms			
	sett	ting initial	and hound	arv conditi	ans m	ethods of solvin	ng					
	12.	2 Basics of complex analysis										
	13.	Integrals	of functions	, s of a comp	lex var	iable, Cauchy's	integral the	orer	m for single and			
	mu	ltiple conr	nected dom	ains,					-			
	14.	Laurent o	rder, remai	nder and it	ts appli	cation						
	15.	Basics of	tensor calcu	ılus. (II coll	oquiun	n)						
	. / .		••	Text	book (s))						
Autho	r/s		Name	of publica	ition, p	ublisher	Year	r	Pages (from-to)			
Enwin Kro	vezia		Advanced e	engineering	g mathe	ematics, John	2000					
LI WIII KIE	yszig.			Wiley8	Sons		editio	n				
		L	inear differ	ential equa	itions. I	ntroduction to						
I.Aganović, k	(.Veselić	k	oundary va	oundary value problems, Element, Zagreb, 2001.								
				Addition	al read	ings						
Autho	r/s		Nam	ne of publi	cation,	editor	Year	r	Pages (from-to)			

D.S.Mitrinović	Complex analysis, Construction book, Belgrade 1981.							
		Assesment methods		Poi	ints	Percentage		
	Pre-exa	m obligations						
		attendance at lectures / ex	ercises	10		10%		
		teaching						
		positively graded seminal						
Evaluation criteria		collo	60		60%			
	Final exam							
		final exan	30		30%			
	IN TOTAL				0	100%		
Web sources	http://s	f.ues.rs.ba/eng/wp-content/uploads/2024/01/Engle	ski-NPP-	II-cik	klus.pdf			
Applicable from	19.10.20 Enginee	023 213th session of the Academic Council, Faculty ring in Doboj	of Tran	spor	t and Tr	affic		

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile:Motor Vehicles						2003 5015 MAINE RADE A0601	
23 4 5 4 3 4 0 1 2			II cycle			l year of stu	dy		e e	
Course title				AD	VANCE	D FLUID-GAS D	OYNAMICS			
Department		Depart	tment of Moto	agnostics o	rvenicies					
	Code		Cou	urse status		Seme	ster	ECT	S credits	
САФ12СМ0	02225316	,0320								
Professor/s	Ph	D Milan N	lilotić, Associate	e Professor						
Associate/s	Ph	D Milan M	lilotić, Associate	e Professor				-		
	Weekly h	ours		Individ	ual stu	dent hours (pe	er semester)) Stud co	ent workload efficient S _o	
L	TE		LE	L		TE	LE		So	
3	2		0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=	0	1,4	
Total teac	her worklo	bad (hou	irs, per semes	ter)		Total student	workload (h	ours, per se	emester)	
3*1	5 + 2*15	+ 0*15	=75 hours			3*15*1,4+2*	15*1,4+0*	15*1,4 = 1	05 hours	
	Tota	l subjec	t load (teachir	ng + studer	nt): 75 +	+ 105 = 180 ho	urs per sem	ester		
	1.1	o get ac	equainted with	n fluid flow	, basic	settings and de	efinitions;			
Course aims an	d 2. /	Analyze	turbulent fluic	motion;		6				
learning outcor	nes 3.1	hey stu	dy the dynam	ics of comp	oressibl	e fluid;				
	4. Acquired knowledge in application practice.									
Prerequisites	doe	es not ha	ave							
Teaching metho	ods Leo	tures, a	uditory exerci	ses, consul	tations	<i>c</i>				
Teaching methodsLectures, auditory exercises, consultations1. Potential fluid flow: Basic settings and definitions. 2. Superposition of basic types of potential flows and some forms of complex flows (flow of cylindrical bodies 3. Application of the function of a complex variable - the principle of conformal mapping. 4. Turbulent fluid motion 5. Boundary layer: Concept and definitions. Empirical formulas. Equation of fluid motion in the boundary layer - Prandtl equation for the boundary layer. 6. Hydrodynamic vibrations 7. I colloquium 8. Boundary layer on a flat plate. Free turbulent flows: mixing layer, plane and circular jet, vortex trace. 9. Basic principles of functioning of hydraulic machines: Hydrostatic and hydrodynamic machines (HS and HD machines). 10. Euler's main turbine equation and the basic conclusions that follow from it. 11. Dynamics of compressible fluid: Properties of compressible fluid motion. 12. Disorder propagation and speed of sound. Mach number. 13. One-dimensional stationary flow in isolated channels (with friction). 15. Isothermal flow in gas pipelines and gas networks. (II colloquium)							ows (flow of mapping. d motion in ircular jet, ynamic			
Auth	or/s		Name	e of publica	ation. r	ublisher	Yea	r Pag	es (from-to)	
K. Ha	njalić		Compre	essible fluid	d dynar	nics, Light,	197	7		
I. Dem	irdžić:		, Fluid Mecha	anics, Part	I, Facul g Sarai	ty of Mechanic	al 199	D)	
				Addition	al read	ings				
Auth	or/s		Nar	ne of publi	ication	, editor	Yea	r Pag	es (from-to)	
Evaluation crite	eria		Α	ssesment ı	method	ls		Points	Percentage	

	Pre-exam obligations							
	attendance at lectures / exercises	10	10%					
	teaching activity							
	positively graded seminar paper							
	colloquium	60	60%					
	Final exam							
	final exam (oral)	30	30%					
	IN TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic					

