

Šibenik University of Applied Sciences

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Erasmus + Course Catalogue

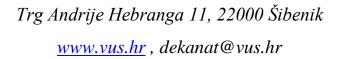
Academic year 2024./2025.



Šibenik, April 2025.



Šibenik University of Applied Sciences





Professional undergraduate study of Traffic (Department of Traffic Studies)

Dean: PhD. Ljubo Runjić, college professor

Acting Head Department of Traffic studies: Darijo Šego, univ. spec. traff., senior lecturer

Courses list

Course	Course lecturer	Course title	ECTS	
code	Course recturer	Course title	credits	
201133	Beljo Ivana/Perišić Ana	Mathemathics I	8	
201133	Beljo Ivana/Perišić Ana	Mathemathics II	8	
214569	Beljo Ivana/Perišić Ana	Statistics in traffic	4	
201138	Beljo Ivana/Perišić Ana	Operational research in traffic	4	
187586	Gaćina Nikolina	Knowledge of goods	4	
129833	Kardum Goleš Ivana	English language I	3	
187599	Kardum Goleš Ivana	English language II	3	
140775	Kardum Goleš Ivana	English language III	3	
140784	Kardum Goleš Ivana	English language IV	3	
201132	Olivari Luka	Graphic communication	5	
142538	Olivari Luka	Theory of vehicle movement	4	
201142	Poljičak Ana-Mari	Traffic in tourism	3	
140777	Poljičak Ana-Mari	Freight-distributional centers	5	
140777	1 Officar Affa-Maif	and terminals		
214571	Poljičak Ana-Mari	Transshipment resources	6	
201135	Radić Lakoš Tanja	Traffic and ecology	4	
140771	Šego Darijo	Traffic corridors and	4	
140//1	Sego Darijo	merchandise flows	4	
201134	Šego Darijo	Modern traffic systems	6	
140773	Šego Darijo	Traffic logistic	4	

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	Transshipment resources	115
	Traffic and ecology	126
	Traffic corridors and merchandise flows	137
	Modern traffic systems	146
	Traffic logistic	154

Course Curriculums

Mathemathics I

1. GENERAL INFORMATION	1. GENERAL INFORMATION ABOUT THE COURSE					
1.1. Course title	MATHEMATICS I	1.8. ISVU course code	270660 / 270661			
1.2. Course lecturer	Ivana Beljo dipl. ing. mat., univ. spec. oec., senior lecturer	1.9. MOZVAG course code	-			
1.3. Assistants and/or associates	PhD Ana Perišić, college professor	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)				
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st level – materials available on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1			
1.6. Study year	1 st	1.13. Modernization	□ yes X no			
1.7. Credit score (ECTS)	5	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 objective of the course is for students acquire knowledge and skills in analytical thinking, as well as logical reasoning and interpreting results for further education. The goal of the course is for students to be equipped, based on theoretical knowledge and case studies, to understand, comprehend,
2.1. Course objectives	recognize, and apply various quantitative methods for solving specific problems and methods for optimizing such problems
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 on the study programme level	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members

		To individually and responsibly search,	•				
	LO4:	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic					
	LO6:	To analyze and present relevant facts fro	om the field	of traffic needed to reach conclusio	ns		
	LO8:	To solve problems in traffic by using ana	alytical and	/ or graphical methods			
2.4. Expected learning outcomes	Learr	Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis					
on the course level	1	3, 4					
	2		4, 5				
	3		4				
	4		4, 5				
	5		4, 5				
	Cons	tructive allignement					
	no.	Thematic ensemble / Lecture Topic	LO of the course	Content / Teaching Method	Evaluation		Time needed
2.5. Course content according to detailed curriculum schedule	1.	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.	-		2 h
	2.	Sets. Sets of numbers.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and o students know how to enum distinguish basic concepts r	erate and	4 h

		1		1	1	
					assemblies and perform basic operations	
					on sets.	
	3.	Functions – basic terms, Elementary functions.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define and distinguish elementary functions, solve the composition of functions and determine the inversion of functions.	4 h
	4.	Composition of the functions. Inverse function.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define and distinguish elementary functions, solve the composition of functions and determine the inversion of functions.	4 h
	5.	Evenness and oddness of a function. Periodicity of a function. Domain of a function. Graph of a function	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define and distinguish elementary functions, solve the composition of functions and determine the inversion of functions.	4 h
	6.	Growth/decline of a function. Concavity/convexity of a function	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define and distinguish elementary functions, solve the composition of functions and determine the inversion of functions.	4 h
funct Revis	Limit of the function. Continuity of functions.	2, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to to calculate limits.	4 h	
	8.	Revision for colloquium. Colloquium. Derivatives.	1, 2, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve derivatives.	4 h
	9.	Derivative of a function, interpretation. Differentiation of elementary functions.	4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve derivatives.	4 h

