



POLYTECHNIC OF ŠIBENIK

DEPARTMENT OF TRAFFIC

PROFESSIONAL UNDERGRADUATE STUDY OF TRAFFIC

Erasmus+ Course Catalogue Academic year 2021-2022

Dean PhD Ljubo Runjić, college professor

Head of department Darijo Šego, M.Eng., s.lec.

Šibenik, April 2021

Contents

Course list	3
Full Course Curriculums	4
Graphic communications	5
Statistics in traffic	13
Traffic corridors and merchandise flows	20
Road transport technology	30
English language I	40
English language II	52
Knowledge of goods	63
Traffic in tourism	72
Modern traffic systems	83
Traffic and ecology	92
Traffic logistic	104
Transshipment resources I	115
Transshipment resources II	127
Economics of traffic	135
Operational research in traffic	144
English language II	151
English language IV	162
Theory of vehicle movement	172

Course list

Professor	Component code	Course	ECTS
Olivari Luka	129836	Graphic communication	5
Perišić Ana		Statistics in traffic	4
Šego Darijo	140771	Traffic corridors and merchandise flows	4
Ljubić Hinić Martina	201139	Technology and organization of road traffic	7
Kardum Goleš Ivana	129833	English language I	3
Kardum Goleš Ivana	140775	English language III	3
Gaćina Nikolina	187586	Knowledge of goods	4
Poljičak Ana-Mari	142664	Traffic in tourism	3
Ljubić Hinić Martina	129846	Modern traffic systems	6
Radić Lakoš Tanja	129843	Traffic and ecology	4
Šego Darijo	140773	Traffic logistic	4
Poljičak Ana-Mari	140767	Transshipment resources	6
Mečev Dijana	142541	Economics of traffic	3
Beljo Ivana	140769	Operational research in traffic	4
Kardum Goleš Ivana	187599	English language II	3
Kardum Goleš Ivana	140784	English language IV	3
Olivari Luka	142538	Theory of vehicle movement	4

Full Course Curriculums

1. GENERAL INFORMATION							
1.1. Course lecturer	Luka Olivari	1.8. Course code in ISVU	129836				
1.2. Course title	Graphic communications	1.9. Course code in MOZVAG					
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+30+0+0)				
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%				
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4				
1.6. Year of study	1 st	1.13. Modernization					
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements					
2. COURSE DESCRIP	TION						
2.1. Course objectives	Gain the knowledge and skills necessary to read, u	chnical drawings, orthogonal projections, spatial rendering and	cross sections.				
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualifica	ation level 4.2 according to the CROQF.					
2.3. Learning outcomes on the study programme level	on the study programme LO7: To apply computer tools for analysis and comparison of data, and suggest an optimal solution in traffic process						
2.4. Expected learning outcomes on the course	Learning outcomes by Bloom: (maximum 2 werbs	Level of LO: 1 - memory, 2 - understanding,					

level (4-10 learning outcomes)	3 - application 4 - analysis, 5 - evaluation, 6 - synthesis. 1. Describe the basic concepts in graphical communication 2. Draw orthogonal projections based on the given isometric view 4 3. Design an isometric representation of the body based on the given orthogonal projections 4. Distinguish the rules of technical presentation and apply them to the technical drawing. 4, 3 5. Draw a technical drawing in the AutoCAD computer program. 4						
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement					
	No	Thematic unit	LO of the course	Content/teaching methods	Evalua	ation	Time
	1.	Introductory presentation (introducing students to the content and obligations of the course). The importance of graphical communications. Short history and development of graphic communications	1	Listen to a lecture. By working independently on a computer, they become acquainted with the course content, obligations, literature and documents on the e-learning course page.	oral exam they define and explain the basic concepts. and area. At the colloquium or the written and oral exam: define and explain the basic		4 h
	2.	Technical letter, line types and widths, paper formats, scale and components of the technical drawing.	1, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical display. Independent exercise.			4 h
	3.	Fundamentals of geometric structures.	1, 2, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium oral exam: define an concepts; draw orth based on a given	d explain the basic agonal projections	4 h

4.	Technical spatial sketching and construction. Orthogonal projections. European and American display mode.	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	distinguish between the rules of the technical layout and apply them to the technical drawing; At the colloquium or the written and oral exam: define and explain the basic concepts; draw orthogonal projections based on a given isometric view; form an isometric representation of the body	4 h
5.	Display rules in technical drawings. Applying measures.	1, 2, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	based on given orthogonal projections; At the colloquium or the written and oral exam: define and explain the basic concepts; draw orthogonal projections based on a given isometric view; distinguish between the rules of the technical layout and apply them to the technical drawing;	4 h
6.	Markings on the technical drawing (marks of machining, roughness, tolerances of dimensions and shape)	1, 2, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium or the written and oral exam: define and explain the basic concepts; draw orthogonal projections based on a given isometric view; distinguish between the rules of the technical layout and apply them to the technical drawing;	4 h
7.	Cross sections and rules for screwing.	1, 2, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium or the written and oral exam: define and explain the basic concepts; draw orthogonal projections based on a given isometric view; distinguish between the rules of the technical layout and apply them to the technical drawing;	4 h

	Spatial presentation.		Listen to a lecture and read literature.	At the colloquium or the written and	
8.		1, 3, 4	The exercises demonstrate the rules of technical presentation. Independent exercise.	oral exam: define and explain the basic concepts; form an isometric representation of the body based on given orthogonal projections; distinguish between the rules of the technical view and apply them to the technical drawing.	4 h
9.	Introduction to Computer- Aided Design. CAD / CAM systems. Software packages and scope.	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium or the written and oral exam: define and explain the basic concepts; distinguish between the rules of the technical layout and apply them to the technical drawing; draw a technical drawing in an AutoCAD computer program.	4 h
10.	Special markings on technical drawings and simplifications. Details on technical drawings. AutoCAD, interface and basic commands.	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium or the written and oral exam: define and explain the basic concepts; distinguish between the rules of the technical layout and apply them to the technical drawing; draw a technical drawing in an AutoCAD computer program.	4 h
11.	AutoCAD, commands for drawing, using and creating a new layer.	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium or the written and oral exam: define and explain the basic concepts; distinguish between the rules of the technical layout and apply them to the technical drawing; draw a technical drawing in an AutoCAD computer program.	4 h
12.	AutoCAD, commands for	1, 4, 5	Listen to a lecture and read literature.	At the colloquium or the written and	4 h

	_	T		т			 			
	'	applying measures, creating a	1	The exercises demo		oral exam: define and expl				
	'	template, printing drawings.	1	of technical	presentation.	concepts; distinguish between				
	'		1	Independent exercise	e.	of the technical layout and a				
	'	1	1		'	the technical drawing; draw				
	'		1		'	drawing in an AutoCA	.D computer			
	<u> </u>		<u>L</u> '			program.				
	√ '	AutoCAD, creation and	, 1	Listen to a lecture ar		At the colloquium or the				
	'	manipulation of objects.	1	The exercises demo	onstrate the rules	oral exam: define and expl				
	'		1	of technical	presentation.	concepts; distinguish between	een the rules			
	13.		1, 4, 5	Independent exercise	e.	of the technical layout and a	11 5	4 h		
	'		1		!	the technical drawing; draw	w a technical			
	'	1	1		'	drawing in an AutoCA	D computer			
	/'	!	1'			program.				
	<u> </u>	AutoCAD, self-made	1 ,	Listen to a lecture ar		At the colloquium or the				
	'	workshop drawing.	1	The exercises demo	onstrate the rules	oral exam: define and expl				
	'		1	of technical	presentation.	concepts; distinguish between				
	14.		1, 4, 5	Independent exercise	e.	of the technical layout and a	apply them to	4 h		
	'		1		!	the technical drawing; draw	w a technical			
	'	1	1		'	drawing in an AutoCA	D computer			
	/ <u>'</u>	!	1'			program.				
	<u> </u>	Final consideration, repetition	1	Listen to a lecture ar	nd read literature.	-				
	15.	and preparation for the exam.	1 -	They prepare indiv	vidually for the		,	4 h		
	'	and preparation for the exam.	1	exam.	!					
3. EVALUATION OF	3. EVALUATION OF STUDENT WORK									
	In ac	ccordance with the Rulebook on St	tudy and the	Rulebook on Assess	ment and Evaluation	on of Student Performance: F	Full-time students	ts are		
2.1 Student obligations	requi	ired to attend classes at least 70%,	, which is als	so a requirement for o	btaining the lectur	er's signature. Students can t	take the final exa	ım in		
3.1. Student obligations	the c	course in two ways: a) during the	course, by t	aking colloquiums ar	id oral part of the	exam; b) passing the written	n and oral part of	of the		
	exam.									
3.2. Student work	Atter	nding classes 2	,	Written exam	2 (without	Project				
monitoring (enter the			!	'	colloquiums)					

share of ECTS credits for	Experimental work		Research			Practical work		
each activity so that the	Essay		Report			Continuous check		
total number of ECTS	Colloquiums	2 (without written	Seminar paper			Field works or		
credits corresponds to the		exam)				Study trips		
course credit value)	Teaching activities		The oral part of	1		(other)		
			exam					
	Student workload on all b	ases is 1 ECTS credit f	For 30 hours of work po	er sem	nester and is estim	nated as going to fieldw	vork or study trips (30	
	hours), preparation of sem	inar work and presentat	ion (30 hours).					
	Obligation				Hours (estimated)			
3.3. Student work-load	Attending classes	3			60			
	2. Colloquiums and written exam individual preparation (drawing)				30			
	3. Colloquiums and	written exam individua	al preparation (AutoCA	D)	30			
	4. Oral exam indivi	dual preparation			30			

4. FORMATION OF STUDENT GRADE

	Elements of evaluation	Bad	Satisfying	Above average
	Technical drawing	Drawing incomplete, imprecise and	Drawing neatly crafted with a small	Drawing very neatly made without
		sloppy. Made on inadequate paper	number of imprecise errors, a clear	errors.
		size.	distinction between types of lines.	
	Distinguish and apply	Does not know the rules, does not	Knows most of the rules of the	Knows the rules of the technical
4.1. Evaluation of white	the rules of technical	apply or misapplies the elements of	technical view, correctly applies the	view, and correctly applies the
4.1. Evaluation of written	drawing	the technical representation.	basic, and with minor mistakes, the	elements of the technical view.
exam			other elements of the technical view.	
	AutoCAD computer	Does not knows interface or basic	Knows basic and some advanced	Knows basic and advanced
	program	commands. It is not capable of	commands in a computer program,	commands in a computer program,
		drawing in a computer program.	uses them with minor errors. He is	uses them without errors. Able to
			able to create a technical drawing in	fully draw a technical drawing in a
			a computer program with a little help	computer program.
			and suggestions.	

4.2. Evaluation of oral exam	Knowledge and expression.	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		It reproduces the without difficult knowledge, under explains the total supports them with the expert terminates.	ulty imparts erstands the merms and countries ith examples.	new aterial, oncepts	analysis, Observes laws, ac explains t and logic the terms them v solutions given. It related	ge is at the level of synthesis and evaluation. the principles of physical curately and thoroughly the content of the material, ally connects and explains and concepts and supports with examples. Finds that were not originally notes correlations with material. Fluent in mal terminology.
4.3. Forming the final grade according to the evaluation elements	Colloquiums/ Written exam Colloquiums/ AutoCAD The oral part of exem	2 10-12 points 2		3 13-15 points 3 13-15 points 3	16-3	4 17 point 4 17 point 4	s	5 18-20 points 5 18-20 points 5 18-20 points
4.4. Formation of the final grade based on the absolute distribution	Percentage of acquired knowledge, skills and competencies (teaching + final exam) $90 - 100\%$ $80 - 89,9\%$ $65 - 79,9\%$ $60 - 64,9\%$			Numerical grade 5 (excellent) 4 (very good) 3 (good)		, point		CTS grade A B C
		59,9%		2 (sufficient) 2 (sufficient)			D E	

5. ADDITIONAL INFOR	MATION ABOUT COURSE						
5.1. Compulsory literature (available in the library	Title	Number of copies in the library	Availability via other media				
and via other media)	 Koludrović, Ć.: Tehničko crtanje u slici s kompjuterskim aplikacijama, Rijeka, 2009. George Omura: Osnove programa AutoCAD 2008, MIŠ d.o.o. Zagreb, 2007. 	-	City library City library				
5.2. Additional literature (at the moment of changes and/or amended of study programme)	 Teaching materials from the lectures and exercises on the e-learning system of the Polytechnic for the course Opalić, M., Kljajin, M., Sebastijanović, S.: Tehničko crtanje, Zrinski d.d., Čakovec/Slavonski Brod, 2007. Klem N., Koški Ž., Otković I.: Tehničko crtanje i CAD, Građevinski fakultet Sveučilišta u Osijeku, Osijek 2006. Galeta T., Glazina V., Kljajin M.: AutoCAD Osnove za tehničko crtanje, Strojarski fakultet u Slavonskom brodu Sveučilišta u Osijeku, Slavonski brod 2005. Herold Z.: Računalna i inženjerska grafika, Fakultet strojarstva i brodogradnje Sveučilišta u Zagrebu, Zagreb 2003. Budimir D.: Vježbe iz AutoCAD-a, Fakultet prometnih znanosti Sveučilišta u Zagrebu, Zagreb 2010. 	-	on-line (e-learning) On-line On-line				
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.						
5.4. Informing about the course and contacting the course lecturer	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).						

1. GENERAL INFORMATION							
I. GENERAL INFORM	MITON						
1.1. Course lecturer	Ana Perišić	1.8. Course code in ISVU	129845				
1.2. Course title	Statistics in traffic	1.9. Course code in MOZVAG					
1.3. Assistants and/or associates		1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)				
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%				
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions 4					
1.6. Year of study	2 nd	1.13. Modernization	Yes				
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □				
2. COURSE DESCRIPTION	ON						
2.1. Course objectives	The goal is to provide students with the the results.	coretical knowledge and practical skills needed for performing	ng statistical analysis and interpretation of				
2.2. Terms of course entry and required competences	4 year secondary education completed; of	qualification level 4.2 according to the CROQF.					
2.3. Learning outcomes	LO4: To apply knowledge from the field	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.					
on the study programme	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.						
level	LO8: To solve problems in traffic by using analytical and / or graphical methods.						
2.4. Expected learning outcomes on the course level	Learning outcomes accroding to the Bloom's taxonomy: (up to two verbs per LO) Learning outcomes accroding to the Bloom's taxonomy: (up to two verbs per LO) Learning outcomes accroding to the Bloom's taxonomy: (up to two verbs per LO) 3- application, 4-analysis, 5-evaluation,						

						6-synthesi.	S			
		To define fundamental concepts lescriptive statistics.	of descri	iptive statistics and interpret indi	cator values from the field of	1,2				
		*		sures of central tendency and dispe-	1	3, 4				
				asic problems in the field of combin	atorics and probability theory.	1,4				
		To select and apply probability mo		•		5,3				
		To state the statistical hypothesis as				6,4				
				is and derive conclusions on variab	_	4				
	7.	To apply descriptive and inferentia	l statistica	l methods in transport problems so	ving.	4				
Constructive allignement										
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time			
	1.	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations and.	-		1 h			
2.5. Course content according to detailed curriculum schedule		Introduction to combinatorics	3, 7	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of combinatorics through colloquia or written/oral exams. Students will apply probability theory in transport problems solving.		8 h			
	2. Introduction to combinatorics		3, 7	Attending lectures. Actively involving students through problem solving and discussion. Students will define basic concepts and basic problems from the field combinatorics through colloquia written/oral exams. Students will probability theory in transport probability theory in transport probability.		field of loquia or will apply	11 h			

	3.	Introduction to probability theory.	3,7	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will apply probability theory in transport problems solving.	8 h
	4.	Introduction to probability theory. A priori probability, a posteriori probability, geometric probability	3,4,7,	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will apply probability theory in transport problems solving.	8 h
	5.	Random variable, distributions, expectation, variance.	3,4,7	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will select and apply probability models for different stochastic phenomena. Students will apply probability theory in transport problems solving.	8 h
	6.	Discrete random variable, binomial distribution, Poisson distribution.	3,4	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will select and apply probability models for different stochastic phenomena.	8 h
	7.	Continuous random variables. Normal distribution.	3,4,7	Attending lectures. Actively involving students through problem solving and discussion. Group problem solving and discussion. Exam preparation.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will select and apply probability models for different stochastic phenomena. Students will apply probability theory in transport problems solving.	11 h

8.	Descriptive statistics.	1,2,7	Attending lectures. Actively involving students through problem solving and discussion.	Students will define fundamental concepts of descriptive statistics and interpret indicator values from the field of descriptive statistics; will calculate and interpret values for the measures of central tendency and dispersion parameters through colloquia or written/oral exams. Students will apply methods of descriptive statistics in transport problems solving.	8 h
9.	Measures of central tendency, dispersion parameters.	1,2,7	Attending lectures. Actively involving students through problem solving and discussion.	Students will define fundamental concepts of descriptive statistics and interpret indicator values from the field of descriptive statistics; will calculate and interpret values for the measures of central tendency and dispersion parameters through colloquia or written/oral exams. Students will apply descriptive statistic methods for solving transport problems.	8 h
10.	Standardized values. Outliers. Data distribution.	Attending lectures. Actively involving students through problem solving and discussion. Group problem solving and discussion. Exam preparation. Students will define fundamental concepts of descriptive statistics and interpret indicator values from the field of descriptive statistics will calculate and interpret values for the measures of central tendency and dispersion parameters through colloquia or written/ora exams. Students will apply descriptive statistic methods for solving transport problems	11 h		
11.	Hypothesis testing. Chi-square test.	5,7	Attending lectures. Actively involving students through problem solving and discussion.	Students will state the statistical hypothesis and conduct a chi-square test through colloquia or written/oral exams. Students will	11 h

							apply statistical methods for solving problems	ng transport		
	12.	Correlation a	nd regression.	6,7	involving stu	tures. Actively idents through g and discussion.	Students will conduct correl regression analysis and derive con variable relationship through co written/oral exams. Students statistical methods for solving problems	nclusions on olloquia or will apply	11 h	
	13.	Final conclus	sions. Exam		Group problem discussion. Exa	n solving and m preparation.			5 h	
3. EVALUATION OF STUDENTS' WORK										
3.1. Students' obligations	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend classes at least 50%. All students are required to carry calculator and formulae list. Students who have during the course achieved: • from 0 - 24,9% ECTS credits- are rated F (unsuccessful) and cannot obtain ECTS credits, and must re-enroll in the next academic year; • from 25 - 49,9% - are assessed by FX (insufficient) and must pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; • more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and through three colloquia); b) by passing the exam (written and oral part of the exam).									
3.2. Monitoring student work (enter the share of	Attend	lance	0.2	Writ	ten exam	3 (without colloquia)	Project			
ECTS credits for each	Experi	imental work		Rese	arch		Practical work			
activity so that the total number of ECTS points	Essay			Repo	ort		Continuous examination	0.1		
corresponds to the credit	Colloc	uium —	3 (without written	Semi	inar paper		Other			

score of the course)		exam)							
	Class activity	0.2	Oral e	xam	0.5	Otl	her		
3.3. Student workload 4. GRADING SYSTEM		n all bases for 1 EC lasses and exercise olloquia or exams t	s 45 hours			stimated as:			
4. GRADING SISIEM									
4.1. Grading seminar papers									
	Unsatis	factory		Satisfactory			Abo	ve average	
4.2. Grading colloquia/ written and oral exam	Responds by me deeper understan know or apply concepts. Does n apply or explain the course with examp	ding. Does not basic terms and ot know how to ne contents of the	ithout a oes not ms and how to ts of the material, explains the terms and concepts and evaluation. Obstantial throughly explains the terms and concepts supported with examples.				ge is at the level of analysis, synthesis and in. Observes the principles, accurately and by explains the content of the material, and connects and explains the terms and concepts I with examples. Finds solutions that were not given. Notes correlations with related material.		
4.3. Final grade according to evaluation elements	Final grade is deterr	nined on the oral e	xam after suc	ccessfuly passin	g the colloquia	ot written ex	am.		
	_	quired knowledge, s (teaching + final o		Nun	nerical grade			ECTS gra	de
4.3. Final grade according		90 – 100%		5	(excellent)			A	
to absolute division		80 - 89,9%		4 (very good)			В	
to absolute division		65 – 79,9%			3 (good)			С	
		60 – 64,9%		`	satisfactory)	D			
		50 – 59,9%		2 (s	satisfactory)			Е	
5. ADDITIONAL COURS	E INFORMATION								
5.1. Compulsory literature (available in the library			Titl	e				mber of les in the	Availability via other media

and via other media)		library						
	Kovač Striko E., Fratović T., Ivanković B., Vjerojatnost i statistika, Udžbenici Sveučilišta u	1	Ne					
	Zagrebu, Zagreb 2008.							
	Šošić I., Serdar V., Uvod u statistiku, Školska knjiga, Zagreb, 2002.		Ne					
	Šošić I., Primijenjena statistika, Školska knjiga, Zagreb, 2004.	12	Ne					
5.2. Additional literature	Azcel A. Sounderpandian J., Complete Business Statistics, McGraw Hill, 2009.	1	Ne					
	Zenzerović Z., Statistički priručnik, Sveučilište u Rijeci, Pomorski fakultet u Rijeci,	-	Ne					
(at the moment of changes	Rijeka, 2004.	5	Ne					
and/or amended of study	Čižmešija M., Kurnoga Živadinović N., Zbirka riješenih zadataka iz osnova statistike,	2	Ne					
programme)	Mirorad d.o.o., Zagreb,2006	_	Da					
	Patrick R. McMullen, Poslovna statistika za stručne studije [prijevod Devčić,K., Perišić,A.],		Da					
	Veleučilište u Šibeniku, 2017 Nastavni materijali na e-learningu							
	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By							
5.3. Quality assurance	keeping track of attendance and student activity during classes and provided information on students	s` progress through	short colloquiums and					
methods that ensure the	homework, information for further guidance to students will be provided in order to increase the	efficiency of their	work. Students will be					
acquisition of knowledge,	informed about their rights and obligations as well as the methods of work and the required literature	re. Indicators of qua	ality assurance system:					
skills and competences	Student survey, monitoring of annual data from the Croatian employment service on the annual st	ate of student emp	loyment, surveys from					
	employers and Alumni association.	_						
	It is the responsibility of each student to be regularly informed about the course, the coursework, a	nd the classroom ac	ctivities. All notices of					
5.4. Informing about the	classes or possible adjournment will be published in a timely manner on the e-learning site of the cou	arse and on the web	site of the Polytechnic.					
course and contacting the	Students can contact teachers during the consultation period (at least one hour per week), while for sh	ort questions and ex	xplanations they can be					
teacher	contacted during class. It is also possible to ask questions by e-mail (from the official e-mail addres	s at @ vus.hr), whi	ch will be answered as					
	soon as possible (no later than five working days after receiving the e-mail).							