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile:Motor Vehicles						AGED	
			ll cycle			I year of stu	dy		
Course title		Dopar	ELASTICITY THEORY						stics of Vahielas
Department		Depai		Ji venicies	, Opera			igno	Stics of Vehicles
Co	ode		Cou	irse status	;	Semes	ster		ECTS credits
САФ12СМ02	2225416,	0320							
Professor/s	PhD) Milan N	lilotić, Associate	e Professor					
Associate/s	PhD) Milan N	lilotić, Associate	e Professor					
v	Veekly h	ours		Individ	ual stu	dent hours (pe	r semester)		Student workload coefficient S₀
L	TE		LE	L		TE	LE		So
3	2		0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=0)	1,4
Total teache	er worklo	ad (hou	urs, per semes	ter)		Total student v	workload (ho	ours	, per semester)
3*15	+ 2*15 -	+ 0*15	=75 hours		=-	3*15*1,4 + 2*	15*1,4+0*	15*1	1,4 = 105 hours
	Tota	l subjec	t load (teachir	ng + studer	nt): 75 -	+ 105 = 180 hou	urs per seme	ester	٠
	Вун	masterii 'h overtu	ng this course	students v	vill be a	able to:			
Course aims and		ney stu	ay the theory	of elasticit	.у;				
learning outcom	es 2.7	nnly ev	nerimental ma	athods for	datarn	nining strassas	and defoma	tion	ç.
4. Apply the acquired knowledge on concre						ete examples		tion	5,
Prerequisites	doe	es not h	ave	Sincube of	i conci				
Teaching metho	ds Lec	tures. a	uditory exercis	ses. consu	Itations				
Course content	1. T 2. S 3. C 4. R 5. S 6. T 7. I 8. F 9. B 10. fror 11. 12. anis 13. ligh 14. Sep 15. pho	 s Lectures, auditory exercises, consultations 1. Theory of elasticity - introduction 2. Stress analysis 3. Deformation analysis 4. Relationship between stress and strain 5. Solving the equations of the theory of elasticity 6. Torsion of straight rods 7. I colloquium 8. Flat problem of elasticity theory 9. Bending thin plates 10. Experimental methods for determining stresses and strains - introduction. Basic relations from the theory of elasticity and resistance of materials 11. Mechanics of model similarity. Determination of stresses and strains by brittle varnish. 12. Photoelascimetry - Basic concepts in optics, Wave equation, Light interference, Optical anisotropic materials 13. Photoelascimetry - Polaroid filters, Polariscopes, Analysis of models in plane polarized light, 14. Photoelascimetry - Compensation method, Recording of isoclines and isochromes, Separation of main stresses, 15. Photoelasticity - Materials Special methods of photoelasticity. Model similarity in 							
Autho	r/c		Nores	Texts	DOOK (S)	hlishor	Vac		Pages (from to)
Autho	1/5		Flasticity the		ation, p	ontal methods	Year		Pages (from-to)
Vukojević	Dušan		Faculty of M	echanical	Fnging	ering in Zenica	" 1998		
Raškovi	ić D.		Teorija elas	tičnosti. n	aučna k	njiga Beograd.	, 1985		
				Addition	al read	ings	1000		
Autho	or/s		Nan	ne of publ	ication	, editor	Year	•	Pages (from-to)

	Assesment methods	Points	Percentage				
	Pre-exam obligations						
	attendance at lectures / exercises	10	10%				
	teaching activity						
Evaluation criteria	positively graded seminar paper						
	colloquium	60	60%				
	Final exam						
	final exam (oral)	30	30%				
	IN TOTAL	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	-II-ciklus.pdf					
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic				

	22	UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering							2005 5 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
	YERY +			<u>δ</u>	a second						
				Profile:Mo	tor Veh	nicles			AOEOJ		
Course title			II cycle	TODGI		I year of stu					
Department		Denart	tment of Moto	r Vehicles	Onera	tion Mainten	ance and Di	es agnostics o	f Vehicles		
Department		Depuir		of venicies	, 000				T Venicies		
	Code		Coι	irse status		Seme	ster	ECI	'S credits		
САФ12СМ(02225516	,0320									
Professor/s	Ph	D Mesud	Ajanović, Full P	rofessor							
Associate/s	Ph	D Mesud	Ajanović, Full P	rofessor							
	Weekly h	ours		Individ	ual stu	dent hours (pe	er semester)	cc	ent workload efficient So		
L	TE		LE	L		TE	LE	-	So		
3	2		0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=0	0	1,4		
Total teac	ner workle	bad (hou $0*15$	irs, per semes	ter)		Iotal student	workload (h	ours, per s	emester)		
5*1	$\frac{5+2^{+15}}{15}$	$+0^{*15}$	= /3 nours t load (teachir	a + studen)+)· 75 _	$\frac{3*15*1.4+2*}{105-180}$ ho	$15^{1},4+0^{1}$	$15^{1}, 4 = 1$	05 nours		
	By	masterir	ng this course	students w	vill be a	ble to:	uis per sein	ester			
_	. 1.4	Analvze t	the simplificat	ion of the	modeli	ng-oscillatory	svstem:				
Course aims an	d 2. v	work on	calculation m	ethods;		0 , -	-,,				
learning outcom	nes 3. i	nvestiga	ite methods a	nd mechan	isms fo	or mitigating to	orsional osci	llations;			
	4. a	4. apply the acquired knowledge in practice.									
Prerequisites	doe	does not have									
Teaching meth	ods Leo	tures, au	uditory exerci	ses, consul	tations						
	1.1	ntroduct	tion								
	2. 9	2. SUS engines 3. Definition of the basic torsional-oscillatory system									
	3.1	 Defining the physical and mathematical model of the torsion-oscillatory system 									
	4.1	 Demining the physical and mathematical model of the torsion-oscillatory system Analysis of model simplification in order to more accurately calculate torsional-oscillatory 									
	Dar	parameters									
	6. F	6. Possible directions of model simplification in order to more accurately calculate torsional-									
	osc	oscillatory parameters									
Course content	7.1	7. I colloquium									
course content	1.1	ntroduc	tion								
	2. 9	SUS engi	nes								
	3. [Definitio	n of the basic	torsional-c	oscillato	ory system					
	4.1	Defining	the physical a	nd matner	natical n ordor	model of the t	corsion-oscii	latory syste	en escillatory		
	Dar	ameters		mication	nonuei	to more accu	Talely calcul		al-Oscillatory		
	6. F	Possible	, directions of r	nodel sime	olificatio	on in order to	more accura	ately calcul	ate torsional-		
	osc	illatory i	parameters					,			
	7.1	colloqui	ium								
				Textb	ook (s)						
Auth	or/s		Name	e of publica	ation, p	oublisher	Yea	r Pa	ges (from-to)		
Filipov	ić Ivan		Internal coi	mbustion e cillations,	engines MF Sar	-dynamics and ajevo	2007	7.			
Hafner F K	Maass H	$ $ \top	Theory of 1	Frial Switch	nes of t	he Conversion	192/	1			
	, 111005511	·	Machine, Sp	oringer Ver	lag, Vie	enna-New York	κ, 150-	·			
				Addition	al readi	ings					
Auth	or/s		Nan	ne of publi	cation,	, editor	Yea	r Pa	ges (from-to)		
Evaluation crite	eria		A	ssesment r	nethoo	ls		Points	Percentage		