10.	Derivative of composition	4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve derivatives.	4 h
11.	Monotonicity and extrema of a function.	2, 4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to examine the basic properties of a function, to analyze the solutions obtained and to draw a graph of the function based on them, and to comment on the obtained solutions.	4 h
12.	L'Hospital. Asymptotes of the function.	2, 4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to examine the basic properties of a function, to analyze the solutions obtained and to draw a graph of the function based on them, and to comment on the obtained solutions.	4 h
13.	Basic analysis of functions of one variable. Convexity and concavity of a function.	2, 4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to examine the basic properties of a function, to analyze the solutions obtained and to draw a graph of the function based on them, and to comment on the obtained solutions.	4 h
14.	Applications of Derivatives.	4, 5	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to examine the basic properties of a function, to analyze the solutions obtained and to draw a graph of the function based on them, and to comment on the obtained solutions.	4 h
15.	Final conclusions. Exam preparation.	1, 2, 3, 4, 5	Attending lectures. Actively involving students through problem solving and discussion. Group problem solving and discussion. Exam preparation.	-	4 h

3. EVALUATION OF STUDENT	3. EVALUATION OF STUDENTS` WORK							
3.1. Students` obligations	discussions, solvi (<u>ivana.beljo@vus</u> regarding the cor information abou ways: a) During to	Student obligations are prescribed by the Study Regulations. It is recommended that students actively participate in classes, which includes engaging in discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email ivana.sisak@vus.hr). It is the responsibility of each student to stay informed about the conduct of classes. All announcements egarding the conduct or possible postponement of classes will be posted on the website of the Polytechnic of Šibenik or the course webpage, where all information about the course, as well as teaching materials and a list of literature, can also be found. Students can pass the final exam in the course ways: a) During the course through continuous student assessment (active participation in classes and two colloquiums). Students who do not meet some of the learning outcomes are required to take the oral part of the exam. b) During the course (active participation in classes) and by taking the exam (written and oral parts).						
	Attendance	0,5	Written exam	3 (with		Project		
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical work		
for each activity so that the total number of ECTS points	Essay		Report			Continuous examination	0,5	
corresponds to the credit score of the course)	Colloquium	3,5 (without written and oral exam)	Seminar paper			Other		
	Class activity	0,5	Oral exam	0,5 (wit		Other		
	The student's wo	orkload on all bases amount	its to 1 ECTS point for ?	of hours of	work per seme	ster and is estimated as:		
		Obliga	ation			Hours (est	imate)	
3.3. Student workload	1. Attend	ding classes and exercises				60		
	2. Prepar	ration for the Colloquium /	exam through self-stud	.y		90		
4. GRADING SYSTEM								
4.1. Grading seminar papers								
4.2. Grading colloquia/ written and oral exam	U	Unsatisfactory Satisfactory				ry Above average		

	Responds by memory, understanding. Does no basic terms and concepthow to apply or explain course with examples.	ot know or apply ts. Does not know	difficulty understand	knowledge is at the level of an evaluation. Observes the principal thoroughly explains the content of the connects and explains the terms and connects and explains the terms are examples.			the material, and logically d concepts supported with ere not originally given.
	Activities in class	Preparation for te	aching units;	Understanding previous content;	Participation in sol	ving tasks togeth	er: 0 – 20 points
4.3. Final grade according to	Seminar papers			-			
evaluation elements	Colloquium/written exam	Preparation/learni	ng; Scoring	and grading according to correct a	inswers in the test:	0 – 80 points (mi	n 40 points)
	Oral exam	Preparation/learni	ng; additiona	al verification of unachieved learn	ing outcomes		
	Percentage of acque competences (Numerical grade		ECTS grade	
40.77	90	0 - 100%		5 (excellent)		A	
4.3. Final grade according to absolute division	80	0 – 89,9%		4 (very good)		В	
	65	5 – 79,9%		3 (good)		С	
	50) – 64,9%		2 (satisfactory)		D	
5. ADDITIONAL INFORMATIO	N ABOUT THE COURS	SE					
5.1. Compulsory literature (available in the library and via other media)	Title Number of copies in the library Availability via othe media					Availability via other media	
,	Pašagić, H., Ivanković, B., Kapetanović, N.: Mathematical methods in Traffic, Zagreb, 2004.						
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Neralić, L.: Introduction in mathematics programming 1, Zagreb, 2012. Hillier F., Lieberman G.: Introduction to operations Research, McGraw Hill 8th ed. 2005, 8th Ed.						
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 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).