4. GENERAL INFORM	MATION		
4.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	140771
4.2. Course title	Traffic corridors and merchandise flows	1.9. Course code in MOZVAG	
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing + Practical	(30+0+30+0)
associates		exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level),	1 st , course materials are
(specialist, undergraduate,		percentage of on line course performance (max. 20%)	on-line, 0%
graduate)			
1.5. Course status	Obligatory	1.12. Number of course revisions	4
(obligatory, optional)			
1.6. Year of study	2 nd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or	Less than 20% X
		supplements	More than 20 % □
5. COURSE DESCRIP	TION		
2.1. Course objectives	The goal is that students on the basis of theoretical k	nowledge and case studies:	
	 become familiar with the creation and devel 	opment of all transport modes,	
	 analyze and comment of commodity exchan 	ge (trade) in the World and Croatia,	
	 distinguish the main transport corridors in E 	urope and Croatia.	
2.2. Terms of course entry	Enrolled 2 nd academic year, 4 year secondary educat	ion completed; qualification level 4.2 according to the CROQF	· .
and required competences			
2.3. Learning outcomes	LO1: Use and link professional terms in road traff	c technology and organization in written and oral communic	ation with the professional
on the study programme	public in Croatian and English.		
level	LO2: Organize and conduct teamwork, and critically	evaluate the opinions and attitudes of team stakeholders.	
	LO3: Independently and responsibly search, interpre	t and integrate relevant literature for decision making.	
	LO6: Analyze and present relevant facts from the tra	ffic area required to reach conclusions.	
	LO10: Compare and select technical and technologic		
	LO12: Design a smaller transport process and critical	lly evaluate it.	
	Learning outcomes by Bloom: (maximum 2 werbs	for LO)	Level of LO:
2.4. Expected learning			1 - memory,
			2 - understanding,

level (4-10 learning						3 - application,	
outcomes)						4 - analysis,	
						5 - evaluation,	
						6 – synthesis.	
	1. Pre	esent and comment on the historical d	levelopme	nt of the traffic branches.		6, 3	
	2. Lis	st and explain the main factors for the	creation a	and development of commodity flows.		1, 2	
	3. An	alyze and evaluate world trade in goo		4, 5			
	4. Pre	esent and comment on the traffic com	nection of	the Republic of Croatia.		6, 4	
	5. Lis	st and compare major transport corrid	ors in Eur	ope and the Republic of Croatia.		1, 2	
	6. Co	-	of the Ma	rco Polo Program and the current White Paper	EU about	4	
	7. Us	e materials and tools to search scienti	3				
	8. Pre	esent the acquired knowledge, ideas,	problems,	and solutions independently and in a team.		6	
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement					
	No	Thematic unit	LO of	Content/teaching methods	Eva	luation	Time
			the				
			course				
	1.	Introductory presentation		Listening to the lecture. In the course of			
		(introducing students to the course		seminars, they are introduced to the course			
		content and obligations)	-	content and documents on the e-learning		-	2 h
				page of the course by working			
				independently on a computer.			
	2.	Geo-traffic factors of formation		They listen to a lecture and read literature.	•	ium or the written	
		and location of commodity flows		At the seminar class, they individually		m students know	
		(General geo-traffic factors,	2, 7, 8	explore the content of this topic area by		ne, numerate and	6 h
		natural predispositions, socio-	, , -	searching the database, and on the basis of	•	e main factors for	
		economic factors)		it and reading the literature, create a		and development	
				seminar paper that presents the acquired	or commodity	y flows (general,	1

			knowledge and presents their own ideas,	natural and socio-economic	
			and ways to solve problems. In group work	factors). Identify abbreviations	
			at the seminar class, the brainstorming	of economic groups of the	
			method and the discussion method on the	world. Seminar paper created	
			topic are applied.	and presented (by computer	
				programs).	
3.	The development of transport of	n	They listen to a lecture and read literature.	At the colloquium or written and	
	land (development of road, rai	l,	At the seminar class, they individually	oral exam students know to	
	and pipeline transport)		explore the content of this topic area by	present and comment on the	
			searching the database, and on the basis of	historical development of	
		1 2 7	it and reading the literature, create a	transport on land. Analyze and	
		1, 3, 7,	seminar paper that presents the acquired	evaluate the merchandise trade	6 h
		8	knowledge and presents their own ideas,	in land traffic, in the world.	
			and ways to solve problems. In group work	Seminar paper created and	
			at the seminar class, the brainstorming	presented (by computer	
			method and the discussion method on the	programs).	
			topic are applied.		
4.	The development of transport of	n	They listen to a lecture and read literature.	At the colloquium or the written	
	the water (history, World an	d	At the seminar class, they individually	and oral exam students know	
	European ports, shipping route	5,	explore the content of this topic area by	how to present and comment on	
	ships for freight)		searching the database, and on the basis of	the historical development of	
			it and reading the literature, create a	water traffic, the development of	
		1, 3, 7,	seminar paper that presents the acquired	seaports. Analyze and evaluate	6.1
		8	knowledge and presents their own ideas,	the merchandise of trade in the	6 h
			and ways to solve problems. In group work	world's water transport.	
			at the seminar class, the brainstorming	Categorize seaports, regions,	
			method and the discussion method on the	and routes. Seminar paper	
			topic are applied.	created and presented (by	
				computer programs).	
5.	The development of transport of	n 1, 3, 7,	They use multimedia and network. They	At the colloquium or written and	<i>(</i>).
	the water (video films)	8	listen to a lecture and read literature. At the	oral exam students know present	6 h
	•	•	•		

			seminar class, they individually explore the	seaports in the world. Identify	
			content of this topic area by searching the	and distinguish terminals at the	
			database, and on the basis of it and reading	seaport. Analyze and evaluate	
			the literature, create a seminar paper that	the cargo traffic of the seaport.	
			presents the acquired knowledge and	Categorize seaports, ships,	
			presents their own ideas, and ways to solve	regions, and routes. Seminar	
			problems. In group work at the seminar	paper created and presented (by	
			class, the brainstorming method and the	computer programs).	
			discussion method on the topic are applied.		
6.	The development of traffic in the		They listen to a lecture and read literature.	At the colloquium or written and	
	air (types of aircraft, aircraft		At the seminar class, they individually	oral exam students know to	
	manufacturers, airlines, airports		explore the content of this topic area by	present and comment on the	
	and routes)		searching the database, and on the basis of	historical development of traffic	
			it and reading the literature, create a	in the air. Analyze and evaluate	
		1, 3, 7,	seminar paper that presents the acquired	the merchandise in air traffic in	6 h
		8	knowledge and presents their own ideas,	the world. Categorize airports	
			and ways to solve problems. In group work	and airlines. Seminar paper	
			at the seminar class, the brainstorming	created and presented (by	
			method and the discussion method on the	computer programs).	
			topic are applied.		
7.	The development of traffic in the		They use multimedia and network. They	At the colloquium or written and	6 h
	air (video film)		listen to a lecture and read literature. At the	oral exam students know the	
			seminar class, they individually explore the	present airport in the world.	
			content of this topic area by searching the	Identify and distinguish the	
		1 2 5	database, and on the basis of it and reading	types and capacity of aircraft for	
		1, 3, 7,	the literature, create a seminar paper that	passenger and cargo	
		8	presents the acquired knowledge and	transportation. Analyze and	
			presents their own ideas, and ways to solve	evaluate continental air routes.	
			problems. In group work at the seminar	Seminar paper created and	
			class, the brainstorming method and the	presented (by computer	
			discussion method on the topic are applied.	programs).	
			1 11	/	

0	Turnensat comidens in Francis		There listen to a lastern and mad literature	A 4 41 11i	<i>(</i>).
8.	Transport corridors in Europe		They listen to a lecture and read literature.	At the colloquium or written and	6 h
	(Trans-European transport		At the seminar class, they individually	oral exam students know state	
	network, transport corridors in		explore the content of this topic area by	and compare the main transport	
	Western and Northern Europe,		searching the database, and on the basis of	corridors in all parts of Europe	
	Pan-European transport corridors,		it and reading the literature, create a	and all branches of transport.	
	pipeline corridors, inland	5, 7, 8	seminar paper that presents the acquired	Define the term of traffic	
	waterways)		knowledge and presents their own ideas,	corridor. List the countries	
			and ways to solve problems. In group work	through which each transport	
			at the seminar class, the brainstorming	corridor passes. Seminar paper	
			method and the discussion method on the	created and presented (by	
			topic are applied.	computer programs).	
9.	Transport corridors in the		They listen to a lecture and read literature.	At the colloquium or the written	6 h
	Republic of Croatia (Geographical		At the seminar class, they individually	and oral exam, students can	
	location, traffic directions, traffic		explore the content of this topic area by	identify and compare major	
	corridors in the road, rail, air,		searching the database, and on the basis of	traffic corridors in Europe and	
	water, and pipeline transport)		it and reading the literature, create a	the Republic of Croatia. Present,	
		4, 5, 7,	seminar paper that presents the acquired	critically evaluate the traffic	
		8	knowledge and presents their own ideas,	connection of the Republic of	
			and ways to solve problems. In group work	Croatia in the road, rail, air,	
			at the seminar class, the brainstorming	pipeline and inland waterway	
			method and the discussion method on the	transport. Seminar paper created	
			topic are applied.	and presented (by computer	
				programs).	
10.	Merchandise and traffic flows in		They listen to a lecture and read literature.	At the colloquium or the written	6 h
	the modern world (Concept and		At the seminar class, they individually	and oral exam, students know	
	characteristics of traffic flow,		explore the content of this topic area by	how to define the concept of	
	commodity flows of food, raw		searching the database, and on the basis of	goods traffic. Categorize,	
	materials, and industrial products)	3, 7, 8	it and reading the literature, create a	analyze and evaluate the world	
			seminar paper that presents the acquired	trade of food, raw materials, and	
			knowledge and presents their own ideas,	industrial products. List the	
			and ways to solve problems. In group work	countries with the largest	
			"\ Forems m Stock work		

					1
			at the seminar class, the brainstorming	importers and exporters of all	
			method and the discussion method on the	types of goods. Seminar paper	
			topic are applied.	created and presented (by	
				computer programs).	
11.	Merchandise and traffic flows of		They listen to a lecture and read literature.	At the colloquium or the written	6 h
	the Republic of Croatia (import		At the seminar class, they individually	and oral exam students know	
	and export of products,		explore the content of this topic area by	how to analyze and evaluate the	
	merchandise and traffic flows of		searching the database, and on the basis of	trade of products in the Republic	
	the Republic of Croatia in land,		it and reading the literature, create a	of Croatia. List the products that	
	water, and air)		seminar paper that presents the acquired	the Republic of Croatia	
		3, 4, 7,	knowledge and presents their own ideas,	imports/exports the most.	
		8	and ways to solve problems. In group work	Present, critically evaluate and	
			at the seminar class, the brainstorming	comment on the traffic	
			method and the discussion method on the	connection of the Republic of	
			topic are applied.	Croatia in all branches of traffic.	
				Seminar paper created and	
				presented (by computer	
				programs).	
12.	Marco Polo Program (program		They use multimedia and network. They	At the colloquium or the written	4 h
	objective, program activities,		listen to a lecture and read literature. At the	and oral exam, students can	
	program projects)		seminar class, they individually explore the	define the goal and strategy of	
			content of this topic area by searching the	the Marco Polo program.	
			database, and on the basis of it and reading	Distinguish activities Marco	
		6, 7, 8	the literature, create a seminar paper that	Polo. Critically evaluate the	
		0, 1, 0	presents the acquired knowledge and	professional video films	
			presents their own ideas, and ways to solve	program.Seminar paper created	
			problems. In group work at the seminar	and presented (by computer	
			class, the brainstorming method and the	programs).	
			discussion method on the topic are applied.	programs).	
13.	European Union White Paper on		They listen to a lecture and read literature.	At the colloquium or written and	
13.	Transport (White Paper titles, key	6, 7, 8	At the seminar class, they individually	oral exam, students define	6 h
	Transport (writte raper titles, key		At the seminal class, they individually	oral exam, students define	

	content areas, preparing the European transport area for the future, visions for developing a competitive and sustainable transport system, strategy - what needs to be done)		explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method and the discussion method on the	current EU White Paper on transport. Comment on EU professional projects in the field of transport. Seminar paper created and presented (by	
14.	Study visit to the port of Rijeka	3, 4, 5	topic are applied.	During the study visit, students will be able to analyze and evaluate the exchange of products through seaports in the Republic of Croatia. To present and comment on the traffic connection of the Republic of Croatia in road and rail transport. List and compare major transport corridors in Europe and the Republic of	8 h
15.	Final considerations/Repeating and preparing for the exam.	-	They listen to a course lecture and prepare individuals for the exam.	Croatia.	40 h

6. EVALUATION OF STUDENT WORK

3.1. Student obligations

In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar papers. Students who have achieved during the course: from 0 - 24,9% ECTS credits- are rated F (unsuccessful) and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of

	students (active participa	ation in classes and through tv	vo exams); b) passing the	exam (written and or	ral part of the exam).			
3.2. Student work monitoring (enter the	Attending classes	1	Written exam	1 (without colloqiums)	Project			
share of ECTS credits for	Experimental work		Research		Practical work			
each activity so that the	Esaay		Report		Continuous check			
total number of ECTS credits corresponds to the	Colloquiums	1 (without written part of exam)	Seminar paper	0,5	(other)			
course credit value)	Teaching activities	1	The oral part of exam	0,5	(other)			
3.3. Student work-load	Student workload on all bases is 1 ECTS credit for 30 semester hours and is assessed as attendance (60 hours), preparation of seminar work and presentation (16 hours), preparation for the midterm/exam through self-study (44 hours).							
4. FORMATION OF STU 4.1. Evaluation of seminar	Elements of	Bad	Caticfy	·in a	Abovo	avawa.ga		
paper	evaluation	Dau	Satisfy	ang	Above	average		
	Organization	The paper is not organized			The paper is well st	ructured with a clear		
		in a logical order and lacks		*		the introduction, the		
		structure.	main body of the text a	nd the conclusion.	main body of conclusion, which			
					interconnected.	Ş ,		
	Terminolog, writing	Words and expressions are	_		interconnected.	ons are aligned with		
	Terminolog, writing style	Words and expressions are not in line with official	official terminology.	The writing style is	interconnected. Words and expressi official terminolog	ons are aligned with		
		not in line with official terminology. The writing	official terminology. Tappropriate, the sentence	The writing style is ce structure is clear,	interconnected. Words and expressi official terminolog understanding of	ons are aligned with gy and show an their meaning. The		
		not in line with official	official terminology. Tappropriate, the sentence the vocabulary is appropriate.	The writing style is ce structure is clear, opriate and there are	interconnected. Words and expression official terminologunderstanding of writing style is exception.	ons are aligned with		

The sources are listed but incomplete and

with errors. The references are relevant to

the topic and show a satisfactory research

The sources are accurately, completely

and consistently listed. The references

are appropriate, their list is "rich" and

with frequent and repeated

The sources are not listed at

all. The references do not

fit the topic and show a

grammatical errors.

Citing and referencing

references

		cursory approach to	attitude.		comprehensive a	and shows a detailed
		exploring the topic.			research approach	1.
4.2. Gradeing of the		Bad	Satisfying	3	Abov	ve average
colloquium/written and oral exam	understanding. It does n	mory, without a deeper of know or apply basic terms not know how to apply or ne course with examples.	It reproduces the basic without difficulty imparts understands the materia terms and concepts that examples.	new knowledge, il, explains the	synthesis, and evalegality, accurate explains the control logically connecterms and conceptexamples. Finds	the level of analysis, aluation. It observes the tely and thoroughly ent of the material, and ets and explains the ots that it supports with solutions that were not It notes correlations rial.
4.3. Forming the final grade according to the	Active attendance on class	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created, Case studies resolved
evaluation elements		2 points	4 points	7 p	oints	3 points
	Seminar paper	2	3		4	5
		5 points	7 points	8 points		10 points
	C 11 ' /	2	3	4		5
	Colloquiums/ Written part of exam	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%
	written part of exam	25 points	30 points	35 1	points	40 points
	Oral most of avers	2	3		5	5
	Oral part of exam	25 points	30 points	35 1	points	40 points
4.4. Formation of the final grade based on the		red knowledge, skills and eaching + final exam)	Numerical gr	rade	EC	TS grade
absolute distribution	90	- 100%	5 (excellen	t)		A
	80	- 89,9%	4 (very goo	d)		В
	65	- 79,9%	3 (good)			С

	60 – 64,9% 2 (sufficient)			D
	50 – 59,9%	2 (sufficient)		E
5. ADDITIONAL INFOR	MATION ABOUT COURSE			
5.1. Compulsory literature	Title		Number of copies in	Availability via
(available in the library			the library	other media
and via other media)	Sego Darijo: Traffic corridors and merchandise flows, S	Script for internal use, Polytechnic		e-learning system
	of Sibenik, Sibenik 2016.			
	Strategy for Transport Development of the Republic of	Croatia for the Period 2014-2030.		Internet website
	(selected chapters)			
	World trade organization http://www.wto.org/ (selected	chapters)	-	Internet website
	Transport in EU http://ec.europa.eu/transport/index_en.h	ntm(selected chapters)	-	Internet website
	Central Bureau of Statistics of the Republic of Croatia h	ttps://www.dzs.hr/		Internet website
5.2. Additional literature	Teaching materials from lectures and seminars on	the e-Learning system of the	-	e-learning system
(at the moment of	Polytechnic of Sibenik for the mentioned course.			
changes and/or amended	International trade statistics https://www.trademap.org/International trade statistics	ndex.aspx		Internet website
of study programme)	UN agency for food http://www.fao.org/home/en/			Internet website
5.3. Quality assurance	The control of students' work quality and the acquisition	•	_	*
methods that ensure the	keeping track of attendance and student activity during of	classes and provided information on	students' progress through	short colloquiums and
acquisition of knowledge,	homework, information for further guidance to students	s will be provided in order to increa	ase the efficiency of their v	work. Students will be
skills and competences	informed about their rights and obligations as well as the	e methods of work and the required	literature. Indicators of qua	ality assurance system:
	Student survey, monitoring of annual data from the Cro	oatian employment service on the ar	nnual state of student empl	loyment, surveys from
	employers and Alumni association.			
5.4. Informing about the	It is the responsibility of each student to be regularly:	informed about the course, the cour	rsework, and classroom ac	tivities. All notices of
course and contacting the	classes or possible adjournment will be published in	a timely manner on the e-learning	g site of the course and	on the website of the
course lecturer	Polytechnic. Students can contact teachers during the	consultation period (at least one	hour per week), while fo	r short questions and
	explanations they can be contacted during class. It is also	o possible to ask questions by e-mai	l (from the official e-mail a	nddress name@vus.hr),
	which will be answered as soon as possible (no later than	n five working days after receiving the	he e-mail).	

1. GENERAL INFORMA	1. GENERAL INFORMATION							
1.1. Course title	Road transport technology	1.8. Course code at ISVU	187604					
1.2. Course lecturer	Martina Ljubić Hinić	1.9. Course code at MOZVAG						
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(45L+30P)					
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of Traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1st					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.					
1.6. Year of study	3 rd	1.13. Modernization	X Yes □ No					
1.7. Credit point (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □					

2. COURSE DESCRIPT	ION
	The aim is to provide students with theoretical knowledge and case studies to:
	• define elements of road transport technology;
	• get to know the elements of road transport technology and their interdependence in planning the transport process;
2.1. Course objectives	• understand the technical and technological characteristics of the elements;
2.1. Course objectives	• adopt a critical way of concluding in organizing the modern transportation process;
	• learn and learn the basic principles of road transport technology and organization and the ability to adapt the characteristics of transport
	requirements to market demands;
	• apply the learned content of this course in business practice.
2.2. Terms of course	
entry and required	Four-year secondary education completed; qualification level 4.2 according to the HKO.
competences	
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public
on the study programme	in Croatian and English.

level	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.						
	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.						
	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.						
	LO5: Apply basic legal and economic principles in an organization with CSR in technical and technological entities.						
	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.						
	LO8: Solve traffic problems using analytical and / or graphical methods.						
	LO9: Assess and organize processes in the field of road transport and / or transport logistics.						
	LO12: Design a smaller transport process and critically evaluate it.						
	LO13: Follow trends in technology, technology and traffic safety.						
	Learning outcomes according to Bloom's taxonomy:						
2.4. Expected learning	1. to demonstrate knowledge and understanding of course content by defining and describing the basic principles of road transport technology and organization 1,						
outcomes on the course	2. to enumerate and explain the elements of road transport technology 1, 2						
level	3. to distinguish and evaluate the technical and technological characteristics of the elements of road transport technology 3, 6						
	4. to analyze and compare the characteristics of transportation requirements 4, 2						
	5. to create a transport process, calculate fleet coefficients and indicators and recommend an optimal solution 5, 3, 6						
	6. to use materials and tools to search scientific and professional literature in their native and English languages 3 7. to present the acquired knowledge, ideas, problems and solutions independently and in a team 6						

	Cons	Constructive allignement								
2.5. Course content according to detailed	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time				
curriculum schedule	14.	Introduction into the course and detailed plan.	ı	They listen to a lecture. During the individual work on the computer, they are introduced to the course		1 h				

			content and documents on the e-		
			learning page of the course.		
	Elements of the transport system. Substrate.	1, 2, 3, 6, 7	Listen to lectures and read literature.	In colloquium or the written and oral exam they define the elements of the transport system, describe and define the theory and types of the system, and list the different types of substrates and describe the characteristics of the substrate important for handling and management in the traffic process.	4 h
15.	Transport devices.	1, 2, 3, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or the written and oral exam they define the transport devices, and state and describe their technical and technological features that are important for the optimal transport process.	5 h
16.	Manipulation devices.	1, 2, 3, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define, enumerate and describe manipulation means, and analyze and conclude which manipulation means to choose in relation to the characteristics of the transport process.	5 h
17.	Occurrence and development of road vehicles. Road freight vehicles.	1, 2, 3, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by	In colloquium or written and oral exams they indicate the historical development of road vehicles, and define and specify the types and types of cargo handling equipment and their	5 h

			searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	technical and technological characteristics important for establishing the optimal transportation process. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process.	
18.	Road freight vehicles. Exploitation parameters.	1, 2, 3, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and specify the types and types of cargo handling equipment and their technical and technological characteristics, which are important for establishing the optimal transportation process. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process.	5 h
19.	Temporal analysis of the movement of vehicles. Analysis of the movement of vehicles from the standpoint of the distance traveled and the rated load capacity of the vehicles.	ways to solve problems. optimize the given transportation proce In colloquium or written and oral exam define the coefficients of the time anal the fleet, define the coefficients indicators of the analysis of the di traveled and the and capacity of the 1, 2, 3, 4, 5, 6, 7 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems. They listen to a lecture and read literature are an oral the fleet, define the coefficients indicators of the analysis of the di traveled and the nominal bearing capa the fleet, solve the problem of the process and suggest ways to impro- process. The terms of reference are dra groups, with discussion and suggest measures to optimize the given transportation proces in colloquium or written and oral exam define the coefficients indicators of the analysis of the di traveled and the nominal bearing capa the fleet, solve the problem of the process. The terms of reference are dra groups, with discussion and suggest measures to optimize the given transportation proces optimize the given transportation proces In colloquium or written and oral exam define the coefficients indicators of the analysis of the di traveled and the nominal bearing capa the fleet, solve the problem of the process. The terms of reference are dra groups, with discussion and suggest measures to optimize the given transportation proces optimize the given transportation proces optimize the given transportation proces and experiments of the time anal the fleet, define the coefficients indicators of the analysis of the di traveled and the nominal bearing capa the fleet, solve the problems.	In colloquium or written and oral exams they define the coefficients of the time analysis of the fleet, define the coefficients and indicators of the analysis of the distance traveled and the nominal bearing capacity of the fleet, solve the problem of the traffic process and suggest ways to improve the process. The terms of reference are drafted in groups, with discussion and suggestion of measures to optimize the given transportation process.	5 h	
20.	Maintenance of means of transport.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the	In colloquium or written and oral exams they define the maintenance of means of transport, enumerate and describe the types of maintenance and their influence on the process of transport. The terms of reference	5 h

			1			1
				basis of it and the read literature, come up with their own ideas, and ways to solve problems.	are drafted in groups, with discussion and suggestion of measures to optimize the given transportation process.	
	21.	Transportation process. 1st Colloquium	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they can describe and compare the stages of the transport process in the classical and in modern transport processes.	26 h
	22.	Study trip (Faculty of Traffic Sciences in Zagreb, ORYX Safe Driving Center, Croatian Vehicle Center, ZET (bus and tram maintenance and Traffic Control and Management Center), and DOK-ING (production and maintenance of remote control machines, production and maintenance of electric vehicles)	1, 2, 3, 4, 5, 6, 7	They listen to a lecture.	In colloquium or written and oral exams they define, analyze and evaluate the technical and technological characteristics of the elements of road transport technology and their interdependence in planning the transport process.	13 h
	23.	Driver's working hours.	1, 3, 4, 6, 7	They listen to a lecture and read literature. In group exercises, they explore the content of this topic area by searching the database, and based on it and the literature they read, come up with their own ideas and ways to solve a case study. They use multimedia and network.	In colloquium or written and oral exams they define and describe the importance of stationary define, describe and analyze the elements of recording the working hours of truck drivers. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process.	5 h
	24.	Roadways.	1, 2, 3, 5, 6, 7	They listen to a lecture and read literature. In group exercises, they explore the content of this topic area by searching the database, and based	In colloquium or written and oral exams they define and describe the road transport infrastructure and its role in the process of transport. The terms of reference are drafted	5 h

		Г	1	*, 1 4 4*,		1
				on it and the literature they read, come up with their own ideas and ways to solve a case study. They use multimedia and network.	in groups, with discussion and proposal of measures to optimize the given transportation process.	
	25.	Garage - service facilities. Road traffic information system.	1, 2, 3, 5, 6, 7	They listen to a lecture and read literature. In group exercises, they explore the content of this topic area by searching the database, and based on it and the literature they read, come up with their own ideas and ways to solve a case study. They use multimedia and network.	In colloquium or written and oral exams they define and describe the road transport infrastructure, explain and comment on the role of transport infrastructure in the process of transport, and define and describe the basic features and role of the information system in modern transportation technologies. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process.	5 h
	26.	Road traffic information system. Logistic concept.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and read literature. In group exercises, they explore the content of this topic area by searching the database, and based on it and the literature they read, come up with their own ideas and ways to solve a case study. They use multimedia and network.	In colloquium or written and oral exams they define and describe the basic features and role of the information system in modern transport technologies, and describe, state and explain the role of logistics and logistic concept with the aim of establishing an optimal modern transportation process. The terms of reference are drawn up in groups, with discussion and suggestion of measures measures to optimize the given transportation process.	5 h
	27.	Logistic concept. 2nd Colloquium.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they describe, state and explain the role of logistics and logistics concept with the aim of establishing an optimal modern transportation process.	26 h

	28.	Concluding cons Repeating and p the exam.		6, 7	They listen to a individually for	lecture and prepare he exam.	-			30 h	
3. EVALUATION OF STUDENT WORK											
3.1. Students' obligations	least pape.	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: • From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year; • From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; • More than 50% - students have the right to take the final exam. Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two exams); b) during class (active participation in class and passing exams (written and oral part of the exam).									
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)		ndance	1		Vritten exam	1 (without colloc	. /	Project	1		
	Expe	erimental work		R	Research			Practical work			
	Essay			R	Report			Continuous examination			
	Colle	oquium	1 (without wri	tten	eminar paper		C	Other			
	Class	s activity	1	C	Oral exam	1	(Other			
3.3. Student workload	1. At 2. De	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as: 1. Attendance 45 h 2. Design of seminar work and presentation 30 h 3. Preparation for the mid-term / midterm exam 75 h									
4. FORMATION OF GRADES											

	Element of evaluation	Bad		Satis	fying		Above average	
	Organization	The paper is not org logical order and lacks		clear distinction introduction, the	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.		r is well structured with a clear n between the introduction, the y of the text and the conclusion, logically interconnected.	
4.1. Grading of seminar work	Terminology, writing style	Words and expressions with official termine writing style is not app sentences are too long, vocabulary and with f repeated grammatical e	ology. The propriate, the of a modest requent and	Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.		e official understand writing st e are clear	understanding of their meaning. The	
	Citing and referencing references	The sources are not larger than the references do not and show a cursory exploring the topic.	fit the topic	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.		and consist appropriate comprehe	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.	
	В	ad		Satisfying			Above average	
4.2. Grading of the colloguium / written and oral exam	loguium / written and understanding. Does i		difficulty understands	s the basic concept imparts new the material, expla s that it supports wit	s and without land knowledge, the examples.	synthesis and egality, accurate content connects and that it supposed that	is at the level of analysis, devaluation. It observes the trately and thoroughly explains of the material, and logically explains the terms and concepts ports with examples. Finds to were not originally given. It ions with related material.	
4.3. Forming the final grade according to the	Active attendance	70-75% of the presence	76-86%	76-86% of the presence		e presence	Case studies resolved	
evaluation elements		0 points		0 points	0 poir	ints 0 points		
C. M. S. WILLIAM ST. C. S. C.	Seminar paper	2		3	4		5	

		Made and handed over M		Made and handed over		handed over	Made and handed over	
	Examination /	2		3		4	5	
	Written	50-64%	65-	80%	81	-90%	91-100%	
	examination	25-32 points	33-40	points	41-4	5 points	46-50 points	
	Oral part of the	2		3	5		5	
	exam	25-32 points	33-40	33-40 points 41-		5 points	46-50 points	
	Percentage of acc	uired knowledge, skills and co	mpetences				ECTS grade	
		(teaching + final exam)		Number rating			LC 15 grade	
4.4. Formation of final		90 – 100%		5 (excellent) 4 (very good)		A		
grade based on absolute		80 - 89,9%				В		
distribution		65 – 79,9%		3 (go	od)	С		
		60 – 64,9%				D		
		50 – 59,9%				Е		
	•							

5. ADDITIONAL INFORMATION ON THE SUBJECT

5.1. R	Required	Title	Number of copies in	Availability via other
	*		the library	media
the lib	ture (available in brary and through media)	3. Županović, I.: Tehnologija cestovnog prijevoza, FPZ, Zagreb, 2002. (selected chapters)	3	No
5.2. S	Supplementary			
literat	ture (at the time	7. Baričević, H.: Tehnologija kopnenog prometa, PFR, Rijeka, 2001.		No
of the	e submission of	8. Ortuzar, J. de D., Willumsen, L.G.: Modelling Transport, John Wiley & Sons, United	3	Yes
chang	ges and / or	Kingdom, 2011.	0	
additi	ions to the study	9. Lectures		
progra	ram)			

5.3. Quality assurance	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records
methods that ensure	of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the
the acquisition of	information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and
knowledge, skills and	obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual
competences	data on annual employment status of students, employer survey and Alumni Association.
	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes
5.4. Informing about	or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students
the course and	can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted
contacting the teacher	during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as
	possible (no later than five working days after receiving the e-mail).