	Pre-exam obligations							
	attendance at lectures / exercises	10	10%					
	teaching activity							
	positively graded seminar paper							
	colloquium	60	60%					
	Final exam							
	final exam (oral)	30	30%					
	IN TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic					

SET TOUR			UNIVERSITY OF EAST SARAJEVO						200 5
-18.			Faculty of	g		Seat. A Fait			
82°			Study program: Trajjic Profile:Motor Vehicles						
1.5V3 4.5V3 30	II.				AOEOJ				
Course title			SUS ENGINE CHARGING						
Department		Depar	partment of Motor Vehicles. Operation, Maintenance and Diagnostics of Vehicles						
	Code	<u> </u>	Cou	irse status	<u>, - </u>	Seme	ter		FCTS credits
САФ12СМ()2225616	,0320							
Professor/s	Phi	D Mesud	Ajanović, Full F	rotessor					
Associate/s	Phi	J Mesua	Ajanovic, Fuli F	rotessor					
	Weekly h	nours		Individ	ual stu	dent hours (pe	er semester))	coefficient So
L	TE		LE	L		TE	LE		So
3	2		0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=	0	1,4
Total teacl	her workl	oad (hou	urs, per semes	ter)		Total student	workload (h	ours	s, per semester)
3*1	5 + 2*15	+ 0*15	=75 hours			3*15*1,4 + 2*	15*1,4+0*	*15*	1,4 = 105 hours
	Tota	al subjec	t load (teachir	ng + studei	nt): 75 -	+ 105 = 180 ho	urs per sem	este	r
	Ву	masteri Cot accu	ng this course	students \	viii be a	ible to:	unnlomont		
Course aims an	d 2	Get acqt	r the positive :	ossible and	u pracu vo sidos	of the introdu	upplement		i; inlement system
learning outcor	nes fro	m the te	echnical econ	omic and s		ical aspects.		sup	plement system
3 They study turbocharging systems:						icul uspects,			
	4.	Model p	processes in tu	rbocharge	rs.				
Prerequisites	do	es not h	ave	U					
Teaching metho	ods Leo	ctures, a	uditory exerci	ses, consu	ltations				
	1.	ntroduction							
	2. 9	2. SUS engines							
	3. /	3. An overview of possible and practical ways of supplementing							
	4. (4. Conditions preceding the possibility of introducing a replenishment system							
	5.1	5. Positive and negative sides of the introduction of the supplement system, from the							
	teo	echnical aspect							
	6.	Positive	itive and negative sides of the introduction of the supplementary system from the						
Course content	eco		c and sociological aspect						
course content	. 7.	Rasic nri	nrinciples of individual elements of the recharging system - turbine and compressor						
	9.1	Turboch	principles of individual elements of the recharging system - turbline and compressor incharging systems						
	10	Basic d	esign paramet	ers of turk	ocharg	ing system.			
	11.	Output	t parameters in	n the form	of com	pressor and tu	rbine maps		
	12	Modeli	ing of processe	es in turbo	charger	s of mechanica	al aspect		
	13.	. Modeli	ing of processe	es in turbo	charger	s from the gas	-dynamic as	pect	:
	14.	. Basic p	arameters wh	en choosir	ig and c	onnecting a tu	rbocharger	with	a sus engine
	15	. Directio	ons of further	research (ll colloq	uium)			
<u>ما د</u>			Nom	l extr	000K (S)		Vaa		Deges (from to)
Auth	or/s		Bocharg	ing pictop	ation, p		rea	r	Pages (from-to)
Filipo	vić I.		Mechanica	l Engineer	ing Sara	ijevo, Sarajevo	1984	1.	
Wats	on N.		Turbochargin	g the Inter	nal Cor	nbustion Engir	ie, 1984	1.	
			Macm	illan Publis	sher Lto	I., London		 	
Zinne	er K.,		Retueling of	engines, S	pringer	- Verlag, Berli	n 1985) .	
Pucher	H. u.a.,		Installation	of combu	istion e	ngines, expert	xpert 1985.		
				Addition	al read	ings			
۸ս+հ	or/s		Nar	ne of publ	ication	editor	Ver	r	Pages (from to)
Auti			1101				100	-	1 4 9 6 9 (11 6 11 10)

		Poi	nts	Percentage				
	Pre-exam	obligations						
		attendance at lectu	ures / exe	ercises	10		10%	
		te	eaching a	ictivity				
	positively graded seminar paper							
Evaluation criteria	colloquium						60%	
	Final exam							
	final exam (oral)				30		30%	
	IN TOTAL				100)	100%	
Web sources	http://sf.u	es.rs.ba/eng/wp-content/uploads/2024/0	01/Engles	ski-NPP-	II-cik	lus.pdf		
Applicable from	19.10.202 Engineeri	3 213th session of the Academic Council ng in Doboj	l, Faculty	of Tran	spor	t and Tr	affic	