Mathematics II

1. GENERAL INFORMATION ABOUT THE COURSE					
1.1. Course title	MATHEMATICS II	1.8. ISVU course code	270667 / 270668		
1.2. Course lecturer	Ivana Beljo grad. eng. mat., univ. spec. oec., senior lecturer	1.9. MOZVAG course code	-		
1.3. Assistants and/or associates	PhD Ana Perišić, college professor	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	30 + 30 + 0 + 0		
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st level – materials available on-line, 0%		
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1		
1.6. Study year	1 st	1.13. Modernization	□ yes X no		
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □		

2. COURSE DESCRIPTION	
2.1. Course objectives	Introducing students to the fundamental concepts of linear algebra and functions of single variable, which they can apply in different courses. Adopting analytical skills, logical and critical thinking skills.
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 on the study programme level	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members. 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.

	1.00	To analyze and massest aslesses for the	om the C:-11	of troffic monded to accelerate the	n o		1	
	LU6:	To analyze and present relevant facts from	om the neid	of traffic needed to reach conclusio	118.			
	LO8:	To solve problems in traffic by using an	alytical and	/ or graphical methods.				
2.4. Expected learning outcomes on the course level							Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis 4, 5 4 5, 4	
	9	2. To apply linear algebra and function	al analysis n	nethods in transport problems solving	ıg.		4, 5	
	Constructive allignement							
	no.	Thematic ensemble / Lecture Topic	LO of the course	Content / Teaching Method	Evaluation		Time needed	
2.5. Course content according to	10	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.	-		2 h	
detailed curriculum schedule	17.	Integrals	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and o students know how to solve an		4 h	
	18.	Indefinite Integrals. Definite Integrals.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and o students know how to solve an and definite integral.		4 h	
	19.	Substitution Rule and Integration By Parts	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and o students know how to solve an		4 h	

	T	ı	T		
				integral using the method of substitution and partial integration.	
20.	Applications of Integration.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to analyze and sketch a graph of functions, and solve a definite integral.	4 h
21.	Applications of Integration. Revision for colloquium. Colloquium.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to analyze and sketch a graph of functions, and solve a definite integral.	4 h
22.	Matrices.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define matrices, perform basic computational operations with matrices.	4 h
23.	Determinants.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to calculate the determinants.	4 h
24.	The inverse matrix.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to calculate the inverse of a matrix	4 h
25.	Systems of linear equations.	4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to recommend a method for solving a system of linear equations and solve a system and apply it to problems.	4 h
26. Ved	Vectors.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define vectors, perform basic computational operations with vectors.	4 h
27.	Scalar and vector product.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define vectors, perform basic computational operations with vectors.	4 h

	28.	Vector and mixed vector pro	oduct. 3		•	Actively through liscussion.	In colloquium or written students know how to perform basic computa with vectors.	define vectors,	4 h	
	29.	Applications of linear algeb	ra. 4		U	Actively through iscussion.	In colloquium or written students know how to method for solving a equations and solve a sy to problems.	o recommend a system of linear	4 h	
	30.	Final conclusions. Exam preparation.	1, 2,	Group	U	ving and	-		4 h	
3. EVALUATION OF STUDENT	3. EVALUATION OF STUDENTS` WORK									
3.1. Students` obligations	Student obligations are prescribed by the Study Regulations. It is recommended that students actively participate in classes, which includes engaging in discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email (ivana.beljo@vus.hr , ana.sisak@vus.hr). It is the responsibility of each student to stay informed about the conduct of classes. All announcements regarding the conduct or possible postponement of classes will be posted on the website of the Polytechnic of Šibenik or the course webpage, where all information about the course, as well as teaching materials and a list of literature, can also be found. Students can pass the final exam in the course in two ways: a) During the course through continuous student assessment (active participation in classes) and by taking the exam (written and oral parts).							ars or via email announcements bage, where all e course in two not meet some		
3.2. Monitoring student work	Attend	ance 0,5	Written e	exam	3 (without colloquium)		Project			
(enter the share of ECTS credits for each activity so that the total	Experi work	mental	Research				Practical work			
number of ECTS points corresponds to the credit score of the course)	Essay		Report				Continuous examination	0,5		
	Colloq	uium 3,5 (without writt and oral exam)	en Seminar	paper			Other			

and oral exam)