2. GENERAL INFORM	AATION							
1.1. Course lecturer	Ivana Kardum Goleš	1.8. Course code in ISVU	129833					
1.2. Course title	English language I	1.9. Course code in MOZVAG						
1.3. Assistants and/or associates	Assistant	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)					
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1					
1.6. Year of study	1 st	1.13. Modernization	Yes					
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X□ More than 20 % □					
2. COURSE DESCRIPTION	ON							
2.1. Course objectives	The objective of the course is to master the basic vocabulary related to road and postal traffic as well as the predicted grammatical structures that include verb tenses, articles, personal pronouns and possessive pronouns, both in written and oral expression. The goal is also to expand the vocabulary related to the traffic, while grammar and newly acquired vocabulary are established and practiced in the exercises. Another goal							
2.2. Terms of course entry and required competences	4 year secondary education completed; qual	ification level 4.2 according to the CROQF.						
2.3. Learning outcomes on the study programme level	professional public in Croatian and English	h, interpret and integrate the relevant literature needed to m						

	Lear	Learning outcomes accroding to the Bloom's taxonomy: (up to two verbs per LO)						
		o understand, apply and link basi hem in written and oral commun		n the professional terminology of Engli	sh road traffic and use	2, 3		
	9. t	9. to apply grammatical structures in texts and assignments						
		o interpret and use tenses in real-				3, 4		
		o develop a shorter essay within	the topics of	the course		3		
		o reproduce an email in English	*.4 *			3		
				he subjects of the course, to express on	e own opinions	5		
		o compare and evaluate different o analyse medium complex texts				4		
		o use part of the general language				6		
		structive allignement	1					
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluatio	on	Time	
2.5. Course content according to detailed curriculum schedule	29.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-	_	2 h	
	30.	Trouble With The Car, Nouns and plurals	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written the applied grammatica texts and tasks a understand, apply and the professional termino	al structures on are evaluated, link terms from	4 h	

П	 	I	ı	T		1 1
					road traffic and use them in written and oral communication verb tenses are interpreted in a real linguistic context, use part of other language competences at B1 level.	
	31.	Helen Catches The Train – Izražavanje Sadašnjosti (Present Simple And Continuous)	1, 2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	32.	In The Train – Trouble With The Car (Izražavanje Sadašnjosti).	1,2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing	4 h

П		1		T	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
					and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
	33.	At The Airport And Air Pollution Problem (Present Tenses)	1, 2,3, 6,	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	34.	Keeping Drunken Drivers Off The Road – Izražavanje Prošlosti (Past And Perfect Tenses)	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing	4 h

F	 	T			1 1 1 1 100	
	35.	Types Of Drivers – Verb	1,2, 3, 5,	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data	and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the dayslapment of	6 h
	33.	Tenses	6, 9	bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h
	36.	Moving About Towns – Verb Tenses I Kolokvij	1, 2, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing	10 h

		T				
					and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
	37.	Fitness To Drive – Relative Pronouns And Possessivess	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h
	38.	Travelling By Tube – Personal And Reflexive Pronouns	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises. Discuss.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing	6 h

						and evaluating different solutions in the	
						traffic of other countries, analyze medium complex texts and solve tasks,	
						use part of other language competences	
						at B1 level.	
						In colloquium or written and oral exams	
						the applied grammatical structures on	
					Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	texts and tasks are evaluated, verb tenses	
			The Engine Of A Car – Future Tenses – Will And Going To And Present Continuous			are interpreted in a real linguistic	
						context, can communicate in foreign	
						languages within the course topic,	
				1 2 2 5		express their own opinions, present their	
		39.		1, 2, 3, 5, 6, 9		own ideas related to the development of	10 h
						transport solutions to develop a longer	
						essay within course topics, comparing	
						and evaluating different solutions in the	
						traffic of other countries, analyze	
						medium complex texts and solve tasks,	
						use part of other language competences at B1 level.	
						In colloquium or written and oral exams	
						the applied grammatical structures on	
						texts and tasks are evaluated, verb tenses	
				1224	Listen to lectures and read	are interpreted in a real linguistic	
		40.	About Cars In General –	1,2, 3, 4, 5, 6, 7, 8,	literature. Use multimedia and	context, can communicate in foreign	10 h
		40.	Future Perfect	9	internet. Solve exercises.	languages within the course topic,	10 11
						express their own opinions, present their	
						own ideas related to the development of	
						transport solutions to develop a longer	
						essay within course topics, comparing	

	,		1	T		1
					and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
	41.	A City At Sea- Living Under Cover – Future Tenses	1,2, 3, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	"Jam Yesterday-Jam Tomorrow"; Passenger Transportation – Tenses Revision, Only Stricker Traffic Rules Can Prevent Accidents – Articles	1,2, 3, 6, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing	6 h	

				and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
43.	Revision – II Kolokvij	1, 2, 3, 4,5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h

3. EVALUATION OF STUDENTS' WORK

3.1. Students' obligations

In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%. The students' acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the written part of the final exam and is obliged to take the oral exam only. The final exam consists of a written and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform oneself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Polytechnic of Šibenik and the e-learning page of the course, where

	all the information on the course as well as the teaching materials and the list of literature are also available.							
3.2. Monitoring student	Attendance	0,5	Written exam	1 (without colloquia)	Project			
work (enter the share of	Experimental work		Research		Practical v	vork		
ECTS credits for each activity so that the total number of ECTS points	Essay		Report		Continuou examinatio			
corresponds to the credit score of the course)	Colloquium	1 (without written exam)	Seminar paper		Other			
secre of the equipe)	Class activity	0,5	Oral exam	1	Other			
3.3. Student workload 4. GRADING SYSTEM	3. Attending cla	Student workload on all bases for 1 ECTS credit is 30 hours in a semester and is estimated as: 3. Attending classes and exercises 45 hours 4. Preparing colloquia or exams through individual work 45 hours						
4.1. Grading seminar papers	-							
	Unsatisfa	ctory	Satisfacto	ry		Above average		
4.2. Grading colloquia/ written and oral exam	Responds by mem deeper understandi know or apply be concepts. Does not apply or explain the course with example	ng. Does not asic terms and know how to contents of the	Reproduces the basic without difficulty knowledge, understand explains the terms and co with examples.	imparts new s the material,	evaluation. Observations of thoroughly explained logically connect supported with explaining the support of the	t the level of analysis, synthesis erves the principles, accurately ains the content of the material, its and explains the terms and conexamples. Finds solutions that were not not correlations with re-	and, and neepts	
12 Final and a coording	Active course attend	70-	75% of attendance	76-86% of	attendance	87-100% of attendance	1	
4.3. Final grade according to evaluation elements	Active course attend	ance	3 points	7 po	ints	20 points		
	Seminar paper							

		2		3	4	
	Colloquia/ Written exam	50-64,9%		65-79,9%	80-89,9%	
		25 points		30 points	35 points	
	Oral exam	2		3	4	
	Ofai exam	25 points		30 points	35 points	
	Percentage of acquired competences (teacl	l knowledge, skills and hing + final exam)		Numerical grade	ECTS grade	
1.2 Final grade according	90 – 1	100%		5 (excellent)	A	
4.3. Final grade according to absolute division	80 - 8	39,9%		4 (very good)	В	
to ausorate division	65 – 7	9,9%		3 (good)	С	
	60 - 6	54,9%		2 (satisfactory)	D	
	50 – 5	59,9%	·	2 (satisfactory)	Е	

5. ADDITIONAL COURSE INFORMATION

5.1. Compulsory literature	Title	Number of copies in the library	Availability via other media
(available in the library and via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2002. (selected chapters)	10	X
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Veleučilište u Rijeci, Prometni odjel, 2007. Adrian Pilbeam and Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University	10	X (elearning, handouts)

	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By
5.3. Quality assurance	keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and
methods that ensure the	homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be
acquisition of knowledge,	informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system:
skills and competences	Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from
	employers and Alumni association.
	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of
5.4. Informing about the	classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic.
course and contacting the	Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be
teacher	contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as
	soon as possible (no later than five working days after receiving the e-mail).

3. GENERAL INFORM	MATION							
1.1. Course lecturer	Ivana Kardum Goleš	1.8. Course code in ISVU	187599					
1.2. Course title	English language II	1.9. Course code in MOZVAG						
1.3. Assistants and/or associates	Assistant	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)					
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1 st , course materials are on-line, 0%						
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1					
1.6. Year of study	1 st	1.13. Modernization	Yes					
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X□ More than 20 % □					
2. COURSE DESCRIPTION	ON							
The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the adjective comparison, adverbs, modal verbs, transformation of direct into reported speech in the present. The aim is also to expand the vocabulary related to traffic, while exercises determine and practice grammar and new vocabulary. Another goal of the course is to write different kinds of business letters. By attending a foreign language classes, students are introduced with new communication systems, enabling their easier and more direct involvement in world events and getting acquainted with the elements of English culture and civilization of the English speaking world. Learning a foreign language is in line with the aspiration to preserve the richness of the diversity of multi-faceted Europe as well as with fostering the development of the culture of dialogue and civilization.								
2.2. Terms of course entry and required competences	Completed course English language I							
2.3. Learning outcomes on the study programme level	professional public in Croatian and English	h, interpret and integrate the relevant literature needed to m						

		Learning outcomes accroding to the Bloom's taxonomy: (up to two verbs per LO) 17. to understand and apply basic terms from the professional terminology of English road traffic in English								
		o apply grammatical structures in t	•		Town training in English	2, 3				
		o interpret and use tenses in real-lit				3, 4				
		o develop an essay within the topic				5, 6				
		o present own ideas for developme		oroblems subjects of the course, to express or	na ayya aninians	6				
		o compare and evaluate different tr	~	-	one own opinions	5				
		o analyse medium complex texts an				4				
		o use part of the general language of				6				
	Cons	structive allignement								
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluatio	n	Time			
2.5. Course content according to detailed	44.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h			
curriculum schedule	45.	CARS` ANATOMY - Adjectives and their formation	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written the applied grammatica texts and tasks are evalua apply and link terms from terminology of English use them in written	l structures on ated, understand, the professional road traffic and	4 h			

Г						1
					communication verb tenses are interpreted in a real linguistic context, use part of other language competences at B1 level.	
	46.	MANAGEMENT IN TRAFFIC - Adverbs and their formation	1, 2, 3, 4, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	47.	In the train – expressing present	1,2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve	4 h

				tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses	
48.	MODERN TRANSPORTATION (HYDROFOILS) – Modal verbs	1, 2,3, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	are interpreted in a real linguistic context, can communicate in foreign languages	4 h
49.	RAIL TRAFFIC IN EUROPE – Expressing habit	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h

50.	Traffic in the USA – Tenses	1,2, 3, 5, 6, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h
51.	Traffic for tomorrow – Tenses, Kolokvij	1, 2, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
52.	Hovercraft – Indirect speech	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on	6 h

				texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
53.	Magnetic levitation trains – Personal and reflexive pronouns	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises. Discuss.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h
54.	Steam engine cars – Future tenses	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context,	10 h

				can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
55.	Post office and their role in the progress of mankind – Future tenses	1,2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
56.	Climate changes and telecommunication	1,2, 3,4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages	4 h

,				T			
					their own ideas and ways of	opinions, present their own ideas related	
					problem solving. Brainstorming,	to the development of transport solutions	
					discussion. Solve exercises.	to develop a longer essay within course	
						topics, comparing and evaluating different	
						solutions in the traffic of other countries,	
						analyze medium complex texts and solve	
						tasks, use part of other language	
						competences at B1 level.	
						In colloquium or written and oral exams	
						the applied grammatical structures on	
					Listen to lectures and read	texts and tasks are evaluated, verb tenses	
					literature. During lectures	are interpreted in a real linguistic context,	
					individually research the	can communicate in foreign languages	
				1 2 2 4	content of this thematic field by	within the course topic, express their own	
		57.	Sattellites	1,2, 3,4, 5, 6, 7, 8, 9	searching data bases, presentt	opinions, present their own ideas related	6 h
					acquired knowledge, express	to the development of transport solutions	o n
				9	their own ideas and ways of	to develop a longer essay within course	
					problem solving. Brainstorming,	topics, comparing and evaluating different	
					discussion. Solve exercises.	solutions in the traffic of other countries,	
						analyze medium complex texts and solve	
						tasks, use part of other language	
						competences at B1 level.	
						In colloquium or written and oral exams	
						the applied grammatical structures on	
				1 2 2		texts and tasks are evaluated, verb tenses	
		50	Davision II Valalesii	1, 2, 3,	Calva ayamaisas	are interpreted in a real linguistic context,	10 h
		58.	Revision – II Kolokvij	4,5, 6, 7, 8, 9	Solve exercises.	can communicate in foreign languages	10 n
				0, 9		within the course topic, express their own	
						opinions, present their own ideas related	
						to the development of transport solutions	
L							

						to develop a longer e	·		
						topics, comparing and	_		
						solutions in the traffic	´		
						analyze medium comp			
						tasks, use part of			
						competences at B1 leve	el.		
3. EVALUATION OF STU	UDENTS' WORK								
	In accordance with	the Regulations on S	Studying and th	e Regula	ntions on Student As	ssessment and Evaluation	on: for all full-time students		
	attendance of at leas	st 70% is required. Part	-time students a	re require	ed to attend classes at	least 50%. The students	`acquired knowledge is tested		
	during the course cl	asses. Special consider	ration is given to	the stud	dent's evaluation duri	ng the course of the tea	ching process, with particular		
	attention being paid	to the student's active J	participation in	eaching a	as well as his/her pres	sentation of the written v	work that the student produces		
3.1. Students' obligations	for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student								
5.1. Students Congations	successfully passes both exams, he / she is exempted from the written part of the final exam and is obliged to take the oral exam only. The final								
	exam consists of a written and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay,								
	presentation creation, etc. The obligation of each student is to regularly inform oneself about the course. All notices about maintenance or								
	eventual postponement of teaching will be published on the web site of the Polytechnic of Šibenik and the e-learning page of the course, where all the information on the course as well as the teaching materials and the list of literature are also available.								
	all the information o	n the course as well as	the teaching ma			e are also available.			
3.2. Monitoring student	Attendance	0,5	Written exam		1 (without colloquia)	Project			
work (enter the share of ECTS credits for each	Experimental work		Research			Practical work			
	Essay		Domant			Continuous			
activity so that the total number of ECTS points	Essay		Report			examination			
corresponds to the credit score of the course)	Colloquium	1 (without written exam)	Seminar pape	r		Other			
score or and course,	Class activity	0,5	Oral exam		1	Other			
	Student workload or	n all bases for 1 ECTS of	credit is 30 hour	s in a sem	nester and is estimate	d as:			
3.3. Student workload	5. Attending cl	lasses and exercises 45	hours						
	6. Preparing co	olloquia or exams throu	gh individual w	ork 45 ho	ours				
							•		

4. GRADING SYSTEM									
4.1. Grading seminar papers	-								
	Unsatisfactory		Sati	sfacto	ry		Above average		
4.2. Grading colloquia/ written and oral exam	Responds by memory, of deeper understanding. It know or apply basic to concepts. Does not know apply or explain the contection with examples.	Does not erms and w how to	Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.			Knowledge is at the level of analysis, synthesis evaluation. Observes the principles, accurately thoroughly explains the content of the material, logically connects and explains the terms and conc supported with examples. Finds solutions that were originally given. Notes correlations with rel material.		and, and ncepts re not	
	Active course attendance	70-	75% of attendance		76-86% of	attendance	87-100% of attendance		1
	Active course attendance	Active course attendance		3 points		ints	20 points		Ī
	Seminar paper	aper							
4.3. Final grade according to evaluation elements			2		3		4		t
to evaluation elements	Colloquia/ Written exam	50-64,9%			65-79,9%		80-89,9%		İ
		25 points			30 points		35 points		İ
	Onel arran		2		3		4		İ
	Oral exam		25 points		30 pc	oints	35 points		Í
	Percentage of acquire competences (tea		O ,		Numerical grade		ECTS grade		
4.3. Final grade according	- 100%	,		5 (excellent)		A			
to absolute division	- 89,9%		_	4 (very good)		В			
to abbotate arvibion		- 79,9%			3 (good)		C		
		64,9%			2 (satisfactory)		D		
	50 -	- 59,9%			2 (satisfactory)		Е		

5. ADDITIONAL COURS	SE INFORMATION					
5.1. Compulsory literature	Title	Number of copies in the library	Availability via other media			
(available in the library and via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2002. (selected chapters)	10	X			
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Veleučilište u Rijeci, Prometni odjel, 2007. Adrian Pilbeam and Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University	10	X (elearning, handouts)			
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.					
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursew classes or possible adjournment will be published in a timely manner on the e-learning site of the Students can contact teachers during the consultation period (at least one hour per week), while be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail as soon as possible (no later than five working days after receiving the e-mail).	the course and on the we	ebsite of the Polytechnic.			

PK-SP-2. Description of a new course an amended and/or changed or modernized course.

1. GENERAL INFORMA	. GENERAL INFORMATION ABOUT THE SUBJECT								
1.1. Title	Knowledge of goods	1.8. ISVU course code	187586						
1.2. Lecturer	Nikolina Gaćina	1.9. MOZVAG course code							
1.3. Assistants and/or associates	None	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+0+15+0)						
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate Professional Study Trafic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st – materials available On-line, 0%						
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	2.						
1.6. Study year	1 st	1.13. Modernization	X yes □ no						
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □						

2. COURSE DESCRIPTION	2. COURSE DESCRIPTION							
2.1. Course objectives	The goal is to provide students with theoretical knowledge and case studies: • Defining the basic concepts of the science of knowledge of goods, • Understanding the specificity of particular types of goods, their identification, conditions of packaging, transport and storage, and environmental friendliness; • Understanding the need and importance of standardization and product quality, • Understanding the importance and types of strategic goods, • Apply the learned content of this course in business practice.							
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.							
2.3. Learning outcomes	LO 1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the							
on the study programme	profesional puublic in croation and English.							

level	LO 2: To organize and implement team work and critically judge the opinions and atitudes od team members							
	LO 3: To individually and responsibly search, interpret and integrate the revevant literature needed to make decisions							
	LO 6: To analyze and present relevant facts from the field of traffic needed to reach conclusions							
	LO 10: To compare and choose technical and technological solutions in treffic and / or traffic logistics							
	LO 13: to track trends in the development of technique, technology and safety in traffic							
	Learning outcomes towards Bloom's taxonomy: (up to two verbs per LO)	LO Level: 1. Recapture, 2. Understanding, 3. Application, 4. Analysis, 5. Evaluation, 6. Synthesis						
2.4. Expected learning	1. Demonstrate knowledge and understanding of the content of the course by defining and describing the basic concepts of the science of knowledge of goods	1, 2						
outcomes on the course level	2. Categorize and compare the basic concepts of the science of knowledge of goods	4, 5, 6						
ievei	3. Compare and distinguish product types, their identification, labeling, and transportation and storage conditions	4, 5						
	4. Categorize and compare types of packaging material	4, 5						
	5. Analyze and evaluate the specific characteristics and reasons for the application of particular packaging materials for different products	4, 5,6						
	6. Distinguish and compare different processes of food preservation in relation to the longevity and preservation of the nutritional value of the product	4, 5, 6						
	7. Analyze and anticipate the importance of food and non-food commodities of today and today	4,5						
	8. Present the acquired knowledge, ideas, problems and solutions independently and in a team.	6						

2.5. Course content	Consti	ructive alignment					
according to detailed	No:	Thematic ensemble / Lecture	Course	Content / Teaching	Evaluation	Time	
curriculum schedule	110.	Topic	LO	Method	Evaluation	needed	l

59.	Introduction to the course and detailed curriculum. Introduction to writing a seminar paper.	-	Listen to the lecture.	-	2 h
33.	The basics of the science of knowing goods. Defining basic concepts.	1, 2	They listen to a lecture and read literature.	At the colloquium or the written and oral exam: define, describe, categorize and compare the basic concepts of the science of knowledge of goods.	4 h
60. Produ	Product identification. GS1.	1, 2, 3, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature.	At the colloquium or the written and oral exam they know: explain the reasons for the product identification, define GS1, enumerate the types of identification numbers and analyze their specific application.	10 h
61.	Norms and norms. The basics of quality management.	1, 2, 3, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature.	At the colloquium or the written and oral exam they know: define norms and standardization, describe and analyze the meaning of standardization, classify norms, define basic concepts of quality.	6 h
62.	ISO. ISO standards.	1, 2, 3, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature.	At the colloquium or the written and oral exam they know: define and explain the meaning and importance of ISO, enumerate and describe ISO standards and their form.	6 h
63.	Packaging. Types of packaging material.	1, 2, 3, 4, 5, 6, 8	They listen to a lecture, watch multimedia, present a seminar paper, followed by a discussion, and read literature. They watch multimedia.	At the colloquium or the written and oral exam they know: define the packaging and explain the importance of packaging the product, list and describe the advantages and disadvantages of individual packaging materials, choose the appropriate packaging material for the specific product and explain	10 h

					their choice. List and analyze the primary functions of packaging material.	
	64.	Packaging features. Product Graphic Labeling.	1, 2, 3, 4, 5, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: define and classify the functions of packaging, evaluate the choice of packaging material with regard to its function, define, describe and analyze the graphic marking of products.	8 h
	65.	Specific features of product storage and transportation.	1, 2, 3, 4, 5, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and describe the types of warehouses, storage and transport conditions, and evaluate the appropriate type of storage and transport depending on the type of product.	6 h
	66.	Perishable products. Declaring food.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and describe the types of perishable products, their specificities and conditions of storage and transport, to analyze the basic declaration of food.	6 h
	67.	Physical methods of food preservation.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and describe the types of physical methods of preservation, to analyze the applicability depending on the type of food products in terms of better preservation of nutritional value and longer shelf life, to analyze the advantages and disadvantages of individual physical methods. And evaluate combining different canning	10 h

					methods.	
	68.	Food preservation with natural and chemical preservatives. Combining canning types.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: define and describe natural and chemical preservatives, analyze applicability depending on the type of food products in terms of better preservation of nutritional value and longer shelf life, analyze the advantages and disadvantages of individual methods and evaluate the combination of different preservation methods.	6 h
	69.	Polymeric materials.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define, describe and classify polymeric materials, describe their advantages and disadvantages and storage conditions.	10 h
	70.	Hazardous Substances.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and classify the types of dangerous substances, to analyze the possible danger of the same.	6 h
	71. Transport and disposal of hazardous substances	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and classify the labeling of hazardous substances during transport, to evaluate the disposal and labeling of hazardous waste.	6 h	
	72.	Strategic Goods.2. Colloquium.	1, 2, 3, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and categorize strategic goods, to explain their importance.	4 h

	73.	Concluding Con Repetition and I	siderations /		to a lecture and dividually for		20 h
3. EVALUATION OF ST	UDENT	WORK					
3.1. Students' obligations	semina Studer a) duri the ser b) dur	ance. Part-time stuar paper. Students From 0 – 24,99 academic year; From 25 – 49,99 in a regular or e More than 50% ats can pass the firming the course through the course (and the course (and the course).	who have the obligate who have during the of the ECTS credits - is rated at the example of the ECTS credits - is rated at the example of the	tion to attend at least course achieved: ated F (unsuccessful) ated FX (inadequate) a iod; tts have the right to accent attendance (active loquia);	and cannot get E and has to come o cess the final exan participation in the	EValuation: for all regular studer All students must create, present a ECTS credits and must re-enrol that and pass the test (exam). A writing of the subject. The lessons, solving case studies, recing and presenting the seminar parts.	nd positively colloquy he subject in the next tten exam can be held making and presenting
	Attend	lance	0,25	Written exam	2 (without colloquiums)	Project	
3.2. Monitoring student work (enter the share of	Experi	mental work		Research		Practical work	
ECTS credits for each activity so that the total	Essay			Report		Continuous examination	
number of ECTS points corresponds to the credit score of the course)	Collog	_l uium	3 (without the written and oral exams)	Seminar paper	0,75	Other (inscribe)	
	Class	activities		Oral exam	1 (without colloquiums)	Other (inscribe)	
3.3. Student workload	The st	udent's workload	on all bases amounts to	o 1 ECTS point for 30	hours of work per	r semester and is estimated as:	

	Commitment	Hours (estimate)
	5. Attending classes	45
	6. Creating and Presenting seminar paper	10
	7. Preparation for the Colloquium / exam through self-study	65
4 CDADING		

4. GRADING

	Valuation Element	Poor		Satisfying		Above average	
4.1. Seminar paper grading	Organization	The paper is not of logical order and in lacking.	· ·	The paper is well structured clear distinction between introduction, the main part text and the conclusion.	n the	The paper is well-structured with a clear distinction between the introduction, the main part of the text and the conclusions that are perfectly logically linked to one another	
	Terminology, writing style	Words and phrases are low harmonized with official terminology. Writing style is not appropriate, sentences are too long, modest vocabulary, and frequent and repeated grammatical mistakes.		Words and phrases are aligned with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and has little grammatical errors.		understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the	
	Quoting and referencing	Sources are not specified at all. The references do not match the topic and show a superficial approach to the research topic.		Sources are listed, but incomplete and with errors. The references are appropriate for the subject and show a satisfactory research attitude.		Sources are accurate, complete and consistent. The references are appropriate, their list is "rich" and comprehensive and shows a robust research approach.	
	Poor		Satisfying			Above average	
4.2. Colloquium / exam grading	understanding. Does not know and does not		transfers new knowledge, understands subject matter explains the terms and the		synthe legitin	Enowledge is at the level of analysis, synthesis and evaluation. It observes egitimacy, accurately and thoroughly explains the content of the subject, and	

notions that substantiate by examples.

apply or explain the contents of the course.

logically links and explains the terms and

				that	epts that it encapsula are not originally elation with correlative	given. There is a	
4.3. Creating a final grade according to evaluation elements	Active participation	70 of attendance	71-80% of attendance	81-90% of at	tendance	91-100%	
	in the lessons	2 points	3 points	4 poin	ts	5 points	
	Research paper	2	3	4		5	
		8 points	10 points	12 poir	nts	15 points	
		2	3	4		5	
	Colloquium / written exam	50-64,9%	65-79,9%	80-89,9	0%	90-100%	
	CAAIII	25 points	35 points	40 poir	nts	50 points	
	Oral exam	2	3	5		5	
	Orai exam	15 points	20 points	25 poir	nts	30 points	
	Percentage of adopted knowledge, skills and competences (teaching + final exam)		Numerous grade		ECTS grad	ΓS grade	
4.4. Creating a final grade	90 – 100%		5 (excellent)	5 (excellent)		A	
according to absolute	80 – 89,9%		4 (very good)	` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `		В	
allocation	65 – 79,9%		3 (good)			С	
	60 – 64,9%		2 (sufficient)	` '		D	
	50	50 – 59,9% 2 (sufficient)		E			
5. ADDITIONAL INFOR	MATION ABOUT THE	COURSE					
5.1. Compulsory literature (available in the library and through other media)	Title			Number of copies in the library	Availability via other media		
	 Gacina, N. (2012). Knowledge of goods. Internal script of the Polytechnic of Šibenik, Šibenik. 					e-learnigng VUŠ-a	
	2. Lazibat, T. (2004). Knowledge of goods and quality management. Synergy Publishing, Zagreb. (Chapters selected)			4			
5.2. Additional literature	1. Andrijanić, I., Balen, M., Lazibat, T. (2001). Knowledge of merchandise in commerce.						