RUTOWO			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering						Sector ING ONTIN	
-18°	JEBY #			Study prog	ram: T	raffic	5			
)			Profile:Mo	tor Vel	hicles			AOEOJ	
the second secon			II cycle I year of study							
Course title		David	ENGINE DYNAMICS SUS							
Department		Depai	rtment of Moto	or venicles	, Opera	ition, Maintena	ance and Dia	agno	ostics of Vehicles	
	Code		Cou	urse status		Semes	ter		ECTS credits	
САФ12СМ0)2225716	,0320								
Professor/s	Phi) Mesud	I Ajanović, Full F	rofessor						
Associate/s	Phi	J Mesuo	i Ajanovic, Full F	rotessor						
	Weekly h	ours		Individual student hours (per semester					coefficient So	
L	TE		LE	L		TE	LE	_	So	
3	2		0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=0)	1,4	
Total teac	ner workl	oad (ho	urs, per semes	ter)		Iotal student	workload (h	ours	s, per semester)	
3*1	$3 + 2^{13}$	$+0^{13}$	= 75 nours		+). 70	3*13*1,4+2*	$15^{1},4+0^{*}$	15*	1,4 = 105 nours	
	1012	ntrodu	ction to the ba	ig + studer	11): 75 + tic and	4vpamic paran	notors of the		gine curve	
		chanisr	n in order to c	sic killellia heck:	lic allu	uynanne paran		e en	gine cuive	
Course aims an	d 2.0	calculat	ion of engine of	urve mech	anism	elements:				
learning outcor	nes 3. 0	defining	efining friction losses in the engine:							
	4.1	Defining	ing methods for calculation of resonant modes of operation of SUS motors.							
Prerequisites	do	es not h	nave							
Teaching metho	ods Leo	ctures, a	auditory exerci	ses, consu	ltations	5				
	1.1	Basic co	ncepts of the e	engine sus.						
	2.1	Basic co	ncepts of dyna	imics.						
	3.1	3. Basic Kinematic and dynamic quantities of the centric and deaxial curve mechanism of the								
	en	ngine sus.								
	4.1	Inertial forces and moments in single-cylinder and multi-cylinder engines sus.								
	5.1	Salancir Tho role	ancing inertial forces and moments.							
	0.	i ne role and calculation of the engine flywheel.								
Course content	8	i colloquium Defining current values of forces and moments on the curve mechanism								
	9.1	Polar bearing load diagrams.								
	10.	D. Torsional oscillations of the engine crankshaft.								
	11.	Torsional oscillations of the engine crankshaft.								
	12.	2. Definition of equivalent system.								
	13.	. Calculation of natural oscillation frequencies.								
	14.	Metho	ds of avoiding	critical osc	illatory	modes in mot	ors.			
	15.	Directi	ons of further	research. (II collo	quium)				
A				Textb	000k (S)) 	No. a		Dense (frame ta)	
Auth	or/s			e of public	ation, p	dynamics and	real	ſ	Pages (from-to)	
Filipo	vić I.		09	scillations,	MF Sar	ajevo	2007	' .		
Filipov	ić Ivan		Kinematics a	nd dynamio MF Sa	cs of m <u>raje</u> vo	otor mechanisr	n, 1998	3.		
Filipov	ić Ivan		Torsional osc	illations of	motor	sui, MF Sarajev	vo 1998	3.		
Filipović I.,	Stojičić T	. [Collection	of tasks fro	m the o	engine sus, MF	1982			
				Sard Addition	al read	ings		_		
Δuth	or/s		Nar	ne of nubl	ication	editor	Year	r	Pages (from-to)	
	5175		1401		.sation,		i ca		1 4863 (110111 10)	

	Assesment methods	Points	Percentage						
	Pre-exam obligations								
	attendance continued	10	10%						
	colloquium 1	30	30%						
	colloquium 2	30	30%						
Evaluation criteria									
	Final exam								
	final exam (oral)	30	30%						
	IN TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic								
	Engineering in Doboj								

			UNIV Faculty of	ERSITY OF Transport a	g		Safer B	DOS AIRO ORFIGE		
			-	Study prog	ram: T	raffic				
C. C	III -		ll cycle	Projile:iviol	or ver	l vear of stu	ldv			40EOJ
Course title			in eyele	PR	OCESS	MODELING IN	ENGINES			
Department		Depa	rtment of Moto	or Vehicles,	Opera	tion, Mainten	ance and Dia	agnos	stics of	Vehicles
	Code		Сон	Course status Semester			ster		ECTS	credits
САФ12СМ	022258	316,0320								
Professor/s		Prof. PhD I	Mesud Ajanović,	Full Profess	or					
Associate/s		Prof. PhD I	Mesud Ajanović,	Full Profess	or					
	Weekl	ly hours		Individu	ual stu	dent hours (pe	er semester))	Stude coe	nt workload fficient S _o
L		TE	LE	L		TE	LE			So
3		2	0	3*15*1,4=6	53	2*15*1,4=42	0*15*1,4=	0		1,4
Total teac	her wo	rkload (ho	ours, per semes	ter)		Total student	workload (h	ours,	, per sei	mester)
3*1	5 + 2*2	15 + 0*15	= 75 hours		+), 77	3*15*1,4 + 2*	15*1,4+0*	15*1	1,4 = 10	5 hours
	T	otal subje	ct load (teachin	ng + studen	t): /5 +	+ 105 = 180 ho	urs per sem	ester	•	
Course sime on	, d	1. Introdu	ction to the ch	aracteristic problems ir	s of the	e SUS engine;	SUS onging			
learning outcou	mes	2. Ways u 3. Solve th	s to solve certain problems in the operation of the SUS engine;							
learning outcom	ines	4 Applica	tion of acquire	d knowlede	re on c	oncrete examr	oles			
Prerequisites		does not l	have		,					
Teaching methods Lectures, auditory exercises, consultations										
		1. Introdu	ction							
		2. SUS eng	gines							
		3. Zero, o	ne and multidir	nensional r	nodels	for individual	systems and	l pro	cesses	
		4. Ways o	f solving - fuel s	supply syste	em					
		5. Method	Das of solving - working fluid exchange system (distribution mechanism)							
		6. Method	loas of solving - current processes when changing the working substance							
Course content			oquium s of solving - compustion in the workspace							
Course content		a. Ways o	s of solving - compasion in the workspace is of solving - heat exchange with the environment							
		10 Metho	hods of solving - exhaust gases							
		11. Metho	ethods of solving - exhaust gases ethods of solving - purification of exhaust gases							
		12. Mathe	Aathematical models							
		13. Modu	Aodular programming							
		14. Obser	vation of indivi	dual engine	e systei	ms sus				
		15. Obser	vation of the e	ngine sus as	s a who	ole (II colloquiu	ım)			
	,			Textb	ook (s)					
Auth	nor/s		Name	e of publica	ition, p	oublisher	Yea	r	Page	es (from-to)
Heywo	od J. B.		Internal Co	MDUSTION E	ngine	Fundamentals,	1988	3.		
			Mathor	matical mo		of current-	A 10			
			thermody	namic proc	esses	and onerating				
Jank	ov R.		character	istics of die	esel en	gines - quasi-	1984	I.		
			stationar	y models Pa	art I, So	cientific book				
				Belgr	ade					
				Additiona	al read	ings				
Auth	nor/s		Nar	ne of publi	cation	, editor	Yea	r	Page	es (from-to)
Evaluation with	orio		А	ssesment n	netho	ls		Poi	nts	Percentage
Evaluation crite	elid	Pre-exam	obligations							

	attendance continued	10	10%				
	colloquium 1	30	30%				
	colloquium 2	30	30%				
	Final exam						
	final exam (oral)	30	30%				
	IN TOTAL	100	100%				
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf					
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj						

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering						2005 Statuling organization			
				2	Study prog Profile:Mo	gram: T otor Vel	raffic hicles			C		
13 4583 30 10	/			I cycle			l year of stu	ıdy			nonol -	
Course title					VI	EHICLE	ACTIVE SAFET	Y SYSTEM				
Department		Depa	rtmen	t of Moto	or Vehicles	s, Opera	ation, Mainten	ance and Di	agno	stics of	Vehicles	
	Code			Course status			Semester			ECTS	credits	
САФ12СМ	0222592	5,0320										
Professor/s	Pr	D Božida	ar Krsti	ć, Full Pro	ofessor							
Associate/s	Pr	D Bozida	ar Krsti	c, Full Pro	otessor					<u>.</u>		
	Weekly	hours	1		Individ	lual stu	dent hours (pe	er semester))	coefficient So		
L	Т			LE	L		TE	LE	-		So	
3	2			0	3*15*1,4=	:63	2*15*1,4=42	0*15*1,4=	0		1,4	
Total teac	her work	load (ho	ours, p	er semes	ter)		Total student	workload (h	ours	, per sei	mester)	
3*1	5 + 2*15	+0*15	= 75	hours		-+). 75	3*15*1,4+2*	15*1,4+0*	°15*.	1,4 = 10	5 hours	
	101	al subje	ct load	d (teachir	ng + studei	nt): 75 ·	+ 105 = 180 h0	urs per sem	este	factiva	vohielo	
	1.	Deepen	iing kn toms:	lowledge	of motor	venicie		e developme	ent o	ractive	venicie	
Course aims an		arery systems;										
learning outcom	mes 3	3. Acquisition of knowledge that can be applied in the design phase of new ones:										
	4.	Optimiz	ation	of existin	ig active se	ecurity	systems.				,	
Prerequisites	do	es not l	nave		0		1					
Teaching meth	ods Le	ctures,	audito	ry exerci	ses, consu	Itations	5					
	1.	Introdu	ction 1	to active	vehicle saf	fety.						
	2.	Availab	le grip	betweer	n tire and p	oad.						
	3.	3. Optimal vehicle braking.										
	4.	4. Braking a set of vehicles.										
	5.	5. Modeling of hydraulic and pneumatic braking systems.										
	6.	6. Regulation of the braking system.										
6	/.	/. I colloquium										
Course content	. 8.	5. Anti-lock Braking Systems (ABS).										
	9.	9. IVIOLOGING and Optimization of ABS Operation.										
	11	10. Drive wheel slip control (ASK). 11. Modeling and ontimization of ASR operation										
	12	12. Flectronic Stability Control (FSP)										
	13	13. Modeling and optimization of ESP operation.										
	14	. Vehicl	e Dista	ance Con	trol (ACC)	system						
	15	. Active	elasti	c suppor	t system. N	Manage	ment system.	(II colloquiu	m)			
					Text	book (s						
Auth	nor/s			Name	e of public	ation, p	publisher	Yea	r	Page	es (from-to)	
Johansson R	., Rantze	r A.	No	nlinear a	nd Hybrid Control,	System Springe	s in Automotiv er,	e 2003	3.			
Limp	ert R.			Brake	e Design ar	nd Safet	ty, SAE, I,	1999	Э.			
		-		Addition	al read	ings						
Auth	nor/s			Nar	ne of publ	ication	, editor	Yea	r	Page	es (from-to)	
Janićijević N.,			Autor Mech	mation of r nanical Eng	notor vehic gineering, E	le syster Belgrade	ms, Faculty of , Belgrade,	2002.				
				Α	ssesment	metho	ds		Poi	nts	Percentage	
Evaluation crite	Pr	e-exam	obliga	itions								
							attendance	continued	10		10%	
							со	lloquium 1	30		30%	

	colloquium 2	30	30%						
	Final exam								
	final exam (oral)	30	30%						
	IN TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic						

		UNI Faculty of	VERSITY OF Transport a	g	SPERALIHO QUE					
			Study prog	ram: T	raffic	0		e.		
			Profile:Mo	tor Vel	hicles				ТОБОЈ	
4533.30		l cycle			I year of stu	ıdy				
Course title	Davi			SPECIA	L PURPOSE VE	HICLES	+! -			
Department	Dep	artment of Mo	tor Vehicles	, Opera	ition, Mainten I	ance and Di	agnostic I	sof	Vehicles	
Code	9	Co	Course status Semester			ster		ECTS	credits	
САФ12СМ0222	26026,0320		·							
Professor/s	PhD Bozic	dar Krstić, Full Pi	otessor							
Associate/s							6	tuda	nt workload	
We	ekly hours		Individ	ual stu	dent hours (pe	er semester)		coe	fficient S _o	
L	TE	LE	L		TE	LE	_		So	
3	2	0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=	0		1,4	
I otal teacher	workload (h	ours, per seme	ster)		10tal student	worкload (h	ours, pe	= 10	nester)	
3*15 +	$\frac{2*13 + 0*13}{2*13}$	5 = 75 nours	ing Latudor	+\· 7E	3*13*1,4+2*	$15^{1}1,4+0^{4}$	15*1,4	= 10.	o nours	
	Dating st		ing + studer	11): 75 -	+ 105 = 180 110	urs per sem	ester			
	1 with cl	assifications of	snecial nur	nose ve	ehicles.					
Course aims and	2. with th	with classifications of special purpose venicles; with their characteristics:								
learning outcomes	3. with th	with theories of movement of caterpillar vehicles;								
	4. with ve	ehicle stability	and overcor	ning ot	ostacles.					
Prerequisites	does not	have								
Teaching methods	Lectures,	auditory exerc	ises, consul	tations						
	1. Classif	ication of speci	al purpose v	vehicle	s.					
	2. Auxilia	ry drives of vel	nicles for the	e opera	ation of special	devices and	d equipn	nent.		
	3. Vehicle	 Vehicles with self-loading and self-unloading device. Container vehicles 								
	4. Contai	4. Container vehicles.								
	5. Vehicle	5. Vehicles with liquid cargo containers.								
	6. Venici	. Vehicles for transport of dangerous goods.								
	7.1 COlloc	7. I colloquium P. Trailors for special transport of long and indivisible loads and building structures								
Course content	0. Trailer	 B. Trailers for special transport of long and indivisible loads and building structures. B. Trailer with drive 								
	10 Tract	0 Tractors Loaders								
	11. Grad	1. Graders. Excavators.								
	12. Excav	12. Excavators. Auto cranes.								
	13. Vehic	13. Vehicles for forest exploitation.								
	14. Theo	ry of movemen	t of caterpil	llar veh	icles. Straight l	line movem	ent and	turni	ing of a	
	caterpilla	ar vehicle.								
	15. Vehic	le stability and	overcomin	g obsta	cles. Combat v	ehicles. (II c	olloquiu	ım)		
			Textb	ook (s))				(6	
Author/s	5	Nam	e of publica	ation, p	Dublisher	Yea	r	Page	es (from-to)	
Mikulić D		constru	culation an	d use, Z	Zagreb,	1998	3.			
Janković D Janio	ćijević N.	Trailers	and special	device	s, Faculty of	1985	5.			
,	-	Mechanica	I Engineerir	ng Belg	rade, Belgrade	,		_		
Author		Na	Addition	al read	ings oditor	Vee	-	Dage	(from to)	
Author/s		INA		ication	, euitor	rea		rage	s (110111-10)	
					•				_	
Freelands in the	Due		Assesment I	method	ds		Points		Percentage	
Evaluation criteria	Pre-exam	obligations			attandanaa	continued	10		1.0%	
					attendance	continued	10		10%	