(at the moment of changes	Mikrorad, Zagreb. (Chapters selected)		
and/or amended of study	2. Štrumberger, N. (2000). Handling of materials in traffic. Faculty of Transportation	4	
programme)	Sciences, Zagreb. (Chapters selected)	4	
	The control of students' work quality and the acquisition of necessary knowledge and skills wi	ll be ensured through	interactive work. By
5.3. Quality assurance	keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and		
methods that ensure the	homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be		
acquisition of knowledge,	informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system:		
skills and competences	Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from		
	employers and Alumni association.		
	It is obligatory for every student to regularly inform about the course, teaching and teaching activ	ities. All information a	about teaching or any
5.4. information on the	delay in teaching will be published on the e-learning pages of the course and on the web pages of	of the Polytechnic. Stu	dents can contact the
course and contact with	teachers during the consultation term (at least one hour per week), while brief questions and explanations can be addressed during classes. It		
the teacher	is possible to ask questions by e-mail (from the official e-mail address from the domain @ vus.hr) that will be answered in a short time (no		
	later than five working days from the receipt of e-mail).		

1. GENERAL INFORMATION					
1.1. Course title	Traffic in tourism	1.8. Course code at ISVU	142664		
1.2. Course lecturer	Ana-Mari Poljičak	1.9. Course code at MOZVAG	-		
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+0+15+0)		
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of Traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st - some of the material available Online, 0%		
1.5. Course status (obligatory, optional)	Optional	1.12. Number of course revisions	4.		
1.6. Year of study	3 rd	1.13. Modernization	X Yes □ No		
1.7. Credit point (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □		

2. COURSE DESCRIPTION				
2.1. Course objectives	The goal is to provide students with theoretical knowledge:			
	Define basic transport and tourism terms;			
	• Understand synergies between transport and tourism.			
	• Apply the learned content of this course in business practice.			
2.2. Terms of course entry	Four-year secondary education completed; qualification level 4.2 according to the HKO.			
and required competences	Tour-year secondary education completed, quantication level 4.2 according to the TIKO.			
	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional			
2.3. Learning outcomes on the study programme level	public in Croatian and English.			
	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.			
	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.			
	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.			

		Level of LO:
		1 - memory,
	Learning outcomes according to Bloom's taxonomy:	2 - understanding,
	(maximum 2 werbs for LO)	3 - application,
		4 - analysis,
2.4. Expected learning		5 - evaluation,
outcomes on the course		6 – synthesis.
level	1. demonstrate knowledge and understanding of the content of the course by defining and describing the basic concepts	1, 1
	in transport and tourism,	1, 1
	2. to analyze and compare the transport sectors in the tourism industry,	4, 2
	3. propose a form of tourist transport as part of a tourism product,	6
	4. use materials and tools to search scientific and professional literature in their native and English languages,	3
	5. Present the acquired knowledge, ideas and solutions independently and in a team.	6

	Cons	structive allignement				
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time
2.5. Course content according to detailed curriculum schedule	74.	Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer at the seminar teaching, they are introduced to the course content and documents on the e-learning page of the course.	-	2 h
		Theoretical basis of traffic	1, 6	They listen to a lecture and read literature.	At the midterm or the written and oral exam they define the traffic system and state the division of traffic. Define traffic product and cite and explain the elements of production of transport products.	1 h

75.	Interdependence of transport and tourism.	1	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam, they can enumerate and explain ways of influencing tourism on traffic and explaining the impact of traffic on tourism. Explain the limiting impact of transport on tourism and tourism on transport. Define transport service and tourism product. Explain the transport service as a tourism product and give an example of the absence of a transport service in a tourism product. List and explain the categories of users of tourist trips and motives for traveling. Define and explain tourism as a system.	6 h
76.	Transport branches in the connection of emitting and receptive areas.	1, 2	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can explain the emissive and receptive tourist countries and give an example. Explain the characteristics of traffic branches in the interconnection of emissive and receptive areas.	6 h
77.	Traffic as part of a tourist product.	1, 2, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired	At the colloquium or the written and oral exam they can define trips and multi-day bus trips. Explain panoramic and shuttle transportation. Give an example of local tourist lines. Define the rental of road vehicles in a tourist destination. List ways to use your bike while on vacation. Seminar	6 h

70	Traffic as part of a tourist	1, 2, 3,	knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied. They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and	paper created and presented (using computer programs independently). At the colloquium or the written and oral exam they can explain the panoramic transport by rail in a limited area of the tourist destination. Define cable cars and funiculars and give an example of their use	
78.	product.	4, 5	the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	in tourist destinations. Explain nautical tourism and list its parts. Give an example of river-lake-canal round-trip cruises. Seminar paper created and presented (using computer programs independently).	6 h
79.	Field teaching - travel agency Pražen putovanja d.o.o.	3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can explain the excursions and multi-day bus trips, explain the rental of road vehicles in the tourist destination and give an example of panoramic and shuttle transportation. Seminar paper created and presented (using computer programs independently).	5 h
80.	Guest lecture in English: Tourism and Railways (Basic knowledge), Glacier Express - the slowest express Train in the World, the Trans-	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and	At the colloquium or the written and oral exam they can describe the first rail trip in the World. Give an example of rail transport as part of a tourism product and describe it. Define high-speed rail and give	9 h

	Siberian Railway (Russian		the literature read, create a seminar	examples. Seminar paper created and	
	tourism offer).		paper that presents the acquired	presented (using computer programs	
			knowledge. In the group work on	independently).	
			seminar teaching, the brainstorming		
			method and the discussion method on		
			the topic are applied.		
			They listen to a lecture and read		
			literature. At the seminar teaching,		
			they individually explore the content	At the colloquium or the written and oral	
			of this topic area by searching the	exam they can explain the history of air	
	Air traffic as part of a tourist		database, and on the basis of it and	traffic and define tourist services based on	
81.	product, charter travel.	1, 3, 4, 5	the literature read, create a seminar	air traffic. Comment on the role of air	5 h
	Colloquium I.		paper that presents the acquired	transport in tourism in the Republic of	
			knowledge. In the group work on	Croatia. Find out the difference between	
			seminar teaching, the brainstorming	regular and charter air traffic.	
			method and the discussion method on		
			the topic are applied.		
			They listen to a lecture and read		
			literature. At the seminar teaching,	At the colloquium or the written and oral	
			they individually explore the content	exam they can explain regular and charter	
			of this topic area by searching the	air traffic. Explain the features of low-cost	
	Field teaching - Airport		database, and on the basis of it and	companies. Give examples of low cost	
82.	Zadar/Split	1, 3, 4, 5	the literature read, create a seminar	airlines. Explain pick-up and departure	3 h
			paper that presents the acquired	technology for airport passengers. Give an	
			knowledge. In the group work on	example of air traffic services to tourists	
			seminar teaching, the brainstorming	with special requirements.	
			method and the discussion method on	1 1	
			the topic are applied.		
	Field teaching - Dogus		They listen to a lecture and read	^	
83.	Marine in Šibenik	1, 4, 5	literature. At the seminar teaching,	exam they can explain the purpose of	5 h
	(Mandalina)		they individually explore the content	marinas and rent a boat. Seminar paper	

			of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	programs independently).	
84.	Logistics in tourism	1, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can enumerate the elements of the logistics system and distinguish between the logistics models. Comment on the role of logistics processes in supplying a	6 h
85.	Economics of Exploitation of Traffic Vehicles and Traffic Infrastructure.	1, 2, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can state the determinants of the quality of the transport service in tourism. Define the fare and explain the specificities of costs and fares in individual traffic branches. Seminar paper created and	5 h

	86.	Economics of Exploitation of Traffic Vehicles and Traffic Infrastructure.	1, 2, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can define and list the types of oscillations. Explain measures to mitigate the effects of oscillations. Seminar paper created and presented (using computer programs independently).	5 h
	87.	Parking in tourist destinations. Colloquium II.	1, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or written and oral exam knows define basic terms of parking and differentiate ways of parking in tourist	3 h
	88.	Concluding considerations. Repeating and preparing for the exam.		They listen to a lecture and prepare individually for the exam.	-	17h
3. EVALUATION OF STUDENT WORK						

3. EVALUATION OF STUDENT WORK

3.1. Students' obligations

In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course:

• From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next

	Element of	Rad	1		Satisfying	Abo	wa avaraga
4. FORMATION OF GRA	ADES						
	10. Preparing colloquia or exams through individual work 35						
	9. Designing a s	eminar paper and pres	entation		10		
3.3. Student workload	8. Active class a	ttendance			45		
	Obligation				Hours (estimated)		
	Student workload on al	l bases is 1 ECTS cree	dit 30 semester ho	urs and is e	stimated as:		•
score of the course)	Class activity	0,5	Oral exam	0,5	5	Other	
corresponds to the credit score of the course)	Colloguium	1,5 (without written exam)	Seminar paper	0,5	5	Other	
activity so that the total number of ECTS points	Essay		Report			Continuous examination	
work (enter the share of ECTS credits for each	Experimental work		Research			Practical work	
3.2. Monitoring student	Attendance		Written exam		(without lloquia)	Project	
	Students can take the fi	inal exam in the cours and preparation of a participation in class	e in two ways: a) of mental map and c and preparation o	luring the case study, _l	preparation and preser	ntation of seminar wo	toring of students (active ork and two colloquium); ntation of seminar work)
	 From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam regular or extraordinary exam period; More than 50% - students have the right to take the final exam. 						exam (test) can be held in
	academic year;						

Satisfying

The paper is well structured with a

clear distinction between the

introduction, the main body of the

Above average

The paper is well structured with a

introduction, the main body of the text

between

distinction

clear

Bad

The paper is not organized in a

logical order and lacks structure.

evaluation

Organization

4.1. Evaluation of a of

seminar work

				text and the conclusion	ion.	and the co	onclusion, whi	ich are
	Terminology, writing style	Words and expression with official termi writing style is not apsentences are too long vocabulary and with repeated grammatical	nology. The propriate, the g, of a modest frequent and	with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and ther are few grammatical errors. The sources are listed by incomplete and with errors. The references are relevant to the tonic		with official terminology and show understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are grammatical errors.		show an ing. The ent, the acise, the
	Citing and referencing references	The sources are not The references do no and show a cursory exploring the topic.	ot fit the topic			c Completely and The reference in list is "rich" a	es are ac nd consistently s are appropria and comprehen ed research appr	ate, their asive and
	Ba	ad		Satisfying		Above average		
4.2. Grading of the colloguium / written and oral exam	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		difficulty inderstands the	the basic concepts and imparts new kn he material, explains that it supports with e	d without lowledge, the terms xamples.	nowledge is at anotheris and evaluative, accurately a content of the nnects and expensepts that it sunds solutions that it notes conterial.	nation. It obse and thoroughly material, and lains the ter apports with ea at were not o	erves the explains logically ems and examples.
42 F : 4 G 1	Active attendance	70-75% of the presence	76-86% of the presence		87-100% o	f the presence	Case studies	resolved
4.3. Forming the final grade according to the		2 points		4 points	7 _I	ooints	10 poi	nts
evaluation elements	Seminar paper	2		3		4	5	
evaluation cicinents	* *	5 points		7 points	8 1	points	10 poi	nts
	Examination / Written	2		3		4	5	

	examination	50-64,9%	65-79,9%	80-8	9,9%	90-100%	
		25 points	30 points	35 p	points	40 points	
	Oral part of the exam	2	3		4	5	
	Of all part of the exam	25 points	30 points	35 p	points	40 points	
		equired knowledge, skills a s (teaching + final exam)	and Number ratin	ıg	ECTS grade	,	
4.4. Formation of final	•	90 – 100%	5 (excellent)	A		
grade based on absolute		80 – 89,9%	4 (very good		В		
distribution		65 – 79,9%	3 (good)		С		
		60 - 64,9%	2 (sufficient)	D		
		50 – 59,9%	2 (sufficient)	Е		
5.1. Required literature (available in the library	Title Number of copies in the library 4. Mrnjavac E.: Promet u turizmu, Fakultet za turistički i hotelski menadžment, Opatija, 5						
and through other media)	2006. (selected of 5. Maršanić R.: Par	rkiranje u turističkim desti	2008.	5			
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	10. Baričević H.: Promet u turizmu, Visoka škola za turizam, Šibenik, 2003. 11. Lumsdon L. M., Page S. J.: Tourism and Transport, Issues and Agenda for the New Millennium, Routledge, 2003. Available on					Available online	
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.						

5.4. Informing about the course and contacting the teacher

It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).

1. GENERAL INFORMA	1. GENERAL INFORMATION					
1.1. Course title	Modern traffic systems	1.8. Course code at ISVU	129846			
1.2. Course lecturer	Martina Ljubić Hinić	1.9. Course code at MOZVAG				
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(45L+15S)			
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of Transport	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1st			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.			
1.6. Year of study	1 st	1.13. Modernization	X Yes □ No			
1.7. Credit point (ECTS)	6	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □			

2. COURSE DESCRIPT	TION
	The aim is to provide students with theoretical knowledge and case studies:
	• define elements and branches of the transport system;
	• learn the elements of the transport system;
2.1. Course objectives	• understand the technical and technological characteristics of the traffic branches;
	• acquire knowledge about the organizational features of the traffic branches and the complexity of the transport system;
	• get to know the interdisciplinary approach to the transport system and transport processes;
	• apply the learned content of this course to practice.
2.2. Terms of course	
entry and required	Four-year secondary education completed; qualification level 4.2 according to the HKO.
competences	
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional
on the study programme	public in Croatian and English.
level	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.

	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.
	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.
	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.
	LO7: Apply computer tools for data analysis and comparison, and propose an optimal solution in the traffic process.
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.
	LO13: Follow trends in technology, technology and traffic safety.
	Learning outcomes according to Bloom's taxonomy:
2.4. E	1. to enumerate and explain the elements and branches of the transport system 1, 2
2.4. Expected learning outcomes on the course	2. to demonstrate knowledge and understanding of course content by defining and describing an interdisciplinary approach to the transport
	system 1, 2
level	3. to describe, compare and relate the technical and technological characteristics of the branches of transport and modern transportation
	technologies 2, 4
	4. to identify and evaluate the interdependence of the elements of the transport system 1, 6, 5
	5. to use materials and tools to search scientific and professional literature in their native and English languages 3
	6. to present the acquired knowledge, ideas, problems and solutions independently and in a team 3

	Cons	Constructive allignement								
2.5. Course content	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time				
according to detailed curriculum schedule	89.	Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer, they are introduced to the course content and documents on the e-learning page of the course.		1 h				

	Elements of the transport system. Historical development of traffic.	1, 2, 4	Listen to lectures and read literature.	In colloquium or the written and oral exam they define the system and elements of the transport system and explain the interdisciplinary nature of the transport system, and state the historical development of the elements and branches of the transport system.	3 h
90. Maritime transport.		1, 2, 3, 5	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or the written and oral exam they identify and explain the elements and technologies of maritime transport, and define and describe the role of technical and technological characteristics of maritime transport in the transport system.	4 h
91.	Inland waterways.	1, 2, 3, 5	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of inland waterway transport, and define and describe the role of technical and technological characteristics of maritime transport in the transport system.	4 h
92.	Seaports. Transportation technologies.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they identify and explain the types and operation of seaports, and define, list and describe transportation technologies and explain the interdependence of all branches of transport. Seminar work is done in groups with discussion.	4 h
93.	Study trip (Rijeka port).	1, 2, 3, 4, 5, 6	They listen to a lecture.	In colloquium or written and oral exams they identify and explain seaports, and	8 h

				define and describe the role of seaports as collection points into which traffic flows from all traffic routes and means of transport of different branches of traffic.	
94.	Road transport.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of road transport, and define and describe the role of technical and technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion.	4 h
95.	Road transport.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of road transport, and define and describe the role of technical and technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion.	4 h
96.	Rail transport. 1st Colloquium	1, 2, 3, 4, 5, 6	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they specify and explain the elements and technologies of railway transport,	
97.	Rail transport.	1, 2, 3,	They listen to a lecture and read literature.	In colloquium or written and oral exams	4 h

		4, 5, 6	In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	they specify and explain the elements and technologies of railway transport, and to define and describe the role of technical and technological characteristics of railway transport in the transport system. Seminar work in groups is prepared with discussion.	
98.	Air transport.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of air traffic, and define and describe the role of technical and technological characteristics of air traffic in the transport system. Seminar work is done in groups with discussion.	4 h
99.	Postal transport.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of postal traffic, and define and describe the role of technical and technological characteristics of postal traffic in the transport system. Seminar work is done in groups with discussion.	4 h
100.	Telecommunication transport.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of telecommunication traffic, and define and describe the role of technical and technological characteristics of telecommunications traffic in the transport system. Seminar work is done in groups with discussion.	4 h

	101.	Pipeline transport Cable car transpo		1, 2, 3, 4, 5, 6	They listen to a lecture at In the course of the individually explore the topic area by searching the the basis of it and the resup with their own ideas, problems.	e seminar, they e content of this he database, and on ad literature, come	In colloquium or written at they specify and explain and technologies of parableway traffic, and describe the role of the technological characteristic and cableway traffic in system. Seminar work is discussion.	the elements pipeline and define and echnical and cs of pipeline the transport	4 h
	107	City traffic. Taxi 2nd Colloquium.		1, 2, 3,4, 5, 6	They listen to a lect individually for the colloc		In colloquium or written at they identify and explain and technologies of urban define and describe the transport in the transport sy	the elements transport, and role of urban	42 h
	103.	Concluding consi Repeating and pro the exam.		6, 7	They listen to a lect individually for the exam		-		44 h
3. EVALUATION OF S	TUDE	ENT WORK							
3.1. Students' obligations In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: • From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year; • From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; • More than 50% - students have the right to take the final exam. Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two exams); b) during class (active participation in class and passing exams (written and oral part of the exam).								seminar the next c held in	
3.2. Monitoring student	Atte	ndance	1		Written exam	1 (without colloqui	ia) Project		

work (enter the share of	Experimental work		Research		Practical work			
ECTS credits for each activity so that the total	Essay		Report		Continuous examination	1		
number of ECTS points corresponds to the credit	Colloquium	1 (without written exam)	Seminar paper	1	Other			
score of the course)	Class activity	1	Oral exam	1	Other			
	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as:							
3.3. Student workload	1. Attendance 45 h	1. Attendance 45 h						
5.5. Student Workload	2. Design of seminar w	2. Design of seminar work and presentation 15 h						
	3. Preparation for the mid-term / midterm exam 120 h							

4. FORMATION OF GRADES

	Element of evaluation	Bad	Satisfying	Above average
4.1. Grading of seminar work	Organization	The paper is not organized in a logical order and lacks structure.	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.
	Terminology, writing style	Words and expressions low in line with official terminology. The writing style is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.	Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.	Words and expressions are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.
	references refere	The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed

				attitude.		research a	pproach.
		Bad		Satisfying		1	Above average
4.2. Grading of the colloguium / written and oral exam	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course		It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		Knowledge is at the level of analysi synthesis and evaluation. It observes the legality, accurately and thoroughly explain the content of the material, and logical connects and explains the terms and concept that it supports with examples. Find solutions that were not originally given. notes correlations with related material.		
	Active attendance	70-75% of the presence	76-86% of the presence 87 0 points		87-100% of	the presence	Case studies resolved
		0 points			0 p	oints	0 points
		2		3		4	5
4.3. Forming the final grade according to the	Seminar paper	Made and handed over	Made and	handed over Made and		handed over	Made and handed over
evaluation elements	Examination /	2		3	4		5
	Written	50-64%	65-	80%	81-	90%	91-100%
	examination	25-32 points	33-40	points	41-45	points	46-50 points
	Oral part of the	2		3		5	5
	exam	25-32 points	33-40	points	41-45	points	46-50 points
4.4. Formation of final		ired knowledge, skills and teaching + final exam)	l competences	l competences Number rating		ECTS grade	
grade based on absolute	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	90 – 100%		5 (ex	cellent)		A
distribution		80 - 89,9%		4 (ver	y good)		В
		65 - 79,9%		3 (§	good)		С

	60 – 64,9%	2 (sufficient)	D
	50 – 59,9%	2 (sufficient)	Е
5. ADDITIONAL INFOR	MATION ON THE SUBJECT		

5.1. Required literature (available in	Title	Number of copies in the library	Availability via other media			
the library and through other media)	6. Cerovac, V.: Tehnika i sigurnost prometa; FPZ, Zagreb, 2001. (odabrana poglavlja) Božičević, D., Kovačević, D.: Suvremene transportne tehnologije, FPZ, Zagreb, 2002.	3	No			
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	 12. Lectures 13. Zelenika, R.: Prometni sustavi, Ekonomski fakultet u Rijeci, Rijeka, 2001. 14. Zelenika, R.: Multimodalni prometni sustavi, Ekonomski fakultet u Rijeci, Rijeka, 2006. 15. Sussman, J.: Introduction to Transportation Systems, Artech House, United Kingdom, 2000. 	3 0 0	No No Yes			
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.					
5.4. Informing about the course and	It is the responsibility of each student to be regularly informed about the course, the coursework, classes or possible adjournment will be published in a timely manner on the e-learning site of the construction students can contact teachers during the consultation period (at least one hour per week), while for students can contact teachers during the consultation period (at least one hour per week).	ourse and on the websi	te of the Polytechnic.			

contacting the teacher

Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).

PK-SP-2. Description of a new course an amended and/or changed or modernized course.

1. GENERAL INFORMATION ABOUT THE SUBJECT							
1.1. Title	Traffic and ecology	1.8. ISVU course code	201135				
1.2. Lecturer	Tanja Radić Lakoš	1.9. MOZVAG course code					
1.3. Assistants and/or associates	None	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+0+15+0)				
1.4. Study programme (specialist, undergraduate, graduate)	Professional Undergraduate study of Traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st – materials available On-line, 0%				
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.				
1.6. Study year	1 st	1.13. Modernization	X yes □ no				
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □				

2. COURSE DESCRIPTION	ON
2.1. Course objectives	 The aim is that student, based on theoretical knowledge and case studies, be able to: Define basic ecological and environmental concepts; Understand problems in their own environment (in traffic and / or in the work environment) to independently manage the environment in a way that minimally affects the state and components of the environment in terms of sustainable development; Learn to identify the damage that traffic or traffic system participants can cause to natural ecosystems; Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year high school education completed; having a qualification at level 4.2
2.3. Learning outcomes on the study programme	LO1. To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.

level	LO3. To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.							
	LO4. To apply knowledge from the field of natural and technical sciences to problems in road traffic.							
	LO6. To analyze and present relevant facts from the field of traffic needed to reach conclusions.							
	LO11. To identify, predict and propose solutions in road traffic technology and technique.							
	LO13. To track trends in the development of technique, technology and safety in traffic.							
		LO Level:						
		8. Recapture,						
	Learning outcomes towards Bloom's taxonomy:	9. Understanding,						
	(up to two verbs per LO)	10. Application,						
	(up to two veros per LO)	11. Analysis,						
		12. Evaluation,						
		13. Synthesis						
2.4. Expected learning	1. to demonstrate knowledge and understanding of the content of the course by defining and describing the basic concepts in ecology and environmental protection,	1, 1						
outcomes on the course level	2. to analyze and compare the relationship between man and his environment in the historical and contemporary context of traffic and traffic techniques development,	4, 2						
	3. It will also provide an example of road traffic impacts on natural ecosystems and parts of the environment (air, water and sea, soil, flora and fauna) and	2, 3						
	4. Give an example of measures how to reduce negative impacts of traffic on the environment,	3						
	5. Discuss and critically evaluate on the activity of traffic participants as well as traffic experts in accordance with the principles of sustainability and accountability,	4, 5						
	6. Use materials and tools to search scientific and professional literature in Croatian and in English,	3						
	7. Present accepted knowledge, ideas, problems and solutions independently and in the team.	6						

2.5. Course content	Cons	tructive alignment				
according to detailed	No:	Thematic ensemble / Lecture	Course	Content / Teaching Method	Evaluation	Time
curriculum schedule	110.	Topic	LO	Content / Teaching Method	Evaluation	needed

	Introduction to the course and a detailed performance plan	-	Listen to the lecture. On seminary teaching, by independent work on the computer students get acquainted with course content and documents on the elearning course page.	-	2 h
104.	Fundamental Ecological principles.	1, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam students define fundamental ecological concepts. They describe the role of ecology as a science, describe the difference between ecology and environmental protection, define the role of Darwin. They know to sketch and explain the population growth in the ecosystem relative to the environmental capacity.	4 h
105.	Ecological factors.	1, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam students can name, distinguish and give an example of an ecological factor.	4 h
106.	Circulation of substances in the ecosystem. The role of energy in the Ecosystem.	1, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam students can define and describe the role of macro-elements in the environment, describe macro-elements cycles and explain the role of human impact in cycles of circling. In a colloquy or written and oral exam students can describe the role of solar energy for the functioning of the ecosystem, list members of the nutrition chain, and	4 h

107.	Pollution and degradation of the environment. Traffic caused Environmental Degradation.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually, in pairs or Socrates threes made mental map and solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	distinguish organisms with regard to the trophy. In a colloquy or written and oral exam students can define what environmental degradation is and how it comes to it, give an example of environmental degradation, analyse and conclude how environmental degradation occurs and compare how traffic causes degradation of the environment. Created mental map. Solved case study.	10 h
108.	Pollution and air degradation. Anthropogenic climate change.	1, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam students can define and describe the underlying concepts of air pollution, enumerate and distinguish natural and anthropogenic sources of air pollution, predict the effects of polluted air and the consequences of phenomena such as: greenhouse effect, global warming, climate change, acid rain, ozone depletion, analyse the impact of air pollution on the atmosphere, human health, plant and animal life and material heritage. Created and Presented seminar paper (by independent use of computer programs).	10 h

109.	Road motor vehicles as sources of air pollution	1, 3, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam they can define and describe types of ICE exhaust gases, give an example and interpret the impact of exhaust gas on motor vehicles on the air, human health and plant and animal life. Created and Presented seminar paper (by independent use of computer programs).	8 h
110.	View of mitigation and / or rehabilitation measures. The role of catalyser and λ -probe. Alternative fuels in road traffic.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam they can define and describe the material, role and mode of catalyser and λ probes, enumerate and describe alternative fuels in road traffic, choose the most environmentally friendly and interpret the choice, analyse the use of vehicles with ICE in the contemporary context of technology development and science. Created and Presented seminar paper (by independent use of computer programs).	10 h
111.	Conventional energy sources. RES.	1, 4, 5, 6, 7	Listen to the lecture and read the literature. They use multimedia and network. Listen to the lecture and read the literature. At the seminar student individually explore the content of this	In a colloquy or written and oral exam they can define and describe the types of fossil fuels and RES and choose and comment on the most environmentally acceptable	4 h

			topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	solution. Created and Presented seminar paper (by independent use of computer programs).	
112.	Road traffic and energy consumption. Ecological efficiency in Traffic.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam students can define and describe ecological efficiency, to analyse and compare energy consumption in traffic in the historical and contemporary context, to propose and use measures to reduce energy consumption in road traffic and increase energy efficiency, critically evaluate the most appropriate solution. Created and Presented seminar paper (by independent use of computer programs).	6 h
113.	Pollution and degradation of water in road traffic. View of mitigation and / or rehabilitation measures.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. At the seminar, students solve the case study.	In a colloquy or written and oral exam students can define and describe the basic concepts of pollution and degradation of water, to enumerate and distinguish natural and anthropogenic sources of water pollution, to predict the dynamics of water pollution along	8 h

114.	Pollution and degradation of the sea. Ballast water (environmental problem, treatment measures).	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. At the seminar, students solve the case study.	roads and to propose mitigation and / or rehabilitation measures. Solved case study. In a colloquy or written and oral exam they can define and describe the underlying concepts of pollution and degradation of the sea, enumerate and differentiate the natural and anthropogenic sources of pollution of the sea, predict the dynamics of seawater pollution and propose mitigation and / or rehabilitation measures. Solved case study	8 h
115.	Soil pollution and degradation in road traffic. View of mitigation and / or rehabilitation measures.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. They use multimedia and network. Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam students can define and describe the underlying concepts of soil contamination, enumerate and differentiate the soil's natural and anthropogenic contaminants, predict the consequences of phenomena such as erosion, desertification, deforestation, analyse the impact of road traffic on the fragmentation of habitats and propose mitigation / remediation measures of the environment and give an example of how to take care of it. Created and Presented seminar paper (by independent use of computer	1

				programs).	
116.	Noise and vibration in road traffic.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam students can define and describe the underlying concepts of noise pollution, enumerate road noise sources, predict the effects of noise on human health and propose measures to reduce noise in and out of the vehicle. Created and Presented seminar paper (by independent use of computer programs).	6 h
117.	Ecologically acceptable forms of traffic.	1, 2, 3, 5, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam they can describe and critically evaluate the most environmentally acceptable form of traffic, analyse this choice in the historical and contemporary context of traffic technology, give an example of the impact of air and rail traffic on the environment.	6 h
118.	Concluding Considerations / Repeating and Preparing for Exam.		Listen to the lecture and individual preparation for the exam.	-	20 h

3. EVALUATION OF STUDENT WORK

3.1. Students' obligations

In accordance with the Book of Rules and the Rulebook on Student Assessment and Evaluation: for all regular students attend at least 70% attendance. Part-time students have the obligation to attend at least 50% of lectures. All students must create, present and positively colloquy seminar paper. Students who have during the course achieved:

	 academic year; From 25 – 49, in a regular or More than 50% Students can pass the f creating mental map, s participation in the less 	 From 0 – 24,9% ECTS credits- is rated F (unsuccessful) and cannot get ECTS credits and must re-enrol the subject in the next academic year; From 25 – 49,9% ECTS credits - is rated FX (inadequate) and has to come out and pass the test (exam). A written exam can be held in a regular or extraordinary exam period; More than 50% ECTS credits - students have the right to access the final exam of the subject. Students can pass the final exam in two ways: a) during the course through continuous student attendance (active participation in the lessons, creating mental map, solving case studies, making and presenting the seminar paper and passing two colloquia); b) during the course (active participation in the lessons, creating mental map, solving case studies, creating and presenting the seminar paper) and passing the exam (written and oral exam). 								
	Attendance		Written exam	2 (by submitting both colloquiums the student is relieved of an written examination)	Project					
3.2. Monitoring student	Experimental work		Research		Practical work					
work (enter the share of ECTS credits for each	Essay		Report		Continuous examination					
activity so that the total number of ECTS points corresponds to the credit score of the course)	Colloquium	3 (by submitting both colloquiums the student is relieved of a written and oral examination)	Seminar paper	0,5	Other (inscribe)					
	Class activities	0,5	Oral exam	1 (by submitting both colloquiums the student is relieved of an oral examination)	Other (inscribe)					

	The student's workload	on all bases amounts to	o 1 ECTS point	for 30 h	ours of work per seme	ster and	is estimated as:		
	Commitment				Hours (estimate)				
3.3. Student workload	11. Attending class	ses			45				
	12. Creating and P	resenting seminar pap	er		10				
	13. Preparation for	r the Colloquium / exa	m through self-s	tudy	65				
4. GRADING									
	Valuation Element	Poor			Satisfying		Above average		
	Organization	The paper is not of logical order and in lacking.	•	clear introd	distinction between the duction, the main part of the and the conclusion.		The paper is well-structured with a clear distinction between the introduction, the main part of the text and the conclusions that are perfectly logically linked to one another		
4.1. Seminar paper grading	Terminology, writing style	Words and phrash harmonized with terminology. Writing appropriate, sentenced modest vocabulary, and repeated mistakes.	th official g style is not es are too long,	officia style structu approp	Words and phrases are aligned with official terminology. The writing tyle is appropriate, the sentence tructure is clear, the vocabulary is appropriate and has little grammatical errors.		Words and phrases are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.		
	Sources are not specified at all. The Quoting and references do not match the topic and show a superficial approach to the research topic		and wapprop	Sources are listed, but incomplete and with errors. The references are appropriate for the subject and show a satisfactory research attitude.		Sources are accurate, complete and consistent. The references are appropriate, their list is "rich" and comprehensive and shows a robust research approach.			
	Poo	or		Satis	iying		Above average		
4.2. Colloquium / exam	Give answer by m	•	•		ns, without difficulty		Knowledge is at the level of analysis,		
grading	understanding. Does no				vledge, understands		ynthesis and evaluation. It observes		
	apply the basic terms a	•			ns the terms and the	legitim			
	apply or explain the co	notions that substantiate by examples.			explair	explains the content of the subject, and			

					conc	epts that it enca	explains the terms and psulates. Find solutions lly given. There is a ative subjects.	
	Active participation	70-75% of attendance	7	6-86% of attendance	87-100% of attendance		Created mental map. Solved case study.	
	in the lessons	2 points		4 points	7 poir	ts	3 points	
	Saminar nanar	2		3	4		5	
4.3. Creating a final grade	Seminar paper	5 points		7 points	8 poir	ts	10 points	
according to evaluation elements	C-11i/i+	2		3	4		5	
elements	Colloquium / written exam	50-64,9%		65-79,9%	80-89,9	9%	90-100%	
	CAUTI	25 points	30 points		35 points		40 points	
	Oral exam	2	3		5		5	
	Ofai exam	25 points		30 points	35 points		40 points	
		lopted knowledge, skills a s (teaching + final exam)	Numerous grade		EC	CTS grade		
4.4. Creating a final grade		90 – 100%	5 (excelle	nt)	A			
according to absolute		80 – 89,9%		4 (very good)		В		
allocation		65 – 79,9%		3 (good		С		
		60 – 64,9% 2 (sufficient) 50 – 59,9% 2 (sufficient)					D E	
5. ADDITIONAL INFOR	MATION ABOUT TH	,		2 (Sufficient			2	
5.1. Compulsory literature		Title					oies Availability via y other media	
(available in the library	•	iament and Council of						
and through other media)		nsport Space Platoon - A Managing Resources", CO			ransport System		Available On-line	

	2. Golubić, J., Promet i okoliš, FPZ, Zagreb, 1999.	5	Available On-line	
5.2. Additional literature (at the moment of changes and/or amended of study programme)	16. Radić Lakoš, T., Upravljanje okolišem, VUŠ, Šibenik, 2018. (selected chapters) 17. Glavač, V., Uvod u globalnu ekologiju, Hrvatska sveučilišna naklada, Zagreb, 2001. 18. Udovičić, B., Čovjek i okoliš, Kigen, Zagreb, 2009.	5 2	Available On-line	
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.			
5.4. information on the course and contact with the teacher	It is obligatory for every student to regularly inform about the course, teaching and teaching active delay in teaching will be published on the e-learning pages of the course and on the web pages of teachers during the consultation term (at least one hour per week), while brief questions and explar possible to ask questions by e-mail (from the official e-mail address from the domain @ vus.hr) the than five working days from the receipt of e-mail).	of the Polytechnic. Stu- nations can be addresse	dents can contact the d during classes. It is	

7.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	140773			
7.2. Course title	Darijo Sego	1.9. Course code in MOZVAG	140773			
7.2. Course title	Traffic logistic	1.9. Course code ili MOZVAG				
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing +	(30+0+30+0)			
associates		Practical exercises + Seminars + e learning)				
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1st, 2nd, 3rd	1 st , course materials are			
(specialist, undergraduate,		level), percentage of on line course performance (max.	on-line, 0%			
graduate)		20%)				
1.5. Course status	Optional	1.12. Number of course revisions	4			
(obligatory, optional)						
1.6. Year of study	1 st , 2 nd	1.13. Modernization	Yes			
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or	Less than 20% X			
		supplements	More than 20 % □			
8. COURSE DESCRIP	TION					
2.1. Course objectives	The goal is to get students on the basis of theoretica	l knowledge and case studies:				
	 learn about the elements of the logistics sys 	tem,				
	 identify and overcome logistical processes and activities that are related to storage, transportation, and traffic, 					
	• identify and overcome logistical processes	and activities that are related to storage, transportation, and traff	1C,			
	 identify and overcome logistical processes a mastering the modern logistics concepts and 		10,			
2.2. Terms of course entry	 mastering the modern logistics concepts and 					
2.2. Terms of course entry and required competences	 mastering the modern logistics concepts and 	d strategies.				
•	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa 	d strategies.				
and required competences	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa 	d strategies. tion completed; qualification level 4.2 according to the CROQF				
and required competences 2.3. Learning outcomes	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa LO1: Use and link professional terms in road traff public in Croatian and English. 	d strategies. tion completed; qualification level 4.2 according to the CROQF				
and required competences 2.3. Learning outcomes on the study programme	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa LO1: Use and link professional terms in road traffiquelic in Croatian and English. LO2: Organize and conduct teamwork, and criticall 	d strategies. tion completed; qualification level 4.2 according to the CROQF fic technology and organization in written and oral communication.				
and required competences 2.3. Learning outcomes on the study programme	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa LO1: Use and link professional terms in road traffiquelic in Croatian and English. LO2: Organize and conduct teamwork, and criticall 	d strategies. tion completed; qualification level 4.2 according to the CROQF fic technology and organization in written and oral communicates y evaluate the opinions and attitudes of team stakeholders. et and integrate relevant literature for decision making.				
and required competences 2.3. Learning outcomes on the study programme	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa LO1: Use and link professional terms in road traff public in Croatian and English. LO2: Organize and conduct teamwork, and criticall LO3: Independently and responsibly search, interpretation. 	d strategies. tion completed; qualification level 4.2 according to the CROQF fic technology and organization in written and oral communicate y evaluate the opinions and attitudes of team stakeholders. et and integrate relevant literature for decision making. affic area required to reach conclusions.				
and required competences 2.3. Learning outcomes on the study programme	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa LO1: Use and link professional terms in road traffiquency public in Croatian and English. LO2: Organize and conduct teamwork, and criticall LO3: Independently and responsibly search, interpretable. LO6: Analyze and present relevant facts from the transport of the context of th	d strategies. tion completed; qualification level 4.2 according to the CROQF fic technology and organization in written and oral communicates y evaluate the opinions and attitudes of team stakeholders. et and integrate relevant literature for decision making. affic area required to reach conclusions. Froad transport and/or transport logistics.				
and required competences 2.3. Learning outcomes on the study programme	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa LO1: Use and link professional terms in road traff public in Croatian and English. LO2: Organize and conduct teamwork, and criticall LO3: Independently and responsibly search, interpredictions. LO6: Analyze and present relevant facts from the trailing Evaluate and organize processes in the field of 	d strategies. tion completed; qualification level 4.2 according to the CROQF fic technology and organization in written and oral communicate y evaluate the opinions and attitudes of team stakeholders. et and integrate relevant literature for decision making. affic area required to reach conclusions. Froad transport and/or transport logistics. nologies and techniques of road transport.				
and required competences 2.3. Learning outcomes on the study programme	 mastering the modern logistics concepts and Enrolled 2nd academic year, 4 year secondary educa LO1: Use and link professional terms in road trafficultion public in Croatian and English. LO2: Organize and conduct teamwork, and criticall LO3: Independently and responsibly search, interpretable. LO6: Analyze and present relevant facts from the trafficultion. Evaluate and organize processes in the field of IU11: Identity, anticipate and propose solution technical. 	d strategies. tion completed; qualification level 4.2 according to the CROQF fic technology and organization in written and oral communicate y evaluate the opinions and attitudes of team stakeholders. et and integrate relevant literature for decision making. affic area required to reach conclusions. Froad transport and/or transport logistics. nologies and techniques of road transport. ally evaluate it.				

outcomes on the course						2 - understanding,	
level (4-10 learning						3 - application,	
outcomes)						4 - analysis,	
						5 - evaluation,	
						6 – synthesis.	
	1. Defi	ne and differentiate basic terms and	division	in logistics, warehousing, and freight forwardi	ng.	1, 2	
	2. Ana	lyze and extract information and co	mmunicat	ion technologies in transport logistics.		4, 2	
		ct, evaluate and categorize services				3, 5	
		4. Compare and connect ways of transportation of products, organization of distribution and performance of city logistics.				4, 6	
	5. Prop	5. Propose ways of doing urban logistics, handling of products and reduction of inventory costs.				6	
		6. Use materials and tools to search the scientific and professional literature in their native and English languages.				3	
	7. Pres	7. Present the acquired knowledge, ideas, problems, and solutions independently and in a team.			6		
2.5. Course content	Comet	Constructive allignement					
2.5. Course content	Const	cuctive allignement					
according to detailed	Const	cuctive allignement					
	Const	ructive allignement					
according to detailed	No	Thematic unit	LO of	Content/teaching methods	Ev	aluation	Time
according to detailed		Ü	LO of the	Content/teaching methods	Ev	aluation	Time
according to detailed		Ü		Content/teaching methods	Ev	aluation	Time
according to detailed		Ü	the	Content/teaching methods Listening to the lecture. In the course of	Ev	aluation	Time
according to detailed	No	Thematic unit	the	C C C C C C C C C C C C C C C C C C C	Ev	aluation	Time
according to detailed	No	Thematic unit Introductory presentation	the	Listening to the lecture. In the course of	Ev	aluation -	Time 2 h
according to detailed	No	Thematic unit Introductory presentation (introducing students to the	the course	Listening to the lecture. In the course of seminars, they are introduced to the course	Ev	aluation -	
according to detailed	No	Thematic unit Introductory presentation (introducing students to the	the course	Listening to the lecture. In the course of seminars, they are introduced to the course content and documents on the e-learning	Ev	aluation -	
according to detailed	No	Thematic unit Introductory presentation (introducing students to the	the course	Listening to the lecture. In the course of seminars, they are introduced to the course content and documents on the e-learning page of the course by working		aluation - uium or the written	2 h
according to detailed	No 1.	Thematic unit Introductory presentation (introducing students to the course content and obligations)	the course	Listening to the lecture. In the course of seminars, they are introduced to the course content and documents on the e-learning page of the course by working independently on a computer.	At the colloqu	-	2 h
according to detailed	No 1.	Thematic unit Introductory presentation (introducing students to the course content and obligations) The term of logistics (term,	the course	Listening to the lecture. In the course of seminars, they are introduced to the course content and documents on the e-learning page of the course by working independently on a computer. They listen to a lecture and read literature.	At the colloque and oral exa	uium or the written	2 h
according to detailed	No 1.	Introductory presentation (introducing students to the course content and obligations) The term of logistics (term, developmental factors, elements	the course	Listening to the lecture. In the course of seminars, they are introduced to the course content and documents on the e-learning page of the course by working independently on a computer. They listen to a lecture and read literature. At the seminar class, they individually	At the colloque and oral example how to define	uium or the written	2 h

			seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	development. Seminar paper created and presented (by computer programs).	
3.	Human resources in logistics (management, freight forwarders, FIATA documents, customs officers).	1, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam, students know how to define and distinguish the basic concepts in freight forwarding. Enumerate all freight forwarding jobs, distinguish between customs documents, human resources working in logistics. Seminar paper created and presented (by computer programs).	6 h
4.	Warehouses and storage (concept, types and division, the factors for determining the location, equipment and furnishing warehouses, methods of storage operations)	1, 3, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam students know how to define and differentiate the basic concepts of storage. Distinguish, describe and present warehouse equipment. Analyze and evaluate factors for determining location. Select, evaluate and categorize services in the warehouse business. List the rules and methods for storing goods. Seminar paper created and presented (by computer programs).	6 h

= W1 C		T1	A 4 41 11	
5. Warehousing and storage of		They use multimedia and network. They	At the colloquium or the written	
products (video films)		listen to a lecture and read literature. At the	and oral exam, students can	
		seminar class, they individually explore the	distinguish, describe and present	
		content of this topic area by searching the	the warehouse equipment. Choose	
	1, 3, 6,	database, and on the basis of it and reading	adequate racks and forklifts for	
	7	the literature, create a seminar paper that	the storage of products and	6 h
	,	presents the acquired knowledge and	internal transport. Seminar paper	
		presents their own ideas, and ways to solve	created and presented (by	
		problems. In group work at the seminar	computer programs).	
		class, the brainstorming method and the		
		discussion method on the topic are applied.		
6. Freight terminals and Freight-		They use multimedia and network. They	At the colloquium or the written	
transportation centers (concept		listen to a lecture and read literature. At the	and oral exam, students can	
and division, development goals		seminar class, they individually explore the	define the basic terms of the	
of Freight-transportation center,		content of this topic area by searching the	Freight terminals and the Freight-	
functions, services, 3PL)	1.2.6	database, and on the basis of it and reading	transportation centers. Distinguish	
	1, 3, 6,	the literature, create a seminar paper that	between Freight-transport centers	6 h
	7	presents the acquired knowledge and	by size and location. Select and	
		presents their own ideas, and ways to solve	categorize services provided at	
		problems. In group work at the seminar	terminals and centers. Seminar	
		class, the brainstorming method and the	paper created and presented (by	
		discussion method on the topic are applied.	computer programs).	
7. Information and communication		They use multimedia and network. They	At the colloquium or the written	6 h
system in the function of		listen to a lecture and read literature. At the	and oral exam, students can	
logistics (elements, methods of		seminar class, they individually explore the	distinguish between information	
communication, modern		content of this topic area by searching the	and communication technologies	
computer programs, warehouse	2, 6, 7	database, and on the basis of it and reading	in logistics, warehouse	
management system)	_, _, ,	the literature, create a seminar paper that	management system, Bar code	
		presents the acquired knowledge and	technology, and RFID	
		presents their own ideas, and ways to solve	identification. Identify the	
		problems. In group work at the seminar	abbreviations of information and	
		problems. In group work at the seminar	acoreviations of information and	

			class, the brainstorming method and the	communication technologies.	
			discussion method on the topic are applied.	Establish the difference, strengths	
			discussion inclined on the topic are applied.	,	
				and the weakness of using it.	
				Seminar paper created and	
				presented (by computer	
				programs).	
8.	Information and communication		They use multimedia and network. They	At the colloquium or written and	6 h
	system in the function of		listen to a lecture and read literature. At the	oral exam, students know how to	
	logistics (video films)		seminar class, they individually explore the	define and describe the Bar code	
			content of this topic area by searching the	technology, RFID identification,	
			database, and on the basis of it and reading	voice technology, and technology	
		2, 6, 7	the literature, create a seminar paper that	Pick to light. Establish the	
			presents the acquired knowledge and	difference, strengths and the	
			presents their own ideas, and ways to solve	weakness of using it. Seminar	
			problems. In group work at the seminar	paper created and presented (by	
			class, the brainstorming method and the	computer programs).	
			discussion method on the topic are applied.	a confined for general):	
9.	Inventory management and		They listen to a lecture and read literature.	At the colloquium or the written	6 h
, ·	manipulation with products		At the seminar class, they individually	and oral exam, students can	O II
	(inventory planning and control,		explore the content of this topic area by	propose ways of manipulating	
	supply chain, packaging of		searching the database, and on the basis of	with products (packaging,	
				1 0 0	
	goods, palletization and		it and reading the literature, create a	palletizing) and reducing the cost	
	containerization)	5, 6, 7	seminar paper that presents the acquired	of supplies (supply chain). Define	
			knowledge and presents their own ideas,	and describe Supply Chain and	
			and ways to solve problems. In group work	Just in time procurement. Identify	
			at the seminar class, the brainstorming	the difference between applying	
			method and the discussion method on the	pallets and containers. Seminar	
			topic are applied.	paper created and presented (by	
				computer programs).	
10.	Transportation in the logistics	2, 4, 6,	They listen to a lecture and read literature.	At the colloquium or the written	6 h
	system (road, rail, air and	7	At the seminar class, they individually	and oral exam, students know	

	pipeline transport, inland	1	explore the content of this topic area by	how to distinguish transport	
	waterways transport, transport		searching the database, and on the basis of	modes in logistics, in all branches	
	costs, transport documents)	·	it and reading the literature, create a	of traffic. Identify the advantages,	
	costs, transport documents)		1	1	
			seminar paper that presents the acquired		
			knowledge and presents their own ideas,	transportation. Seminar paper	
			and ways to solve problems. In group work	created and presented (by	
			at the seminar class, the brainstorming	computer programs).	
			method and the discussion method on the		
			topic are applied.		
1	11. Modern transport technologies		They use multimedia nad network. They	At the colloquium or the written	6 h
	in transport logistics (conditions	;	listen to a lecture and read literature. At the	and oral exam, students know	
	for development, integral		seminar class, they individually explore the	how to isolate and analyze	
	transport, technologies on the	;	content of this topic area by searching the	transport technologies in logistics	
	road, rail, water, and air	•	database, and on the basis of it and reading	in the road, rail, water, and air	
	transport)	2, 4, 6,	the literature, create a seminar paper that	transport. Compare, identify	
		7	presents the acquired knowledge and	similarities/differences in the	
			presents their own ideas, and ways to solve	transportation of products with	
			problems. In group work at the seminar	modern transportation	
			class, the brainstorming method and the	technologies. Seminar paper	
			discussion method on the topic are applied.	created and presented (by	
			The second secon	computer programs).	
1	12. Distribution and ordering of	?	They use multimedia and network. They	At the colloquium or the written	6 h
	goods (concept, purpose, and		listen to a lecture and read literature. At the	and oral exam, students can	0 11
	structure of the distribution		seminar class, they individually explore the	define the terms of order and	
	system, distribution networks,		content of this topic area by searching the	distribution. Propose the ways of	
	costs in distribution, term of the		database, and on the basis of it and reading	orders in case of missing	
	order, processes in ordering)	4, 6, 7	the literature, create a seminar paper that	products. Determine the	
	order, processes in ordering)		presents the acquired knowledge and	1	
			presents the acquired knowledge and presents their own ideas, and ways to solve	difference between physical distribution and distribution	
			problems. In group work at the seminar	channels. Compare and explain	
			class, the brainstorming method and the	distribution network concepts.	