	colloquium 1	30	30%					
	colloquium 2	30	30%					
	Final exam							
	final exam (oral)	30	30%					
	IN TOTAL	100	100%					
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf						
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Tran Engineering in Doboj	sport and Tr	affic					

			UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic						Second Hill Garage		
82°C				Pro	ofile:Mo	tor Vel	hicles				
15 4583 40 1.1	/		l cy	cle			l year of stu	ıdy		L'ORDA	
Course title						AC	CIDENT ANALY	'SIS			
Department		Depa	rtment of	Motor	Vehicles	, Opera	ation, Mainten	ance and Dia	agno	ostics of Vehicles	
	Code			Cours	se status		Seme	ster		ECTS credits	
САФ12СМ02226126,0320											
Professor/s	Phi) Božida	ar Krstić, Fu	ull Profes	ssor						
Associate/s) Božida	ar Krstić, Fu	ull Profes	ssor							
	Weekly h	ours			Individ	ual stu	dent hours (pe	er semester))	Student workload coefficient S _o	
L	TE		LE		L		TE	LE		So	
3	2		0	3	8*15*1,4=	63	2*15*1,4=42	0*15*1,4=0)	1,4	
Total teac	ner workle	oad (ho	ours, per se	emeste	r)		Total student	workload (h	ours	, per semester)	
3*1	5 + 2*15	+ 0*15	= 75 hou	irs			3*15*1,4+2*	15*1,4 + 0*	15*	1,4 = 105 hours	
	Tota	al subje	ct load (te	aching	+ studen	it): 75 ·	+ 105 = 180 ho	urs per sem	este	r en	
	1.1	ntrodu	cing stude	ents to t	the types	s of acc	idents and bas	ic concepts	and	definitions;	
Course aims an	d 2.7	Analysis	s of accide	nts dep	pending o	on the	cause;				
learning outcor	nes 3. A	Acciden	it analysis	accord	ing to th	e place	e of occurrence				
Due un sustatte e	4.1	roblen	n solving o	olving on concrete examples.							
Prerequisites		es not r	iave	voreico		tation					
Teaching metho		tures, a	f a said ant	xercises	s, consul		o aitiana Intorna	land outorn		ausos of crock	
	for	nypes o mation	accident	SDASIC	lernis ai	iu uem	incons. incerna	ii anu extern		auses of clack	
		rack n	ronagation	n Fract	ure and	violent	fracture Accid	dents due to	cor	rosion tribological	
	pro	processes, cavitation and erosion.									
	3.6	3. Breakdown mechanism failure: piston-connecting rod-crankshaft - causes of accidents.									
	4.6	4. Engine block failure: violent breakage, sealing, cylinder, cylinder liners									
	5. (5. Cylinder head failure: cracks, fractures, erosion and corrosion. Rubbing the valve guides.									
	6. [. Distribution mechanism failures: springs, valves, camshaft.									
	7.1	I colloquium									
Course content	8. /	Acciden	dents of belt gears, chains and sprockets, V-belts and gears, chain gears and gears.								
course content	9.1	Fuel supply and positive ignition system failures. Engine cooling system failures.									
	10.	10. Accidents on TK units.									
	11.	Accide	nts in the	power	transmis	sion s	ystem, coupling	gs, gearbox,	card	lan shaft, differential	
	12.	12. Accidents in the braking system, loss of working fluid, bursting of the installation, friction									
	Sur	surfaces.									
	15.	13. Accidents in the control system, loss of mechanical connection of control bodies, loss of working fluid									
	14	Accide	onts in the	system	of elasti	ic susn	ension causes	of loss of ve	hicle	e stability, cracks in	
	the	axles		system		10 3030					
	15.	Total c	lamage - e	example	e analysi	s. (II co	lloquium)				
			0		Textb	ook (s)				
Auth	or/s		1	Name o	of publica	ation, j	publisher	Yea	r	Pages (from-to)	
Grautar	7ima s		Motor d	amage	- damag	e to ad	vertising engin	ies 2000	, ,		
Greuter E	., ∠iiiid 3.,		and	waste, '	Vogel Bu	chverl	ag, Würzburg	2000	<i>.</i>		
			AS	PI Hand	lbook, Fa	ailure A	Analysis and		_		
				Pre	vention,	Volum	ne 11				
				A	Additiona	al read	ings				
Auth	or/s			Name	of publi	cation	, editor	Year	r	Pages (from-to)	

	Assesment methods	Points	Percentage						
	Pre-exam obligations								
	attendance continued	10	10%						
	colloquium 1	30	30%						
	colloquium 2	30	30%						
Evaluation criteria									
	Final exam								
	final exam (oral)	30	30%						
	IN TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-	II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic								
	Engineering in Doboj								