			discussion method on the topic are applied.	Identify distribution costs.	
			and the same of the same upproduction	Seminar paper created and	
				presented (by computer	
				programs).	
13.	City logistics (concept, task, and		They listen to a lecture and read literature.	At the colloquium or the written	
	goal of city logistics, initiatives,		At the seminar class, they individually	and oral exam, students can	
	the structure of city logistics		explore the content of this topic area by	define the concept and the goal of	
	system, optimization of logistics		searching the database, and on the basis of	city logistics. Distinguish and	
	flows)		it and reading the literature, create a	isolate participants in city	
	,		seminar paper that presents the acquired	logistics. Categorize flows of	
		4, 5, 6,	knowledge and presents their own ideas,	products in city logistics. Identify	
		7	and ways to solve problems. In group work	means of transport. Suggest city	6 h
			at the seminar class, the brainstorming	logistics concepts. Identify the	
			method and the discussion method on the	advantages and disadvantages of	
			topic are applied.	optimizing the flow of products.	
			1 11	Seminar paper created and	
				presented (by computer	
				programs).	
14.	Study trip to LIDL Logistics-			On a study tour, students will be	
	distribution center (located in			able to define and differentiate	
	Perušić).			basic terms and divisions in	
	,			logistics, warehousing, and freight	
				forwarding. Select, evaluate and	
		1 2 4		categorize services in the	
		1, 3, 4,		warehouse business. Compare and	8 h
		5		connect modes of product	
				transport, organization of	
				distribution of products. Suggest	
				ways of manipulation with the	
				products and reducing inventory	
				costs.	

		erations/Repeating	They listen to a course l	* *	_	40 h				
	and preparing	for the exam.	individuals for the exam.							
9. EVALUATION OF STUDENT WORK										
3.1. Student obligations		Rulebook on Study and the Ru								
		st 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar								
	* *	pers. Students who have achieved during the course: from 0 - 24,9% ECTS credits- are rated F (unsuccessful) and cannot earn ECTS								
		roll in the next academic year		• `	, <u> </u>	^				
	` ′	xam (test) can be held in a reg	•	•		•				
		an take the final exam from th	• /	•		•				
	` *	pation in classes and through t	, , , 1	,	,					
3.2. Student work	Attending classes	1	Written exam	1 (without	Project					
monitoring (enter the	7		D 1	colloqiums)						
share of ECTS credits for	Experimental work		Research		Practical work					
each activity so that the total number of ECTS	Esaay		Report		Continuous check					
credits corresponds to the	Colloquiums	1 (without written part of	Seminar paper	0,5	(other)					
course credit value)		exam)								
course credit value)	Teaching activities	1	The oral part of exam	0,5	(other)					
3.3. Student work-load	Student workload on a	Ill bases is 1 ECTS credit for 3	30 semester hours and is	assessed as attendan	ce (60 hours), prepara	ation of seminar work				
		ours), preparation for the midte	erm/exam through self-stu	dy (44 hours).						
4. FORMATION OF STU	DENT GRADE									
4.1. Evaluation of seminar	Elements of	Bad	Satis	sfying	Above	e average				
paper	evaluation									
	Organization	The paper is not organized	* *	l structured with a		structured with a clear				
			acks clear distinction			the introduction, the				
		structure.	*	introduction, the main body of the text						
			and the conclusion	•	conclusion, which are logical interconnected.					
	Terminolog, writing	Words and expressions are	not Words and express	ions are in line with	Words and express	sions are aligned with				
	style	in line with off		y. The writing style		ogy and show an				
		terminology. The writing s	style is appropriate, the	sentence structure is	understanding of	their meaning. The				

	T				T		
		is not appropriate, the	clear, the vocabulary	* * *		xcellent, the sentences	
		sentences are too long, of a	and there are few gram	matical errors.		cise, the vocabulary is	
		modest vocabulary and with			rich and there are	no grammatical errors.	
		frequent and repeated					
		grammatical errors.					
	Citing and referencing	The sources are not listed at	The sources are listed	l but incomplete	The sources are	accurately, completely	
	references	all. The references do not fit	and with errors. The	references are	and consistently	listed. The references	
		the topic and show a cursory	relevant to the topi	c and show a	are appropriate,	their list is "rich" and	
		approach to exploring the	satisfactory research at	ttitude.	comprehensive a	and shows a detailed	
		topic.			research approach	l .	
4.2. Gradeing of the		Bad	Satisfyi	ng	Abov	ve average	
colloquium/written and							
oral exam	1 1	without a deeper understanding.	It reproduces the bas	*	Knowledge is at the level of analysis,		
		ply basic terms and concepts. It	without difficulty imparts new		synthesis, and evaluation. It observes the		
		apply or explain the contents of			legality, accurately and thoroughly		
	the course with example	S.	explains the terms and concepts that it		explains the content of the material, and		
			supports with example	S.	logically connects and explains the		
					terms and concepts that it supports with		
					examples. Finds solutions that were no		
						It notes correlations	
					with related mater		
4.3. Forming the final	Active attendance on	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created,	
grade according to the	class	70 7370 attendance	70 0070 attendance	07 10070	attendance	Case studies resolved	
evaluation elements		2 points	4 points	7 p	oints	3 points	
	Seminar paper	2	3		4	5	
	Seminar paper	5 points	7 points	8 p	oints	10 points	
	G 11 /	2	3		4	5	
	Colloquiums/ Written part of exam	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%	
	"Tittell part of exam	25 points	30 points 35 p		oints	40 points	

		2	3		5	5
	Oral part of exam	25 points	30 points	35 p	points	40 points
4.4. Formation of the final	Percentage of acqu	nired knowledge, skills and	Numerical grade		EC'	TS grade
grade based on the	competencies	(teaching + final exam)				
absolute distribution	9	0 - 100%	5 (excellent)			A
	8	0 – 89,9%	4 (very good)			В
	6	5 – 79,9%	3 (good)			С
	6	0 – 64,9%	2 (sufficient)			D
	5	0 – 59,9%	2 (sufficient)			Е
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE				
5.1. Compulsory literature		Title		Num	ber of copies in	Availability via
(available in the library					the library	other media
and via other media)	Ivakovic C., Stankovic I	R., Šafran M.: Freight Forwarding	and Logistics Processes,		-	City of Sibenik
	Faculty of Transportation	n Sciences, University of Zagreb,	rs)		library	
		nt-transport Centers, Faculty of Tr	ransportation Sciences,		-	PDF (Internet
	University of Zagreb, 20	• /				website)
	_	ystems, University of Rijeka, Fac	ulty of Economics, Rijeka, 200)5	2	
	(selected chapters)					
		s, MATE, Zagreb School of Econo	b,	-	City of Sibenik	
	2006 (selected chapters)				library	
5.2. Additional literature	_	lectures and seminars on the e-Le	earning system of the			e-learning system
(at the moment of	Polytechnic of Sibenik f					City of Sibenik
changes and/or amended	^	Systems, University of Rijeka, Fac	culty of Economics, Rijeka,			library
of study programme)	2001.	10 11 0 11 1 1 1				G': 6G'! '!
	*	nd freight forwarding business, U	niversity of Rijeka, Faculty of			City of Sibenik
	Economics, Rijeka, 200				library	
	Logistics www.logistika		0 1 1 1	1 1 111 111	1 1.1	Internet website
5.3. Quality assurance		work quality and the acquisition	•		~	· · · · · · · · · · · · · · · · · · ·
methods that ensure the	keeping track of attenda	nce and student activity during cla	asses and provided information	n on student	s progress through	short colloquiums and

acquisition of knowledge,	homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be
skills and competences	informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system:
	Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from
	employers and Alumni association.
5.4. Informing about the	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of
course and contacting the	classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the
course lecturer	Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and
	explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address name@vus.hr),
	which will be answered as soon as possible (no later than five working days after receiving the e-mail).

1. GENERAL INFORMA	1. GENERAL INFORMATION						
1.1. Course title	Transshipment resources I	1.8. Course code at ISVU	187602				
1.2. Course lecturer	Ana-Mari Poljičak	1.9. Course code at MOZVAG					
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+30+30+0)				
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of Traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st 0%				
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.				
1.6. Year of study	2 nd	1.13. Modernization	X Yes No				
1.7. Credit point (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □				

2. COURSE DESCRIPTION	ON					
	The goal is to provide students with theoretical knowledge:					
	• Distinguish between types of transshipment resources;					
2.1. Course objectives	• Understand the principle of continuous operation of transhipment machinery and set an example for application in business practice;					
	Calculate the efficiency of uninterrupted handling equipment;					
	• Learn how to choose uninterrupted handling equipment based on the type of goods.					
2.2. Terms of course entry						
and required competences	Four-year secondary education completed; qualification level 4.2 according to the HKO.					
	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional					
2.3. Learning outcomes	public in Croatian and English.					
on the study programme	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.					
level	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.					
	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.					

	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.							
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.							
2.4. Expected learning outcomes on the course level	Learning outcomes according to Bloom's taxonomy:	Level of LO: 1 - memory, 2 - understanding, 3 - application, 4 - analysis, 5 - evaluation, 6 - synthesis.						
	1. state the division of goods according to the technical suitability for transport and transhipment and list the physical and technical characteristics of the goods,	1						
	2. to sketch and comment on continuous operation transhipments,	3, 4						
	3. calculate the productivity of individual continuous-action transhipment means,	4						
	4. recommend loading and unloading means depending on the type of goods and productivity.	5						

	Constructive allignement								
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time			
2.5. Course content according to detailed curriculum schedule	110	Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer, they are introduced to the course content and documents on the e-learning page of the course.	-	1 h			
	119.	Basics of transverse mechanization.	1	Listen to lectures and read literature. In seminar classes, they are introduced to the methodology of writing seminar papers. They choose the topic of seminar papers. The brainstorming method and the method	oral exam they indicate the types of transhipment according to the degree of mechanization and automation.				

	1		T		1
			of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they repeat the units and formulas needed to calculate the productivity of the handling equipment.	according to the technical suitability for transport and transhipment and state the physical and technical characteristics of the goods. They define and sketch the bulk angle. They list the types of continuous handling machine productivity.	
120.	Belt conveyors. Band conveyor belts.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral examination know enumerate characteristics and sketch the belt conveyor and explain its components. Give an example application. List and explain the types of tape belt conveyors. Specify and sketch the shape of the carrier surfaces of the conveyor belts. They know how to calculate the productivity of belt conveyors.	10 h
121.	Drums and rollers of belt conveyors.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral examination know enumerate and explain the role of drums. Sketch the conveyor belt drive with one, two and three drive drums. List and sketch the types of rollers by design and shape. They know how to calculate the productivity of belt conveyors.	10 h

1.	122.	Devices for loading and unloading.	2, 3, 4	They listen to a lecture and read literature At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral examination know state, outline and explain the role of loading-unloading device. Seminar paper created (presented by computer programs). They know how to calculate the required belt width for a belt conveyor. They know how to calculate the productivity of belt conveyors.	9 h
1:	123.	Screw conveyors.	2, 3, 4	They listen to a lecture. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral exam knows outline and explain the role of screw conveyors, and state its advantages and disadvantages. Give an example application. They know how to calculate the productivity of belt conveyors	8 h
1.	124.	Screw conveyors.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are	At the colloquium or written and oral examination know enumerate and outline the forms of screw transporters and specify for which type of materials are used. Sketch and explain the principle of operation of the worm conveyor for piece goods. Seminar paper created (presented by computer	7 h

	T	1	4.4.4.4	<u> </u>	
			applied in the seminar teaching. In the	* • • • • • • • • • • • • • • • • • •	
			exercise classes, they calculate the	productivity of screw conveyors.	
			productivity of the conveyor by analytical		
			methods.		
125.	Elevators. Colloquium I.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or the written and oral exam they can define the elevators and specify and explain the types of elevators. Sketch and explain the principle of operation of the elevator. List and sketch the types of buckets and elements for the transfer of piece goods. They know how to calculate the productivity of an elevator.	8 h
126.	Pneumatic conveyors.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral exam knows specify types of pneumatic conveyors, outline and explain their working principle. Seminar paper created (presented by computer programs). They know how to calculate the productivity of pneumatic conveyors.	8 h
127.	Sectional conveyors.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by	At the colloquium or the written and oral examination they can state the characteristics of the sectional	8 h

			searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method	conveyors and sketch and explain their working principle. Seminar paper created (presented by computer programs). They know how	
			of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	to calculate the productivity of sectional conveyors.	
128.	Vibrating conveyors.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or the written and oral exam they can state the characteristics of oscillatory conveyors, explain their working principle and sketch them. Seminar paper created (presented by computer programs). They know how to calculate the productivity of vibrating conveyors.	9 h
129.	Vibrating conveyors.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the	The colloquium or written and oral exam knows specify characteristics of vibratory conveyors, to explain their working principle and sketch them. Seminar paper created (presented by computer programs). They know how to calculate the productivity of vibrating conveyors.	9 h

		2, 3, 4	productivity of the conveyor by analytical methods. They listen to a lecture and read literature.	At the colloquium or the written and	
130.	Gravity conveyors.		At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	oral exam they can define gravity conveyors, explain the principle of operation and state their advantages and disadvantages. Explain the principle of operation of a straight gravity slide and sketch it. Seminar paper created (presented by computer programs). They know how to calculate the productivity of gravity conveyors.	8 h
131.	Gravity conveyors.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching. In the exercise classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or the written and oral exam they can explain the principle of work of the gravity slider, indicate the performances and sketch them. Indicate the types of gravity rollers and explain their working principle. Give an example application. Seminar paper created (presented by computer programs). They know how to calculate the productivity of gravity conveyors.	8 h
132.	Conveyors scrapers. Colloquium II.	2, 3, 4	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this thematic area by searching the database, and on the basis of it and the read literature, create a seminar	The colloquium or written and oral examination know explain the working principle and sketch conveyor scraper. Give an example application. Explain what redlers are. They know how to	8 h

			The brainstorming of discussing the applied in the ser exercise classes,	the acquired knowledge. method and the method topic discussed are minar teaching. In the they calculate the conveyor by analytical		ty of a scraper
		ng considerations. g and preparing for	They listen to a individually for the	lecture and prepare exam.	-	32 h
3. EVALUATION OF ST	UDENT WORK	·				
3.1. Students' obligations	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: • From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year; • From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; • More than 50% - students have the right to take the final exam. Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two colloquium); b) during class (active participation in class and passing exams (written and oral part of the exam).					
3.2. Monitoring student	Attendance		Written exam	3 (without colloquia)	Project	
work (enter the share of ECTS credits for each	Experimental work		Research		Practical work	
activity so that the total number of ECTS points	Essay		Report		Continuous examination	1
corresponds to the credit	Colloquium	3 (without written exam)	Seminar paper	0,5	Other	

score of the course)	Class activity 0,5	Oral exam	Oral exam		Other					
	Student workload on all	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as:								
3.3. Student workload	Obligation			Hours (estimated)						
5.5. Student Workload	14. Active class att	endance		90						
	15. Preparing collo	quia or exams through individual wor	ζ.	60						
4. FORMATION OF GR	RADES									
	Element of evaluation	Bad		Satisfying		Above average				
4.1. Grading of seminar work	Organization	The paper is not organized in a logical order and lacks structure.		ear distinction between the troduction, the main body of the ext and the conclusion		The paper is well structured with clear distinction between t introduction, the main body of t text and the conclusion, which a logically interconnected.				
	Terminology, writing style	Words and expressions low in line with official terminology. The writing style is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.		ds and expressions are official terminologing style is approprience structure is clubulary is appropriate after grammatical errors.	y. The late, the ear, the and there	Words and expressions are align with official terminology and she an understanding of their meanir. The writing style is excellent, t sentences are clear and concise, t vocabulary is rich and there are grammatical errors.				
	Citing and referencing references	The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	refe	sources are list implete and with errorences are relevant to show a satisfactory ade.	ors. The the topic	The sources are accurate completely and consistently listed. The references are appropriate, the list is "rich" and comprehensive a shows a detailed research approach.				

4.2. Grading of the
colloguium / written and
oral exam

Bad	Satisfying	Above average

	basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		without wledge, at terms amples.	Knowledge is at the level of analysis synthesis and evaluation. It observes the legality, accurately and thoroughly explain the content of the material, and logically connects and explains the terms and concepts that it supports with examples Finds solutions that were not originally given. It notes correlations with related material.	
	Active attendance	70-75% of the presence	76-	86% of the presence	87-100%	of the presence	Case studies resolved
		2 points	4 points		7 points		10 points
4.3. Forming the final grade according to the		2		3	4		5
	Seminar paper	5 points	7 points		8 points		10 points
	Examination / Written examination	2	3		4		5
evaluation elements		50-64,9%	65-79,9%		8	0-89,9%	90-100%
		25 points	30 points		3	5 points	40 points
	Oral most of the avers	2	3			4	5
	Oral part of the exam	25 points 30 points		30 points	3	5 points	40 points
		uired knowledge, skills (teaching + final exam)		Number rating		ECTS grade	
4.4. Formation of final		90 - 100%		5 (excellent)		A	
grade based on absolute		0 – 89,9%		4 (very good))	В	
distribution		5 – 79,9%		3 (good)			С
		0 – 64,9%		2 (sufficient)			D
	5	0 – 59,9%		2 (sufficient)			Е
5. ADDITIONAL INFOR	RMATION ON THE SUB	JECT					
5.1. Required literature (available in the library		Т	itle			Number of copies the library	in Availability via other media

and through other media)	7. Mavrin I.: Transporteri, Fpz, Zagreb, 1999.	-		
	8. Bognolo, D., Kršulja, M.: Prekrcajna sredstva, Zbirka riješenih zadataka, Veleučilište u	2		
	Rijeci, Rijeka 2017. (selected chapters)	3		
5.2. Supplementary				
literature (at the time of	19. Ljubetić J. : Prekrcajna sredstva s neprekidnim djelovanjem – Zbirka slika i tablica,			
the submission of changes	Rijeka, 2002.	-		
and / or additions to the	20. Šćap D.: Prenosila i dizala, FSB, Zagreb, 2004.	-	Available online	
study program)				
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.			
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).			

1. GENERAL INFORMA	1. GENERAL INFORMATION				
1.1. Course title	Transshipment resources II	1.8. Course code at ISVU	140776		
1.2. Course lecturer	Ana-Mari Poljičak	1.9. Course code at MOZVAG			
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)		
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st 0%		
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.		
1.6. Year of study	2 nd	1.13. Modernization	X Yes □ No		
1.7. Credit point (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □		

2. COURSE DESCRIPTION	2. COURSE DESCRIPTION				
2.1. Course objectives	The goal is to provide students with theoretical knowledge: • Describe and distinguish between basic features and performance of transshipment mechanization with periodically action; • Understand the application and purpose of transshipment mechanization with periodically action; • Apply the learned content of this course in business practice.				
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the HKO.				
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public in Croatian and English.				
on the study programme level	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.				
10.001	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.				

		Level of LO:
		1 - memory,
2.4. Expected learning outcomes on the course	Learning outcomes according to Bloom's taxonomy:	2 - understanding,
	(maximum 2 werbs for LO)	3 - application,
	(maximum 2 werbs for LO)	4 - analysis,
		5 - evaluation,
level		6 – synthesis.
	1. sketch and select the required elements of the crane,	4, 3
	2. distinguish and propose types of cranes with regard to the scope,	2, 6
	3. calculate the productivity of transshipment mechanization with periodically action,	3
	4. define and calculate the number of pallets and containers required.	1, 3

	Cons	Constructive allignement							
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time			
2.5. Course content according to detailed curriculum schedule		Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer, they are introduced to the course content and documents on the e-learning page of the course.	-	1 h			
	134.	Crane operating class.	2, 3	They listen to a lecture and read literature. In the exercise classes, they are introduced to the calculation of the productivity of transshipment mechanization with periodically action and to calculate the productivity by the analytical method.	At the colloquium or the written and oral they can state and explain the crane classes and calculate theoretical and exploitative productivity.	2 h			
	135.	Crane elements.	1, 2, 3	They listen to a lecture and read literature. In the exercise classes, they solve numerical tasks and determine the classes of cranes by	At the colloquium or written and oral examination knows enumerate, differentiate and sketch elements of	3 h			

			analytical method.	cranes, and identify a class of cranes.	
136.	Ropes and steel ropes.	1, 3	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks by analytical method, which determine the parameters for classifying cranes.	At the colloquium or written and oral examination knows list and describe the types of ropes and choose the rope they need. List and explain ways of fixing steel ropes. Calculate the parameters for classifying cranes.	3 h
137.	Hooks.	1, 3	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks for the hydraulic crane using the analytical method.	At the colloquium or the written and oral exam they can state, describe and sketch the types of hook, calculate the dangerous cross-section of the hook and calculate the required pressure in the cylinder of the hydraulic crane.	3 h
138.	Chain. Grippers.	1, 3	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks for the hydraulic crane using the analytical method.	At the colloquium or written and oral examination know state, explain, outline the types of chains and give a practical example. They know how to list, describe and sketch types of catchers and give practical examples. Calculate the required force at the end of the drive lever and the piston diameter.	3 h
139.	Pulleys.	1, 3	They listen to a lecture and read literature. In the exercise classes, they solve numerical tasks for manipulative vehicles by analytical method.	At the colloquium or the written and oral exam they can explain the task of the pulley, specify the types of pulley, sketch the performances of the pulley in practice, and calculate the load capacity of the forklift, the pressure in the cylinder and the lifting time.	4 h

		Repetition and preparation		They listen to a lecture and read literature.		
14	140.	for the colloquium.	1, 2, 3	They prepare individually for the	-	22 h
		Colloquium I.		colloquium.		
1	141.	Brakes.	1, 3	They listen to a lecture and read literature. In the exercise classes, they solve numerical tasks for manipulative vehicles by analytical method.	At the colloquium or the written and oral exam they can explain the task of the brakes, indicate the types and give an example from practice. Sketch and explain two- and one-pedal brakes. Calculate cylinder pressure and lifting time of forklift truck.	4 h
14	142.	Brakes.	1, 3	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks with the use of pallets by analytical method.	At the colloquium or written and oral exam knows outline and explain conical, belt and lamellar brakes. Calculate the required number of flat pallets.	3 h
14	143.	Division of the crane. Design of small cranes.	1, 2, 3, 4	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks with the use of pallets by analytical method.	At the colloquium or written and oral examination know indicate small and large cranes. Sketch and explain small cranes and give practical examples. Calculate how much goods can stack on a flat pallet.	4 h
1.	144.	Large cranes.	1, 2, 3, 4	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks with the use of pallets by analytical method.	They can group large cranes at a colloquium or a written and oral exam. Sketch and explain large cranes. Explain the difference between borders and cranes. Give an example from practice. Calculate the required number of box pallets and how many goods are in the box pallets.	5 h
1	145.	Universal manipulative	4	They listen to a lecture and read literature.	The colloquium or written and oral	3 h

		vehicles. Forklifts, loaders and small towing vehicles.		In the teaching of exercises, they solve numerical tasks with the use of containers by analytical method.	1	
	146.	Pallets and containers.	4	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks with the use of containers by analytical method.	At the colloquium or the written and oral exam they can define and list the types of pallets and containers and give practical examples. Calculate container control number.	3 h
	147.	Repetition and preparation for the colloquium. Colloquium II.	1, 2, 3, 4	They listen to a lecture and read literature. They prepare individually for the colloquium.	-	22 h
	148.	Concluding considerations. Repeating and preparing for the exam.		They listen to a lecture and prepare individually for the exam.	-	35 h
3 EVALUATION OF STI	IIDEN	T WORK				

3. EVALUATION OF STUDENT WORK

3.1. Students' obligations

In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course:

- From 0 24.9% of ECTS credits they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year;
- From 25-49.9% are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period;
- More than 50% students have the right to take the final exam.

Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two colloquium); b) during class (active participation in class and passing exams (written and oral part of the

	exam).					
	Attendance		Written exam	3 (without colloquia)	Project	
3.2. Monitoring student work (enter the share of	Experimental work		Research		Practical work	
ECTS credits for each activity so that the total	Essay		Report		Continuous examination	
number of ECTS points corresponds to the credit	Colloquium	3 (without written exam)	Seminar paper		Other	
score of the course)	Class activity	0,5	Oral exam	0,5 (without colloquia)	Other	
	Student workload or	all bases is 1 ECTS credit	30 semester hours and	is estimated as:		
3.3. Student workload	Obligation			Hours (estimated)		
	16. Active clas	s attendance		45		
	17. Preparing of	colloquia or exams through	individual work	75		
4. FORMATION OF GR	ADES					
4.1. Grading of seminar work	-					
		Bad	Sat	isfying	Above a	average
4.2. Grading of the colloguium / written and oral exam	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		connects and explains the terms are	

76-86% of the presence

70-75% of the

Active attendance

4.3. Forming the final

material.

87-100% of the presence

Case studies resolved

grade according to the		presence				
evaluation elements		2 points	4 points	7 points	10 points	
	Examination / White	2	3	4	5	
	Examination / Written examination	50-64,9%	65-79,9%	80-89,9%	90-100%	
	examination	25 points	30 points	35 points	40 points	
	Ough most of the arrows	2	3	4	5	
	Oral part of the exam	25 points	30 points	35 points	40 points	
	Percentage of acqu	ired knowledge, skills and	1	Т	CTC and a	
	competences (teaching + final exam)	Number rating		CCTS grade	
4.4. Formation of final	9	90 – 100%			A	
grade based on absolute	80	0 - 89,9%	4 (very good)		В	
distribution	6.	5 – 79,9%	3 (good)		С	
	6	0 – 64,9%	2 (sufficient)		D	
	50	0 – 59,9%	- 59,9% 2 (sufficient)		Е	

5. ADDITIONAL INFORMATION ON THE SUBJECT

	Title	Number of copies	Availability via
5.1. Required literature	Title	in the library	other media
(available in the library	9. Šćap D.: Prenosila i dizala, FSB, Zagreb, 2004. (selected chapters)	-	Available online
and through other media)	10. Boris Ribarić: Primjeri riješenih zadataka iz predmeta pretovarna mehanizacija, Fakultet		
	prometnih znanosti, Zagreb, 1994. (selected chapters)	-	
5.2. Supplementary			
literature (at the time of			
the submission of changes	21. Serdar J.: Prenosila i dizala, Leksikografski zavod "M. Krleža", Zagreb, 1995.	5	
and / or additions to the			Available online
study program)			

5.3. Quality assurance	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping
methods that ensure the	records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will
	provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their
acquisition of knowledge,	rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of
skills and competences	CES annual data on annual employment status of students, employer survey and Alumni Association.
	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of
5.4. Informing about the	classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the
course and contacting the	Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and
teacher	explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr),
	which will be answered as soon as possible (no later than five working days after receiving the e-mail).

1. GENERAL INFORMATION ABOUT THE SUBJECT					
1.1. Name of the course	Economics of traffic	1.8. ISVU course code	P-213		
1.2. Lecturer	Dijana Mečev	1.9. MOZVAG course code			
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+0+15+0)		
1.4. Study programme		1.11. Level of e- learning application (1st, 2nd,	1 st level – materials available on-		
(specialist, undergraduate,	Undergraduate professional study of Traffic	3rd level), percentage of on line course	line, 0%		
graduate)		performance (max. 20%)			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1		
1.6. Study year	2 nd	1.13. Modernization	□ yes X no		
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □		

2. COURSE DESCRIPTION	2. COURSE DESCRIPTION					
2.1. Course objectives	The main objective of the course is to provide students with the skills and abilities to understand main economic relationships and processes in the transport system.					
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.					
2.3. Learning outcomes	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.					
on the study programme	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.					
level	LO5: To apply basic legal and economic principles in organization with socially responsible management in technical-t	echnological subjects.				
2.4. Expected learning outcomes on the course level	Learning outcomes towards Bloom's taxonomy: (up to two verbs per LO)	LO Level: 14. Recapture, 15. Understanding, 16. Application, 17. Analysis, 18. Evaluation,				

						Synthesis	
	 To explain the basic features of transport economics and the transport market from a macro point of view To explain the basic features of transport economics and the transport market from a micro point of view To relate the incurrence of transport costs, prices of transport services and performance indicators of transport companies To develop a seminar paper in which the business operations of the transport industry are elaborated Constructive alignment					2 2 3 3	
	no.	Thematic ensemble / Lecture Topic	Course LO	Content / Teaching Method	Evaluation		Time needed
2.5. Course content according to detailed curriculum schedule	Introduction into the course and detailed plan. 149. Characteristics of transport		-	Listen to the lecture. By independent work on the computer students get acquainted with course content and documents on the elearning course page.	-		1 h
		economics and transport	1, 2	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams students can: define and describe the basic concepts of transport economics; explain the characteristics of the transport market; differentiate transport need from transport service; give examples of complementarity and competitiveness of the transport branches.		2 h
		1,2	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and	In colloquium or written and estudents can enumerate the mand criteria for the division of They can explain how transputivision of labor and specialization can use critical thinking to estimportance of accessibility of	nain factors f transport. port affects ation. They explain the	4 h	

			ideas, discuss issues.	services.	
151.	The role and impact of transport on economic development	1,2	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams students can explain the role of transport in the circulation in macroeconomics. They can explain how traffic affects production and how it functionally links factors of production.	4 h
152.	Creating revenues from transport services and the impact of prices on the demand for transport services	1, 5	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams students can explain the value structure of the transportation service. They know how to analyze the price / demand ratio for transportation. They know how to sketch and explain the curve of total income.	4 h
153.	Transport cost analysis.	2,3,4	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams they can explain main trasport costs. They differentiate costs with respect to capacity utilization. They know how to calculate the selling price of a transport service.	4 h
154.	Transport infrastructure costs.	2,3	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of	In colloquium or written and oral exams they are able to define the characteristics of transport infrastructure. They know how to list and explain major revenue instruments for financing road	4 h

				previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	infrastructure. They know how to list and explain the main sources of revenue for road construction.	
1	155.	Tariffs and tariff systems.	2,3	Listen to the lecture and read the literature. Use multimedia and network. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams they can define the term tariffs in transport. They can define and explain factors that affect the amount and ormation of tariffs.	6 h
1	156.	Business Performance Criteria (1).	2,3,4	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams they know how to calculate and interpret net profit margins, ROA, ROE.	6 h
1	157.	Business Performance Criteria (2).	2,3,4	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams they know how to calculate and interpret productivity and economy performance indicators.	6 h
1	158.	Transport Services Market	1,2	Listen to the lecture and read the literature. Use multimedia and	In colloquium or written and oral exams	4 h

			network. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	they know how to define supply / demand of transport services. They are able to explain specifics of the transport services market.	
159.	Consumer and manufacturer behavior.	1, 2	Listen to the lecture and read the literature. Use multimedia and network. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams they know how to explain <i>manufacturers'</i> behavior, based on the principle of profit maximization. They know how to explain customers behavior based on the principle of benefit maximization.	4 h
160.	Market structures (1)	1,2	Listen to the lecture and read the literature. Use multimedia and network. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams they can define perfect competition. They can define and explain market failures. They know how to define a monopoly and explain the reasons why it occurs. They are able to distinguish between monopoly and perfect competition.	4 h
161.	Market structures (2)	1,2	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and	In colloquium or written and oral exams they can define oligopoly and explain how it occurs. They can define monopolistic competition. They are able to distinguish between perfect and monopolistic competition.	4 h

					presenting adopted ideas, discuss issues	-				
	162.	Economic policy an market.	d the 2,5	5,6	Listen to the lectur literature. Discuss seminar student ind pairs solve case presenting the app previously acquired presenting adopted ideas, discuss issues.	e and read the issues. At the ividually or in studies thus ropriateness of knowledge and knowledge and	they can	nium or written and state and explair neasures of transpor	the most	3 h
	163.	Concluding Consider Repeating and Prepa Exam.			Concluding Cons Repeating and Prepa	siderations / ring for Exam.				30 h
3. EVALUATION OF ST	UDEN	T WORK								
In accordance with the Book of Rules and the Rulebook on Student Assessment and Evaluation: for all regular students attend at least 70% attendance. Part-time students have the obligation to attend at least 50% of lectures. All students must create, present and positively colloquium seminar paper. Students who have during the course achieved: • From 0 – 24,9% ECTS credits- is rated F (unsuccessful) and cannot get ECTS credits and must re-enrol the subject in the next academic year; • From 25 – 49,9% ECTS credits - is rated FX (inadequate) and has to come out and pass the test (exam). A written exam can be held in a regular or extraordinary exam period; • More than 50% ECTS credits - students have the right to access the final exam of the subject. Students can pass the final exam in two ways: a) during the course through continuous student attendance (active participation in the lessons, solving case studies, making and presenting the seminar paper and passing two colloquia); b) during the course (active participation in the lessons, solving case studies, creating and presenting the seminar paper) and passing the exam (written and oral exam).							n the next in be held in e lessons,			
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total		ndance	, 6		√ritten exam	2 (by submittin colloquiums the is relieved of an examination)	g both student	Project		

number of ECTS points	Experimental work		Research			Practical work		
corresponds to the credit	Essay		Report			Continuous		
score of the course)	Listay		Кероп			examination		
		2 (by submitting						
		both colloquiums the						
	Colloquium	student is relieved of	Seminar paper	0,5				
		a written and oral						
		examination)						
	Class activities	0,5	Oral exam		submitting both			
					quiums the student			
					eved of an oral			
					ination)			
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:							
	Commitmen	nt			Hours (estimate)			
3.3. Student workload	18. Attending c	lasses		45				
	19. Creating and	19. Creating and Presenting seminar paper				10		
	20. Preparation	for the Colloquium / exa	am through self-study		35			

4. GRADING

	Valuation Element	Poor	Satisfying	Above average
4.1. Seminar paper grading	Organization	The paper is not organized in a logical order and its structure is lacking.	The paper is well structured with a clear distinction between the introduction, the main part of the text and the conclusion.	The paper is well-structured with a clear distinction between the introduction, the main part of the text and the conclusions that are perfectly logically linked to one another
	Terminology, writing style	Words and phrases are low harmonized with official terminology. Writing style is not appropriate, sentences are too long, modest vocabulary, and frequent	official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is	Words and phrases are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the

		and repeated mistakes.	grammatical	grammatical err	ors.			ry is rich and there are no ical errors.
	Quoting and referencing	Sources are not speci references do not m and show a superfici the research topic.	natch the topic	Sources are list and with errors appropriate for show a satistitude.	. The refere	ences are ject and	consisten appropria comprehe	are accurate, complete and at. The references are ate, their list is "rich" and ensive and shows a robust approach.
	Poo	r		Satisfying			Ab	oove average
4.2. Colloquium / exam grading	Give answer by memor understanding. Does no apply the basic terms a apply or explain the co	ot know and does not and concepts. Cannot ntents of the course.	Reproduces basic terms, without a difficulty transfers new knowledge, a understands subject matter, explains the terms and the notions that substantiate by examples.		and eva accurate of the se the term solution	Knowledge is at the level of analysis, synthesis and evaluation. It observes legitimacy, ccurately and thoroughly explains the content of the subject, and logically links and explains the terms and concepts that it encapsulates. Find olutions that are not originally given. There is a orrelation with correlative subjects.		
	Active participation in the lessons	70-75% of attendance	76-86%	6-86% of attendance 8		87-100% of attendance		Solved case study.
	the lessons	2 points	4	points	7 points			3 points
	Saminar nanar	2		3	4			5
4.3. Creating a final grade according to evaluation	Seminar paper	5 points	7	points		8 points		10 points
elements	G 11 : / :w	2		3		4		5
	Colloquium / written exam	50-64,9%	65	-79,9%	:	80-89,9%	ó	90-100%
	CAUIII	25 points	30	points		35 points	3	40 points
	Oral exam	2		3		5		5
	Oral exalli	25 points	30	points		35 points	3	40 points
4.4. Creating a final grade according to absolute	Percentage of adopted knowledge, skills a competences (teaching + final exam)		nd	Numerous grade			ECTS grade	

allocation	90 – 100% 5 (excellent)		A				
	80 – 89,9%	4 (very good)	В				
	65 – 79,9%	3 (good)	C				
	60 – 64,9%	2 (sufficient)	D				
	50 – 59,9%	2 (sufficient)	Е				
5. ADDITIONAL INFOR	MATION ABOUT THE COURSE						
5.1 Compulsory literature	Title		Number of copies in the library	Availability via other media			
5.1. Compulsory literature (available in the library and through other media)	 11. Bukljaš Skočibušić M., Radačić Ž., Jurčević I prometnih znanosti Sveučilišta u Zagrebu, Za 12. Perić T., Radačić Ž., Šimulčik D. (2000). "Ek fakultet Sveučilišta u Zagrebu, Zagreb. (selec 	4 2					
5.2. Additional literature (at the moment of changes and/or amended of study programme)	1. Baričević, H. (2003). "Promet i turizam." VŠ	24					
	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By						
5.3. Quality assurance	keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and						
methods that ensure the	homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be						
acquisition of knowledge,	informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system:						
skills and competences	Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from						
	employers and Alumni association.						
	It is obligatory for every student to regularly inform about the course, teaching and teaching activities. All information about teaching or any						

later than five working days from the receipt of e-mail).

delay in teaching will be published on the e-learning pages of the course and on the web pages of the Polytechnic. Students can contact the

teachers during the consultation term (at least one hour per week), while brief questions and explanations can be addressed during classes. It is possible to ask questions by e-mail (from the official e-mail address from the domain @ vus.hr) that will be answered in a short time (no

5.4. Information on the

course and contact with

the teacher

4. GENERAL INFORMATION							
1.1. Course lecturer	Ivana Beljo	1.8. Course code in ISVU	140769				
1.2. Course title	Operational research in traffic	1.9. Course code in MOZVAG					
1.3. Assistants and/or associates	Želimir Mikulić	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)				
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%				
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	2				
1.6. Year of study	$2^{ m nd}$	1.14. Modernization	Yes				
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X□ More than 20 % □				
2. COURSE DESCRIPTION	ON						
2.1. Course objectives	2.1. Course objectives Getting acquainted with the various types of problems that arise in business decision making. Adopting knowledge and skills of the analytical way of thinking, and the logical way of concluding and interpreting the results in further education. The aim of the course is to familiarize and teach students how to use the methods in order to solve certain problems in business decision making and to use methods for optimizing such problems.						
2.2. Terms of course entry and required competences	4 year secondary education completed; qual	lification level 4.2 according to the CROQF.					
2.3. Learning outcomes on the study programme level	professional public in Croatian and English, LO 4: To apply knowledge from the field of LO 7: To apply computer tools for analysis a	LO 1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the					

						Level of LO:				
	ı					1- rememberi	<i>O</i> ,			
						2- understana	_			
	Lear	rning outcomes accroding to the Blo		3- application	1,					
2.4. Expected learning				4-analysis,						
outcomes on the course	i l			5-evaluation,						
level				6-synthesis						
IEVCI		to formulate the problem from practi				4				
		to solve optimization problem with g	<u> </u>			4				
		to apply computer tools for solving l		~ ·	end optimal solution,	3, 5				
		to choose the appropriate algorithm		-		3, 4				
	30. t	to apply critical path method in the p	3, 4							
	Con	Constructive allignement								
	, —		LO of							
	no			Content/teaching methods	Evaluation		Time			
			the course	9						
				Listen to lectures. Work						
		Introduction into the course and	-	independently on computer,			2.1			
	164.	detailed plan.		get to know course content	-		2 h			
2.5. Course content	,			and elearning documents.						
according to detailed	,			Listen to lectures and read	T 11	11				
curriculum schedule	,	1		literature. Work	In colloquium or written and oral exam students know how to model the problem of					
outifulani senegaie	1 165	Linear Duo anamanin a Duo blama	1 2	independently on a computer		*	4 h			
	165.	Linear Programming Problems	1,3	solve tasks.The exercises	linear programming and to so	•	4 N			
	, '	1	'	demonstrate how to solve	of linear programming using recommend the optimal solution					
	, '	1		tasks. Solve exercises.	recommend the optimal soluti	ion.				
	166.			Listen to lectures and read	In colloquium or written and oral exams					
		Graphical solution 1, 2	1 2	literature. The exercises	students know how to model a linear		3 h			
			demonstrate how to solve	programming problem and	sketch a graph					
	, '	1		tasks. Solve exercises.	and solve an optimization pro	blem.				

	- 1			T' 1 1 1 1	T	
1	167.	Simplex Method. Sensitivity Analysis, Postoptimality Analysis, Shadow prices. Modeling Integers	1, 2, 3	Listen to lectures and read literature. Work independently on a computer solve tasks.The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to model the linear programming problem and solve the problem with the simplex method.	3 h
1	168.	The Transportation Problem.	1, 2, 3	Listen to lectures and read literature. Work independently on a computer solve tasks. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to define and describe the transport problem, distinguish between open and closed transport problem., and set the model.	3 h
1	169.	Northwest corner rule, Minimum prices method, Vogel's approximation method, Russel's approximation method	1, 2	Write the colloquium.	In colloquium or written and oral exams students know how to solve the transportation problem using the northwest corner rule, minimum prices method, and Vogel's and Russel's approximation methods.	3 h
1	170.	Method for the Transportation Problem, The Assignment Problem.	1, 2, 3	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	Na kolokviju ili pismenom i usmenom ispitu znaju riješiti transportni problem i problem asignacije. In colloquium or written and oral exams students know how to solve the transport problem and the assignment problem.	3 h
1	171.	Revision for colloquium. Colloquium. Network.	1, 2, 3,	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	-	20 h
1		Network and Graph, Network optimization Models. The Shortest-Path Problem, The	4	Listen to lectures and read literature. The exercises demonstrate how to solve	In colloquium or written and oral exams students know how to define and describe networks, graphs, and network resolution	4 h

	Minimum Spanning Tree		tasks. Solve exercises.	methods, and use the appropriate algorithm	
	Problem Spanning Tree		tasks. Suive excitises.	to solve the minimum spanning tree and	
				shortest path problem.	
173.	The Maximum Flow Problem, The Minimum Cost Flow Problem	4	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to solve the problem of maximum flow and minimum cost flow using an appropriate algorithm.	3 h
174.	Project menagement with PERT/CPM.	4, 5	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to apply the critical path method in project management.	4 h
175.	Dynamic Programming.	5	Listen to lectures and read literature. Work independently on a computer solve tasks. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to describe the application of dynamic programming to solve optimization problems.	2 h
176.	Stochastic Dynamic Programming.	5	Listen to lectures and read literature. Work independently on a computer solve tasks. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to to describe the application of stohastic dynamic programming to solve optimization problems.	2 h
177.	Approach to Problem Analysis, The Model Selection Criteria and Method of Solving Problems. Revision for colloquium. Colloquium.	4, 5	Write the colloquium.	-	20 h
178.	Revision	-	Listen to lectures and read literature.	-	20 h

			1		ı			 	
3. EVALUATION OF ST	UDENTS' WORK								
3.1. Students' obligations	attendance of at leformulae list. Stud from 0 - 24 from 25 - or extraord more than Students can take	th the Regulations on east 70%. Part-time students who have during the 4,9% ECTS credits- are 49,9% - are assessed by dinary exam period; 50% - students have the final exam from the fina	dents are require course achie rated F (unsuch FX (insufficine right to take the course in two	uired to attend class eved: eccessful) and cannot ent) and must pass t the final exam. wo ways: a) during	es at least obtain ECT he written of	50%. All students are ΓS credits, and must reexam (test). Written ex	required to carry calcernoll in the next acade cam (test) can be held in continuous monitoring of	ulator and emic year; n a regular	
3.2. Monitoring student	Attendance	0,5	Written exa	am 2 (without colloquing		Project			
work (enter the share of ECTS credits for each	Experimental worl	ζ	Research			Practical work			
activity so that the total number of ECTS points	Essay		Report			Continuous examination	0,5		
corresponds to the credit score of the course)	Colloquium	2 (without written exam)	Seminar pa	iper		Other			
score or the course,	Class activity	0,5	Oral exam	0,5		Other			
3.3. Student workload	7. Attending	dent workload on all bases for 1 ECTS credit is 30 hours in a semester and is estimated as: 7. Attending classes and exercises 45 hours 8. Preparing colloquia or exams through individual work 65 hours							
4. GRADING SYSTEM									
4.1. Grading seminar papers									

	Unsatisfac	etory		Satisfactory			Above aver	age	
4.2. Grading colloquia/ written and oral exam	Responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		withou knowle explain	without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.			Knowledge is at the level of analysis, synthesis and evaluation. Observes the principles, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts supported with examples. Finds solutions that were not originally given. Notes correlations with related material.		
	Active course	70-74,9% (75-79,9% of		9,9% of		-100% of	
	attendance	attendance		attendance		ndance		tendance	
		2 points		5 points	10 1	points	2	0 points	
4.3. Final grade according	C-11 / W	2		3		4		5	
to evaluation elements	Colloquia/ Written exam	50-64,9%	1	65-79,9%	80-8	89,9%	90-100%		
	CAGIII	25 points		30 points	35 p	points	40 points		
	Oral avera	2		3		5	5		
	Oral exam	25 points	,	30 points	35 points		40 points		
	<u> </u>	Percentage of acquired knowledge, skills competences (teaching + final exam)			l grade		ECTS grade		
4.2 Einst 1	90 –	- 100%		5 (excel	lent)		F	A	
4.3. Final grade according to absolute division	80 –	89,9%		4 (very g	good)		I	3	
to absolute division	65 –	79,9%		3 (goo				C	
		64,9%		2 (satisfac	ctory))	
	50 – 59,9%			2 (satisfactory)			I	Ξ	
5. ADDITIONAL COURS	E INFORMATION								
5.1. Compulsory literature (available in the library		Title					Number of copies in the library	Availability via other media	
and via other media)	Pašagić, H., Ivanković, I	B., Kapetanović, N	J. Mate	matičke metode u prome	etu Zagreh 2	0004	3		

Pašagić, H., Ivanković, B., Kapetanović, N., Matematičke metode u prometu, Zagreb, 2004.

	(selected chapters)								
	Lukač Z., Neralić L.:Operacijska istraživanja, Element 2013. (selected chapters)								
5.2. Additional literature									
(at the moment of changes	Neralić, L., Uvod u matematičko programiranje 1, Zagreb, 2012. (selected chapters)								
and/or amended of study	Hillier F., Lieberman G.: Introduction to operations Research, McGraw Hill 8th ed. 2005, 8th Ed. (selected chapters)								
programme)									
	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By								
5.3. Quality assurance	reeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and								
methods that ensure the	homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be								
acquisition of knowledge,	informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system:								
skills and competences	Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from								
	employers and Alumni association.								
	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of								
5.4. Informing about the	classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic.								
course and contacting the	Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be								
teacher	contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as								
	soon as possible (no later than five working days after receiving the e-mail).								

5. GENERAL INFORM	5. GENERAL INFORMATION									
1.1. Course lecturer	Ivana Kardum Goleš	1.8. Course code in ISVU	187599							
1.2. Course title	English language II	1.9. Course code in MOZVAG								
1.3. Assistants and/or associates	Assistant	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)							
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%							
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1							
1.6. Year of study	1 st	1.13. Modernization	Yes							
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X□ More than 20 % □							
2. COURSE DESCRIPTION	ON									
2.1. Course objectives	The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the adjective comparison, adverbs, modal verbs, transformation of direct into reported speech in the present. The aim is also to expand the vocabulary related to traffic, while exercises determine and practice grammar and new vocabulary. Another goal of the course is to write different kinds of business letters. By attending a foreign language classes, students are introduced with new communication systems, enabling their easier and more direct involvement in world events and getting acquainted with the elements of English culture and civilization of the English speaking world. Learning a foreign language is in line with the aspiration to preserve the richness of the diversity of multi-faceted Europe as well as with fostering the development of the culture of dialogue and civilization.									
2.2. Terms of course entry and required competences	Completed course English language I									
2.3. Learning outcomes on the study programme level	professional public in Croatian and English	h, interpret and integrate the relevant literature needed to m								

		rning outcomes accroding to the B		Level of LO: 1- remembers 2- understand 3- application 4-analysis, 5-evaluation, 6-synthesis	ling, 1,		
		o understand and apply basic term o apply grammatical structures in t	2, 3				
		o interpret and use tenses in real-life		3, 4			
		o develop an essay within the topic		5, 6			
		o present own ideas for developme o communicate in a foreign langua		3			
		6					
	37. to	5 4					
			6				
		o use part of the general language of structive allignement	competency t	it levels B1		0	
	Cons						
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	n	Time
2.5. Course content according to detailed	179.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h
curriculum schedule	180.	CARS` ANATOMY - Adjectives and their formation	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written the applied grammatica texts and tasks are evalua apply and link terms from terminology of English to use them in written	l structures on ated, understand, the professional road traffic and	4 h

		Т	1	T		
					communication verb tenses are interpreted in a real linguistic context, use part of other language competences at B1	
					level.	
	181.	MANAGEMENT IN TRAFFIC - Adverbs and their formation	1, 2, 3, 4, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	182.	In the train – expressing present	1,2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve	4 h

183.	MODERN TRANSPORTATION (HYDROFOILS) – Modal verbs	1, 2, 3, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language	4 h
184.	RAIL TRAFFIC IN EUROPE – Expressing habit	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h