	(EBY)		U Faculty	Ig	1	South and San the						
82				Profile:Mo	, otor Vel	hicles			40501			
2 45r3 40 M	·		l cyc	le		l year of stu	udy					
Course title				AERC	DYNA	MICS AND VEH	IICLE DESIGN	N	() () ()			
Department		Depa	rtment of N	lotor Vehicles	s, Opera	ation, Mainten	ance and Dia	agnostic	s of Vehicles			
Co	de			Course status Semester			ster	I	ECTS credits			
САФ12СМ02	226226,	,0320										
Professor/s	PhL) Sneza	ana Petković,	Full Professor								
Associate/s	Ph	J Sneza	ana Petkovic,	Full Professor				64	udopt workload			
N	/eekly h	ours		Individ	lual stu	dent hours (p	er semester)		coefficient So			
L	TE		LE	L	<u></u>	TE		<u></u>	S _o			
J Total tasata	2	ad (1-		3"15"1,4=	03	Z 13 1,4=42	U 15 1,4=		1,4			
2*15	+ 2*15	Jau (nC + 0*15	= 75 hours	s s		3*15*1 / ± 2*	workioad (n *15*1 4 ⊥ 0*	ours, pe 15*1 /	= 105 hours			
5 15	Tota	l suhie	ct load (tea	- ching + stude	ו nt)• 75 -	$\frac{5}{10}$ 10 1,4 \pm 2	$13^{-1}, + + 0^{-1}$	ester				
	1.1	ntrodu	cing studer	its to the mos	t impor	tant phenome	na of air flow	v around	d the vehicle.			
	veh	nicle re	sistance		•p • .							
Course aims and	2.1	ntrodu	cing studer	nts to the influ	ence of	f air flow on th	e dynamic a	nd ener	gy characteristics			
learning outcome	es of v	of vehicles										
	3.1	3. Introducing students to the influence of air resistance on noise										
	4. a	apply th	ne acquired	knowledge in	practio	ce						
Prerequisites	doe	es not ł	nave									
Teaching method	Is Lec	tures,	auditory ex	ercises, consu	Itations	5						
	1.1	ntrodu	ction to vel	nicle aerodyna	mics							
	2.1	2. venicle aerodynamics through past, present and future 3. External and internal aerodynamics										
	3.6	A Air flow around the passenger vehicle										
	4.7	 An now around the passenger venicle Participation of certain parts of the vehicle in air resistance 										
	6. F	6. Passenger vehicle design strategies										
	7.1	7. I colloquium										
Course content	8. A	8. Aerodynamic forces and moments										
course content	9. 1	9. The importance of vehicle aerodynamics in vehicle behavior while driving										
	10.	10. Influence of passenger vehicle shape on aerodynamic forces and moments										
	11.	11. Noise due to air flow around the vehicle										
	12.	12. Aerodynamics of high performance vehicles										
	13.	13. Reduction of air resistance in trucks and buses. Motorcycle aerodynamics										
	14.	Basics	of numeric	al methods in	solving	ng of the passe	enger compa	internal	aerodynamics (II			
		loquiur	n)	armethous m	JOIVINE			interna	aerouynannes (n			
			/	Text	book (s							
Autho	r/s		N	ame of public	ation,	publisher	Yea	r 🛛	Pages (from-to)			
Hucho	۸ <i>/</i> ۰		Aerodyr	amics of Road	l Vehicl	es, SAE, ISBN ()-	,				
	vv			7680-	0029-7		1996					
Braess H., Se	iffert U.	:	Handbo	ook of Automo	tive En	gineering, SAE	2005	5.				
ISBN 0-7680-0783-6												
Διιτροι	r/s			Name of nub	lication	editor	Vea	r	Pages (from-to)			
Addito	15				ication		Tea					
				Accorrect	mathe	da		Doint	Dorcontogo			
Evaluation criteri	a Dro	-022	obligations	Assesment	metho	us		POINTS	Percentage			
	Pre	-exaii)	opilgations									
	attendance continued	10	10%									
-----------------	---	-----	------	--	--	--	--					
	colloquium 1	30	30%									
	colloquium 2	30	30%									
	Students who pass all colloquia											
	are exempted from the written part of the examination.											
	Final exam											
	final exam (oral)	30	30%									
	IN TOTAL	100	100%									
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf											
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj											

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering					SISTALIHO DATION				
		. actually of									
		Profile:Motor Vehicles						AOEOJ //			
	I cycle I year of study										
Course title	Dona	VEHICLE TRANSMISSION									
Department	Depa	artment of Motor Vehicles, Operation, Maintenance and Diagnostics of Vehicles									
Code	2	Cou	urse status		Seme	Semester		ECTS credits			
САФ12СМ0222	6326,0320										
Professor/s	PhD Sneža	ana Petković, Ful	a Petković, Full Professor								
Associate/s	PhD Sneža	ana Petković, Ful	Professor								
Wee	ekly hours		Individual student hours (per semester)					Student workload coefficient So			
L	TE	LE	L		TE	LE		So			
3	2	0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=0	0	1,4			
Total teacher w	vorkload (ho	ours, per semes	ter)		Total student	workload (h	ours	s, per semester)			
3*15 + 2	2*15 + 0*15	=75 hours			3*15*1,4 + 2*	*15*1,4 + 0*	15*	1,4 = 105 hours			
	I otal subje	ct load (teachir	ng + studen	it): 75 -	+ 105 = 180 ho	urs per seme	este	r			
	1. Knowle	age of concept	s and defin	of the	of transmission	i in motor ve	enici	es systems processed			
Course aims and	2. deepen	ang of knowled	ye for one Vehicles ir	order	to ontimize th	nower tra	ncie	systems processed			
learning outcomes	3 Acquisi	tion of knowled	ge that ca	n be ar	onlied in the de	e power tra esign phase c	of no	ower transmission			
	and torgu	e to drive whee		in de ap	ipned in the de	551511 pridde (or pe				
	4. apply t	ne acquired kno	wledge in	practic	e						
Prerequisites	does not	have									
Teaching methods	Lectures,	auditory exerci	ses, consul	tations	5						
	1. The role and tasks of transmission in motor vehicles. Types of transmissions.										
	2. Mechanical transmissions.										
	3. Continuously variable transmissions. Hydrodynamic transmissions.										
	4. Gear shift management process.										
	5. Pressur	5. Pressure modulation devices. Design of pressure modulation devices.									
	6. Automa	 b. Automatic transmission control systems. 7. I colloquium 									
Course content	7.1 colloq	8. Hydraulic control systems									
course content	9 Electro). Electrohydraulic control systems.									
	10. Oils in	10. Oils in hydrodynamic transmissions.									
	11. Oil pu	11. Oil purification and oil cooling system in hydrodynamic transmissions.									
	12. Mode	12. Modern solutions of automatic transmissions for passenger vehicles.									
	13. Mode	13. Modern solutions of automatic transmissions for commercial vehicles and buses.									
	14. Hydro	. Hydrostatic transmissions.									
	15. Electr	ical transmissio	ns. (II collo	quium)						
Textbook (s)											
Author/s		Name of publication, publish		bublisher	sner Yea		Pages (from-to)				
Lechner G. Naunh	eimer H ·	Selection F	e transmiss Jesign and	auris – Δnnlier	runuamentals,	, 1000	1999				
Lecimer G., Naum	enner n		ISBN 3-54	7,001CC	na	, 1999	1999.				
¥		Automatic	transmissio	ons of r	notor vehicles						
Zivanović Z., Janić	ijević N.:	ISBN	86-7905-0)33-4, E	Belgrade	⁷ 1999					
Distance in the second	auh II :	Handbook	of Automo	tive En	 gineering, SAE,	/	2005				
Braess H., Seiff	ert U.:		ISBN 0-768	<u>30-0</u> 78	3-6	2005	JU5.				
			Additiona	al read	ings						
Author/s		Nar	ne of publi	cation	, editor	Year	r	Pages (from-to)			