185.	Traffic in the USA – Tenses	1,2, 3, 5, 6, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h
186.	Traffic for tomorrow – Tenses, Kolokvij	1, 2, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
187.	Hovercraft – Indirect speech	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on	6 h

are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign language within the course topics, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and real literature. Use multimedia and the applied grammatical structures on texts and tasks are evaluated, verb tenses topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and real literature and real literature. Use multimedia and the applied grammatical structures on texts and tasks are evaluated, verb tenses topics.						texts and tasks are evaluated, verb tenses	
acan communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.						<u> </u>	
within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Magnetic levitation trains – Personal and reflexive pronouns Magnetic levitation trains – Personal and reflexive pronouns Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topic, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Steam engine cars – Future tenses Listen to lectures and read literature. Use multimedia and intermet. Solve exercises.							
Magnetic levitation trains – Personal and reflexive pronouns Magnetic levitation trains – Personal and reflexive pronouns 1. 2, 3, 5, 6, 9 Steam engine cars – Future tenses 1. 2, 3, 5, 6, 9 Steam engine cars – Future tenses 1. 2, 3, 5, 6, 9 Listen to lectures and read tenses 1. 2, 3, 5, 6, 9 Listen to lectures and read tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. 1. 2, 3, 5, 6, 9 Steam engine cars – Future tenses 1. 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises: Discuss. 6 h 1. 2, 3, 5, 6 h In colloquium or written and oral development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. 1. 2, 3, 5, 6, 6, 9							
Magnetic levitation trains— Personal and reflexive pronouns Listen to lectures and real literature. Solve exercises. Discuss. Listen to lectures and real literature. Solve exercises. Discuss. Listen to lectures and real literature solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other countries, analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks analyze medium complex texts and solve tasks are evaluated, verb tenses to text and tasks are evaluated, verb tenses to text and tasks are evaluated, verb tenses tasks and tasks are evaluated, verb tenses tasks and tasks are evaluated, verb tenses tasks and tasks are evaluated, verb tenses tasks and tasks are evaluated.						* ' *	
to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses						* *	
topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other language competences at B1 level. Listen to lectures and read literature. Solve exercises. Discuss. 6 h 189. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. 189. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Use multimedia and internet. Solve exercises.							
Magnetic levitation trains – Personal and reflexive pronouns Listen to lectures and read literature. Solve exercises. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises to pics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises to pics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Use multimedia and internet. Solve exercises.							
Magnetic levitation trains – Personal and reflexive pronouns 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature between their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. 189. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses to exercise are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on it exits and tasks are evaluated, verb tenses							
tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. 188. Personal and reflexive pronouns Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read of the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read literature of the longuage competences at B1 level. Listen to lectures and read of the development of transport solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read literature. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses						, i	
Magnetic levitation trains – Personal and reflexive pronouns Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read literature. Solve exercises. Listen to lectures and read literature and read literature. Solve of the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read literature. Use multimedia and internet. Solve exercises.						<u> </u>	
In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. 189. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. Listen to lectures and read literature and read literature. Use multimedia and internet. Solve exercises.							
Magnetic levitation trains – Personal and reflexive pronouns Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature exercises. Discuss. Listen to lectures and read literature on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	-					_	
Magnetic levitation trains – Personal and reflexive pronouns Listen to lectures and read literature. Solve pronouns Listen to lectures and read literature. Solve pronouns Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature exercises. Discuss. Listen to lectures and read literature opinions, present their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read literature. Use multimedia and internet. Solve exercises.						_	
Magnetic levitation trains – Personal and reflexive pronouns 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses							
Magnetic levitation trains – Personal and reflexive pronouns Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Use multimedia and internet. Solve exercises. 1, 2, 3, 5, 6, 9 Listen to lectures and read literature use multimedia and internet. Solve exercises.						·	
Magnetic levitation trains – Personal and reflexive pronouns 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Use multimedia and internet. Solve exercises.							
Magnetic levitation trains – Personal and reflexive pronouns 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. Discuss. Listen to lectures and read literature exercises. Discuss. 6 h 188. Personal and reflexive pronouns 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. Discuss. 6 h 189. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read literature. Solve exercises. 1, 2, 3, 5, 6, 9 Listen to lectures and read literature and read literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Use multimedia and literature. Solve exercises.							
to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 Listen to lectures and read the applied grammatical structures on internet. Solve exercises.				1, 2, 3, 5,			
bronouns Discuss. to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Steam engine cars – Future tenses 1, 2, 3, 5, 6, 9 literature. Use multimedia and the applied grammatical structures on internet. Solve exercises. 10 h		188.				* *	6 h
topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses			pronouns		Discuss.		
solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. 189. Steam engine cars – Future tenses 1, 2, 3, 5, literature. Use multimedia and the applied grammatical structures on internet. Solve exercises. 10 h							
analyze medium complex texts and solve tasks, use part of other language competences at B1 level. Listen to lectures and read competences at B1 level. Listen to lectures and read literature. Use multimedia and tenses tenses the applied grammatical structures on texts and tasks are evaluated, verb tenses							
tasks, use part of other language competences at B1 level. Listen to lectures and read In colloquium or written and oral exams the applied grammatical structures on tenses and tasks are evaluated, verb tenses 10 h						<u> </u>	
Competences at B1 level. Listen to lectures and read In colloquium or written and oral exams the applied grammatical structures on tenses 1, 2, 3, 5, 6, 9 internet. Solve exercises. 10 h						_	
Steam engine cars – Future tenses Listen to lectures and read In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses Listen to lectures and read the applied grammatical structures on texts and tasks are evaluated, verb tenses							
Steam engine cars – Future tenses 189. Steam engine cars – Future tenses 1, 2, 3, 5, literature. Use multimedia and the applied grammatical structures on texts and tasks are evaluated, verb tenses 10 h					Listen to lectures and read	-	
tenses 6,9 internet. Solve exercises. texts and tasks are evaluated, verb tenses		100	Steam engine cars – Future	1, 2, 3, 5,			101
	189	189.).				10 h
are interpreted in a real linguistic context,						are interpreted in a real linguistic context,	

				can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
190.	Post office and their role in the progress of mankind – Future tenses	1,2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
191.	Climate changes and telecommunication	1,2, 3,4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages	4 h

					their own ideas and ways of	opinions, present their own ideas related	
					problem solving. Brainstorming,	to the development of transport solutions	
					discussion. Solve exercises.	to develop a longer essay within course	
						topics, comparing and evaluating different	
						solutions in the traffic of other countries,	
						analyze medium complex texts and solve	
						tasks, use part of other language	
						competences at B1 level.	
						In colloquium or written and oral exams	
						the applied grammatical structures on	
					Listen to lectures and read	texts and tasks are evaluated, verb tenses	
					literature. During lectures	are interpreted in a real linguistic context,	
	10				individually research the	can communicate in foreign languages	
				1,2, 3,4, 5, 6, 7, 8, 9	content of this thematic field by	within the course topic, express their own	
		192.	Sattellites		searching data bases, presentt	opinions, present their own ideas related	6 h
		192.			acquired knowledge, express	to the development of transport solutions	0 11
					their own ideas and ways of	to develop a longer essay within course	
					problem solving. Brainstorming,	topics, comparing and evaluating different	
					discussion. Solve exercises.	solutions in the traffic of other countries,	
						analyze medium complex texts and solve	
						tasks, use part of other language	
						competences at B1 level.	
						In colloquium or written and oral exams	
						the applied grammatical structures on	
				1, 2, 3,		texts and tasks are evaluated, verb tenses	
		193.	3. Revision – II Kolokvij	1, 2, 3, 4,5, 6, 7,	Solve exercises.	are interpreted in a real linguistic context,	10 h
		193. Revision – II Kolokvij	4,5, 0, 7, 8, 9	BOIVE CACICISCS.	can communicate in foreign languages	10 11	
				0, 7		within the course topic, express their own	
						opinions, present their own ideas related	
						to the development of transport solutions	

					to develop a longer es						
					topics, comparing and						
					solutions in the traffic	´					
					analyze medium comp						
					tasks, use part of						
					competences at B1 leve	el.					
3. EVALUATION OF STU	UDENTS' WORK										
	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students										
	attendance of at leas	t 70% is required. Part	-time students are req	uired to attend classes	at least 50%. The students	`acquired knowledge is tested					
		•	•		•	ching process, with particular					
	attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces										
3.1. Students' obligations	for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student										
5.1. Students bullgations	7 1	successfully passes both exams, he / she is exempted from the written part of the final exam and is obliged to take the oral exam only. The final									
	exam consists of a written and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay,										
	presentation creation, etc. The obligation of each student is to regularly inform oneself about the course. All notices about maintenance or										
	eventual postponement of teaching will be published on the web site of the Polytechnic of Šibenik and the e-learning page of the course, where										
	all the information on the course as well as the teaching materials and the list of literature are also available.										
3.2. Monitoring student	Attendance	0,5	Written exam	1 (without colloquia)	Project						
work (enter the share of ECTS credits for each	Experimental work		Research		Practical work						
activity so that the total	Essay		Report		Continuous						
number of ECTS points	Essay		Keport		examination						
corresponds to the credit score of the course)	Colloquium	1 (without written exam)	Seminar paper		Other						
	Class activity	0,5	Oral exam	1	Other						
		all bases for 1 ECTS		semester and is estimate	red as:						
3.3. Student workload	9. Attending cl	lasses and exercises 45	hours								
	10. Preparing co	olloquia or exams throu	igh individual work 4	5 hours							
	•										

4. GRADING SYSTEM									
4.1. Grading seminar papers	-								
	Unsatisfactory		Sati	sfacto	ry		Above average		
4.2. Grading colloquia/ written and oral exam	Responds by memory, of deeper understanding. It know or apply basic to concepts. Does not know apply or explain the contection with examples.	Does not erms and w how to	Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.			Knowledge is at the level of analysis, synthesis at evaluation. Observes the principles, accurately at thoroughly explains the content of the material, at logically connects and explains the terms and concepsupported with examples. Finds solutions that were no originally given. Notes correlations with relating material.			
	Active course attendance	70-	75% of attendance		76-86% of	attendance	87-100% of attendance		1
	Active course attendance		3 points 7 poi		ints	20 points		Ī	
	Seminar paper								
4.3. Final grade according to evaluation elements		2			3		4		t
to evaluation elements	Colloquia/ Written exam		50-64,9%		65-79,9%		80-89,9%		İ
			25 points		30 points		35 points		İ
	Onel arran		2		3		4		İ
	Oral exam		25 points		30 pc	oints	35 points		Í
	Percentage of acquire competences (tea		O ,		Numerical grade		ECTS grade		
4.3. Final grade according	90 -	- 100%	,		5 (excellent)		A		
to absolute division		- 89,9%		_	4 (very good)		В		
to abbotate arvibion		- 79,9%			3 (good)		C		
		64,9%			2 (satisfactory)		D		
	50 -	- 59,9%			2 (satisfactory)		Е		

5. ADDITIONAL COURS	SE INFORMATION		
5.1. Compulsory literature	Title	Number of copies in the library	Availability via other media
(available in the library and via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2002. (selected chapters)	10	X
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Veleučilište u Rijeci, Prometni odjel, 2007. Adrian Pilbeam and Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University	10	X (elearning, handouts)
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skill keeping track of attendance and student activity during classes and provided information on so homework, information for further guidance to students will be provided in order to increase informed about their rights and obligations as well as the methods of work and the required list Student survey, monitoring of annual data from the Croatian employment service on the annual employers and Alumni association.	tudents' progress throug e the efficiency of their iterature. Indicators of q nual state of student em	h short colloquiums and work. Students will be uality assurance system: ployment, surveys from
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursew classes or possible adjournment will be published in a timely manner on the e-learning site of the Students can contact teachers during the consultation period (at least one hour per week), while be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail as soon as possible (no later than five working days after receiving the e-mail).	the course and on the we	ebsite of the Polytechnic.

6. GENERAL INFORM	AATION		
1.1. Course lecturer	Ivana Kardum Goleš	1.8. Course code in ISVU	140784
1.2. Course title	English language IV	1.9. Course code in MOZVAG	
1.3. Assistants and/or associates		1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(15+30+0+0)
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1
1.6. Year of study	2 nd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% $X\Box$ More than 20% \Box
2. COURSE DESCRIPTION	ON		
2.1. Course objectives	tenses, the relational and causative sentences to expand the vocabulary related to traffic, we to write different kinds of business letters. Be enabling their easier and more direct involves of the English speaking world. Learning a sentences	abulary related to road and postal traffic as well as predict, sequence of tenses, word formation, usage of abbreviation, thile exercises determine and practice grammar and new very attending a foreign language classes, students are introducement in world events and getting acquainted with the element of the culture of dialogue and civilization.	ons in business English. The aim is also ocabulary. Another goal of the course is luced with new communication systems, ments of English culture and civilization
2.2. Terms of course entry and required competences	Completed course English language III		
2.3. Learning outcomes on the study programme level	professional public in Croatian and English	from technology and organization of road traffic in wi	
	Learning outcomes accroding to the Bloom	n's taxonomy: (up to two verbs per LO)	Level of LO: 1- remembering,

	40. t	o understand, apply and link terms	h road traffic and use them in	2- understand 3- application 4-analysis, 5-evaluation, 6-synthesis	n,		
	41. to	written and oral communication o create CV (Europass template), jo o interpret and use tenses in real-li o develop a longer essay within the	2, 3 3, 4, 6 3, 4 5, 6				
	44. to 45. to 46. to 47. to	o present own ideas for developmed o communicate in a foreign langua o compare and evaluate different to o analyse complex texts and solve o use part of the general language	5, 6 3 6 5 4 6				
		structive allignement	•			Ç	
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time
2.5. Course content	194.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h
2.5. Course content according to detailed curriculum schedule	195.	Early Trading Conditions – Tenses CV – Europass template	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and applied grammatical structure tasks are evaluated, underst link terms from the profession of English road traffic and use and oral communication interpreted in a real linguist part of other language complevel.	es on texts and and, apply and nal terminology them in written verb tenses are tic context, use	4 h

	196.	Travel And Traffic Information - The Sequence Of Tenses	1, 3, 4, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	197.	Public Transport - Direct And Indirect Speech - Statements Past	1, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	198.	Transport And Tourism - Direct And Indirect Speech – Questions Past	1, 3, 6,	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the	4 h

					development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
	199.	Tehnological Advances In The Twenty-First Century - Direct And Indirect Speech - Commands, Requests, Advice Past	1, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	200.	The History Of The Motor Car	1, 3, 5, 6, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h

201.	The World Of Transport - I Kolokvij	1, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
202.	Professionalism In The Public Sector - Defining Relative Clauses	1, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h
203.	America On Wheels - Non- Defining Relative Clauses	1, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises. Discuss.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the	6 h

					development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
	204.	The History Of Railways - Connective Relative Clauses	1, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
	205.	The Telephone Of Today And Tomorrow - Business Letters – Abbreviations In Business English	1,2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h

206.	The Modern Wonder Of Electronics - Business Letters – Job Intervju	1,2, 3,4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
207.	Problems Of Modern Transportation	1, 3,4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	6 h
208.	Revision – II Kolokvij	1, 2, 3, 4,5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the	10 h

					development of transport a longer essay with comparing and evaluatin in the traffic of other medium complex texts a part of other language level.	nin course topics, ng different solutions countries, analyze and solve tasks, use
3. EVALUATION OF ST	UDENTS' WORK					
In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%. The students' acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the written part of the final exam and is obliged to take the oral exam only. The final exam consists of a written and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform oneself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Polytechnic of Šibenik and the e-learning page of the course, where all the information on the course as well as the teaching materials and the list of literature are also available.						
3.2. Monitoring student	Attendance	0,5	Written exam	1 (without colloquia)	Project	
work (enter the share of	Experimental work		Research		Practical work	
ECTS credits for each activity so that the total number of ECTS points	Essay		Report		Continuous examination	
corresponds to the credit score of the course)	Colloquium	1 (without written exam)	Seminar paper		Other	
score of the course,	Class activity	0,5	Oral exam	1	Other	ļ
3.3. Student workload	11. Attending c	n all bases for 1 ECTS lasses and exercises 45 olloquia or exams thro	hours		mated as:	
4. GRADING SYSTEM						

4.1. Grading seminar papers	-						
r ··r	Unsatisfactory		Satisfact	ory		Above avera	ge
4.2. Grading colloquia/ written and oral exam	deeper understanding. I know or apply basic to concepts. Does not know	without di without di understanding. Does not without di understanding. Does not without di understanding. Without di understanding. Without di understanding. Without di understanding.		Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples. Reproduces the basic concepts and thorough thorough logically supported originall material.		edge is at the level of analysis, synthesis and ion. Observes the principles, accurately and the explains the content of the material, and y connects and explains the terms and concepts ed with examples. Finds solutions that were not ly given. Notes correlations with related 1.	
	Active course attendance	70-	75% of attendance	76-86% of	attendance	87-100%	% of attendance
	Active course autilitative		3 points	7 po	ints	2	20 points
	Seminar paper	eminar paper					
4.3. Final grade according to evaluation elements		2		3	3		4
to evaluation elements	Colloquia/ Written exam		50-64,9%	65-79	9,9%	8	0-89,9%
		25 points		30 pc	oints	3	5 points
	0 -1		2	3	}		4
	Oral exam		25 points	30 points		35 points	
	Percentage of acquir competences (te			Numerical grade		ECTS grade	
4.3. Final grade according		- 100%		5 (excellent)		A	
to absolute division		- 89,9%		4 (very good)		В	
de deservit division		- 79,9%		3 (good)		<u> </u>	
	60 - 64,9% 50 - 59,9%			2 (satisfactory) 2 (satisfactory)		<u>D</u>	
5. ADDITIONAL COURS		_ 37,770		2 (Satisfactory)			
5.1. Compulsory literature (available in the library			Title		N	Tumber of copies in the library	Availability via other media

and via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2002. (selected chapters)	10	X
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Veleučilište u Rijeci, Prometni odjel, 2007. Adrian Pilbeam and Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University	10	X (elearning, handouts)
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skill keeping track of attendance and student activity during classes and provided information on s homework, information for further guidance to students will be provided in order to increas informed about their rights and obligations as well as the methods of work and the required l Student survey, monitoring of annual data from the Croatian employment service on the antemployers and Alumni association.	tudents' progress through se the efficiency of thei iterature. Indicators of o	gh short colloquiums and r work. Students will be quality assurance system:
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursew classes or possible adjournment will be published in a timely manner on the e-learning site of Students can contact teachers during the consultation period (at least one hour per week), while contacted during class. It is also possible to ask questions by e-mail (from the official e-mail soon as possible (no later than five working days after receiving the e-mail).	the course and on the we for short questions and	ebsite of the Polytechnic. explanations they can be

10. GENERAL INFORM	AATION					
1.1. Course lecturer	Luka Olivari 1.8. Course code in ISVU 187606					
1.2. Course title	Theory of vehicle movement					
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)			
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4			
1.6. Year of study	2 nd	2 nd 1.13. Modernization				
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% More than 20 %			
11. COURSE DESCRIP						
2.1. Course objectives	The aim of the course is to provide students successfully solve the problem of road vehicle e	with theoretical knowledge and practical examples to acquire the knowledge.	nowledge necessary to			
2.2. Terms of course entry and required competences	Four-year secondary education completed; quali	ification level 4.2 according to the CROQF.				
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic LO8: To solve problems in traffic by using analytical and / or graphical methods LO13: To track trends in the development of technique, technology and safety in traffic					
2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	Learning outcomes by Bloom: (maximum 2 werbs for LO) Learning outcomes by Bloom: (maximum 2 werbs for LO) 2 - understanding 3 - application, 4 - analysis,					

						5 - evaluation 6 – synthesis.	
	6.	Describe the basic concepts i	n vehicle m	novement theory		1, 2	
	7.	7. Distinguish the drive engines, concepts and elements of transmission of road vehicles.					
	8.	Formulate the final equation movement of the vehicle.	of motion	of the vehicle based on the traction forces	and the resistance of the	6	
	9.	Evaluate the fuel economy of	f a road veh	nicle.		5	
	10	. Analyze the stability of the ro	oad vehicle	under different operating conditions.		4	
2.5. Course content according to detailed curriculum schedule	Const	ructive allignement					
	No	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time
	1.	Introductory presentation (introducing students to the content and obligations of the course). Area of study of vehicle motion theory. Exploitation of vehicle technical characteristics.	1	Listen to a lecture. By working independently on a computer, they become acquainted with the course content, obligations, literature and documents on the e-learning course page. Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	oral exam they define an basic terms, physical qu	d explain the	3 h
	2.	Performance characteristics related to vehicle movement. Construction of motor vehicles.	1, 2	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the oral exam they define an basic concepts; distingularive engines, concepts a of transmission of road vonumerical tasks from tarea;	d explain the hish between and elements hicles; solve	3 h

3.	Dynamism. Traction dynamic. Braking dynamic.	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or written and oral exam define and explain the basic concepts; distinguish between powertrains, and modes and elements of transmission of road vehicles; formulate the final equation of motion of the vehicle based on the traction forces and the resistance of the	3 h
4.	Sliding. Rolling resistance. Air resistance. Inertia resistance.	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	vehicle; solve numerical tasks from the specified area; At the colloquium or written and oral exam define and explain the basic concepts; distinguish between powertrains, and modes and elements of transmission of road vehicles; formulate the final equation of motion of the vehicle based on the traction forces and the resistance of the vehicle; solve numerical tasks from the specified area;	3 h
5.	Dynamic factor. Car power balance.	1, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or written and oral exam define and explain the basic concepts; formulate the final equation of motion of the vehicle based on the traction forces and the resistance of the vehicle; evaluate the fuel economy of a road vehicle; solve numerical tasks from the specified area;	3 h
6.	Dynamic indicator for unequal movement. Dynamic climb control.	1, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; formulate the final	3 h

	Inertia motion with the engine off.			equation of motion of the vehicle based on the traction forces and the resistance of the vehicle; evaluate the fuel economy of a road vehicle; solve numerical tasks from the specified area;	
7.	Overtaking. Economy. Fuel consumption equation. Method of normalizing fuel consumption	1, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; formulate the final equation of motion of the vehicle based on the traction forces and the resistance of the vehicle; evaluate the fuel economy of a road vehicle; solve numerical tasks from the specified area;	3 h
8.	Stability. Longitudinal stability. Transverse stability. Rotate the vehicle on a horizontal and transverse inclined path	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; analyze the stability of the road vehicle under different operating conditions; solve numerical tasks from the specified area;	3 h
9.	Single axle sliding. Force distribution	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; analyze the stability of the road vehicle under different operating conditions; solve numerical tasks from the specified area;	3 h
10	Distribution of tangential forces across axles	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; analyze the stability of	3 h

				the road vehicle under different operating conditions; solve numerical tasks from the specified area;	
11.	Constant deceleration curve. Curves of constant brake grip coefficient	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; formulate the final equation of motion of the vehicle based on the traction forces and the resistance of the vehicle; analyze the stability of the road vehicle under different operating conditions; solve numerical tasks from the specified area;	3 h
12.	Possibility of distributing braking forces.	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; formulate the final equation of motion of the vehicle based on the traction forces and the resistance of the vehicle; analyze the stability of the road vehicle under different operating conditions; solve numerical tasks from the specified area;	3 h
13.	Braking force control device. Correctors. Anti- lock braking (ABS) devices.	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they define and explain the basic concepts; analyze the stability of the road vehicle under different operating conditions; solve numerical tasks from the specified area;	3 h
14.	Construction of anti-lock	1, 5	Listen to a lecture and read literature. The	At the colloquium or the written and	3 h

	15.	braking systems for commercial vehicle Characteristic instance of AB systems in proceeding vehicles Final conserved repetition and profession of the exam.	es. allations bassenger ideration,	exercises demonstrate I Independent task solvin Listen to a lecture as Prepare individually for	nd read literature.	oral exam they define a basic concepts; analyze the road vehicle u operating conditions; s tasks from the specified	the stability of nder different olve numerical	3 h
12. EVALUATION OF S	STUDE							
3.1. Student obligations	require	ed to attend classes	at least 70%, which	d the Rulebook on Assessition is also a requirement for o by taking colloquiums an	btaining the lecturer	's signature. Students car	n take the final e	xam in
3.2. Student work	Attend	ing classes	1,5	Written exam	1 (without colloquiums)	Project		
monitoring (enter the share of ECTS credits for	Experi	mental work		Research	1 /	Practical work		
each activity so that the	Essay			Report		Continuous check	0,5	
total number of ECTS credits corresponds to the	Colloq	uiums	1 (without written exam)	Seminar paper		Field works or Study trips		
course credit value)	Teachi	ng activities	,	The oral part of exam	1	(other)		
3.3. Student work-load	hours),	Obligation 1. Attending classes 2. Continuous check	inar work and preser		## Hours (estimate 45 15 30		work or study tr	ips (30
		4. Oral exam indivi			30			

4. FORMATION OF STU	DENT GRADE			
	Elements of evaluation	Bad	Satisfying	Above average
4.1. Evaluation of written exam	Physical quantities and their units of measurement Structure, traceability, legibility and orderliness of the procedure, diagrams and sketches	Nonstandard physical units have not been converted to basic or have been converted wrong. The task is not properly structured, it is not traceable, and it is not readable. Diagrams and sketches are non-existent, inaccurate, messy, unclear and	Nonstandard units have been converted to basic units with minor errors in calculation. The task is satisfactorily structured, traceable and readable. The diagrams and sketches are meaningful, neat with minor errors.	Nonstandard units have been converted to base units without error. The task is clearly structured, complete, very neat and legible. The diagrams are completely accurate, clear and very neat.
CAUII	Application of appropriate equation (formulas) and the final result.	ambiguous. Uses expressions that do not describe the problem specified, or incorrectly expresses the physical unit from the expression. Numeric values are not included in the expression. The end result is incorrect.	Uses expressions that describe the problem in question, accurately derives physical quantities from the expression, incorporates numerical values into the expression with smaller numbers, the final result has smaller deviations from the exact result.	Uses expressions that describe the problem in question, accurately derives physical quantities from expressions, lists units of measure without errors, the final result is completely accurate.
4.2. Evaluation of oral exam	Knowledge and expression.	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supports them with examples. Knows the expert terminology.	Knowledge is at the level of analysis, synthesis and evaluation. Observes the principles of physical laws, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts and supports them with examples. Finds solutions that were not originally given. It notes correlations with

				related profession	material. Fluent in nal terminology.	
	Attending classes	> 80%	> 85%	> 90% prisustva	100%	
	- Tarrenaming enumber	4 points	6 points	8 points	10 points	
4.3. Forming the final	Continuous check	0-5	6-10	11-15	16-20	
grade according to the	Colloquiums/	2	3	4	5	
evaluation elements	Written exam	50-64,9%	65-79,9%	80-89,9%	90-100%	
		50-64,9 bodova	65-79,9 bodova	80-89,9 bodova	90-100 bodova	
	The oral part of exem	2	3	4	5	
		50-64,9 bodova	65-79,9 bodova	80-89,9 bodova	90-100 bodova	
	Percentage of acquired k competencies (teach	•	Numerical grade	Е	CTS grade	
4.4. Formation of the final	90 – 10	0%	5 (excellent)		A	
grade based on the absolute distribution	80 – 89	,9%	4 (very good)		В	
	65 – 79	,9%	3 (good)		С	
	60 – 64	,9%	2 (sufficient)		D	
	50 – 59	,9%	2 (sufficient)		Е	

5. ADDITIONAL INFORMATION ABOUT COURSE

	Title	Number of copies in the library	Availability via other media
5.1. Compulsory literature	1. Perše, S., Višnjić, V.: Strojarstvo u prometu, Fakultet prometnih znanosti, Zagreb,	10	
(available in the library	2005. (odabrana poglavlja)	10	
and via other media)	2. Cerovac V., Tehnika i sigurnost prometa, Fakultet prometnih znanosti, Zagreb,	5	
	2001. (odabrana poglavlja)	3	
	3. Vrhovski D. Nikšić M., Osnove strojarstva, zbirka riješenih zadataka, Fakultet	5	
	prometnih znanosti, Zagreb, 2000. (odabrana poglavlja)	J	

5.2. Additional literature	22. Teaching materials from the lectures and exercises on the e-learning system of the				
(at the moment of changes	Polytechnic for the course Technical Mechanics.	1	on-line (e-learning)		
and/or amended of study	23. Rotim, F.: Elementi sigurnosti cestovnog prometa, Svezak 2., Znanstveni savjet za	1			
programme)	promet HAZU, Zagreb, 1991.				
	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By				
5.3. Quality assurance	keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and				
methods that ensure the	homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be				
acquisition of knowledge,	informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system:				
skills and competences	Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from				
	employers and Alumni association.				
	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of				
5.4. Informing about the	classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the				
course and contacting the	Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and				
course lecturer	explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address name@vus.hr),				
	which will be answered as soon as possible (no later than five working days after receiving the e-mail).				