	Assesment methods	Points	Percentage						
	Pre-exam obligations								
	attendance continued	10	10%						
	colloquium 1	30	30%						
	colloquium 2	30	30%						
Evaluation criteria	Students who pass all colloquia are exempted from the written part of the examination.								
	Final exam								
	final exam (oral)	30	30%						
	IN TOTAL	100	100%						
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf								
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj								

		UNIVERSITY OF EAST SARAJEVO Faculty of Transport and Traffic Engineering Study program: Traffic Profile:Motor Vehicles									
0.050			I cycle			I year of stu	ıdy				
Course title UNCONVENTIONAL VEHICLE DRIVES											
Department		Depart	tment of Moto	or Vehicles	, Opera	peration, Maintenance and Diagnostics of Vehicles					
	Code		Cou	Course status		Semester			ECTS credits		
САФ12СМ0	02226426	,0320									
Professor/s	Ph) Snežan	na Petković, Ful	Professor							
Associate/s	Ph) Snežan	na Petković, Ful	Petković, Full Professor							
	Weekly h	ours		Individual student hours (per semester					Student workload coefficient So		
L	TE		LE	L		TE	LE		So		
3	2		0	3*15*1,4=	63	2*15*1,4=42	0*15*1,4=0	0	1,4		
Total teac	her worklo	bad (hou	ırs, per semes	ter)		Total student	workload (h	ours	, per semester)		
3*1	5 + 2*15	+ 0*15	= 75 hours			3*15*1,4+2*	15*1,4+0*	*15 *1	1,4 = 105 hours		
	Tota	I subjec	t load (teachir	ng + studer	nt): 75 +	+ 105 = 180 ho	urs per sem	ester	r		
	1. i dev	ntroduc [.] /elopme	tion to the his ent, possible in	tory of und nplementa	convent tions a	tional motor ve nd the importa	ehicle drives ance of thes	s, rea e sol	asons for utions		
Course aims an	2. r	masterin	ig the knowled	ge of the	principl	les of operatio	n of unconv	entic	onal drives and the		
learning outcor	cor	concepts of vehicles with these drives									
icurining outcol	3. r	3. mastering the knowledge on the construction and development of components of									
	und	unconventional motor vehicle drives									
	4. a	apply the	e acquired kno	owledge in	practic	e					
Prerequisites	doe	es not ha	ave								
Teaching metho	ods Lec	tures, a	uditory exerci	ses, consul	tations						
	1. F	1. Review of performances of unconventional motor vehicle drives, history of development									
	and	and assessment of their future significance.									
	2.0	2. Comparison of different unconventional drives from the point of view of application in									
	ver	vehicles and their comparison with conventional drives.									
	5.1	3. Wankel engine.									
	4. L	4. Electric vehicle propulsion - concepts and designs.									
	5.0	5. vehicle electric drive components - electric motors and rectifiers.									
Course content	. 7.1	7. I colloquium									
	8. F	8. Fuel cells - working principle and vehicle concepts.									
	9. F	9. Fuel cells - hydrogen storage and necessary infrastructure.									
	10.	10. Hybrid drives - concepts, advantages and perspectives.									
	11.	11. Hybrid drive components.									
	12.	12. Stirling engine as a propulsion engine - theoretical foundations.									
	13.	13. Gas turbine as propulsion engine.									
	14.	Flywhe	el as propulsio	on engine.							
	15. Solar drive. (II colloquium)										
Textbook (s)											
Author/s Name of publication, publisher Year Pages (fro						Pages (from-to)					
Mitschke M., Wallentowitz H.:		tz H.:	Dynamics of	Berlin 2004.							
Bauer H.:			Motor vehic	le manual Bei	Bosch, : rlin	Springer Verla	^{g,} 1998	1998.			
Braess H.H.,	Seiffert L	J.:	Vieweg	handbook	handbook for motor vehicle 2001.						
A	orla		N1	Addition	ai read	aditor	Var		Dagas (from to)		
Auth	101/5		ivar	iland io an	ication,	, euitor	rea		Pages (from-to)		

		Assesment methods	Poi	ints	Percentage			
	Pre-exam obligations							
		attendance con	10		10%			
		colloq	uium 1	30		30%		
		colloq	uium 2	30		30%		
Evaluation criteria		Students who pass all colloquia						
	are exempted from the written part of the examination.							
	Final exam							
	final exam (oral)					30%		
	IN TOTAL			100)	100%		
Web sources	http://sf.ues.rs.ba/eng/wp-content/uploads/2024/01/Engleski-NPP-II-ciklus.pdf							
Applicable from	19.10.2023 213th session of the Academic Council, Faculty of Transport and Traffic Engineering in Doboj							