	Class activity	0,5	Oral exam		0,5 (without colloquium)	Other			
	The student's wo		unts to 1 ECTS	S point for 30	hours of work per sem	ester and is estimated as: Hours (estimated)	ate)		
3.3. Student workload	3. Attend	ling classes and exercise	es			60			
	4. Prepar	ration for the Colloquiur	n / exam throu	gh self-study	n self-study 90				
4. GRADING SYSTEM									
4.1. Grading seminar papers									
	Uı	nsatisfactory		Satisfa	ctory	Abov	ve average		
4.2. Grading colloquia/ written and oral exam	understanding. basic terms and	nemory, without a deep Does not know or applications of the concepts. Does not know explain the contents of temples.	oly difficulty understar	imparts nds the materi	concepts and without new knowledge, al, explains the terms I 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.			
	Activities in cla	Preparation fo	or teaching unit	s; Understand	ling previous content;	Participation in solving tasks	s together: 0 – 20 points		
4.3. Final grade according to	Seminar papers				-	-			
evaluation elements	Colloquium/wri	itten Preparation/le	arning; Scorin	g and grading	according to correct a	ling to correct answers in the test: $0 - 80$ points (min 40 points)			
	Oral exam	Preparation/le	arning; additio	nal verification	on of unachieved learni	ng outcomes			
	_	of acquired knowledge tences (teaching + final]	Numerical grade	E	CCTS grade		
4.2 F' - 1 1 1' 4		90 – 100%			5 (excellent)	A			
4.3. Final grade according to absolute division		80 – 89,9%			4 (very good)	В			
		65 – 79,9%			3 (good)	С			
		50 – 64,9%			2 (satisfactory)		D		

5. ADDITIONAL INFORMATIO	N ABOUT THE COURSE						
5.1. Compulsory literature (available in the library and via	Title	Number of copies in the library	Availability via other media				
other media)	Marušić S.: Mathematics and textbook with resolved examples, Zagreb, 2007. Beljo I., Olivari L.: Mathematics, Šibenik University of Applied Sciences, 2024.	5	On-line				
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Teaching materials from lectures and exercises Bradić T. Roiki R. Pečarić J. Strupie M. Mathematics for Faculty of Technology, Multigraph - Zagreb 1994						
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 trace attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligat as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from 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 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).						

Statistics in traffic

1. GENERAL INFORMATION	ABOUT THE COURSE							
1.1. Course title	STATISTICS IN TRAFFIC	1.8. Course code in ISVU	214569 / 214570	0				
1.2. Course lecturer	PhD Ana Perišić, college professor	1.9. Course code in MOZVAG						
1.3. Assistants and/or associates	Ivana Beljo, grad. eng. math., univ. spec. oecc., senior lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30+30+0+0)))				
1.4. Study programme (professional undergraduate, and professional graduate)	nercentage of on line course performance (max 70%) 10%		rials are on-line,					
1.5. Course status (obligatory, optional)	Obligatory, Obligatory 1.12. Number of course revisions		4					
1.6. Year of study	2 nd	1.13. Modernization	X yes □ r	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				_				
2.1. Course objectives	The goal is to provide students with theoretical kno	owledge and practical skills needed for performing statistical a	analysis and inter	pretation of the results.				
2.2. Terms of course entry and required competences	No conditions.							
2.3. Learning outcomes on the	LO1: To apply and link professional terms from tecl in Croatian and English.	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.						
study programme level	LO6: To analyze and present relevant facts from the	e field of traffic needed to reach conclusions.						
	LO8: To solve problems in traffic by using analytical	cal and / or graphical methods.						
2.4. Expected learning outcomes on the course level	Learning outcomes accroding to the Bloom's taxo	conomy: (up to two verbs per LO)		Level of LO: 1- remembering,				

	1. To define fundamental concepts of descriptive statistics and interpret indicator values from the field of descriptive statistics. 2. To calculate and interpret values for the measures of central tendency and dispersion parameters. 3. To define fundamental concepts and solve basic problems in the field of combinatorics and probability theory. 4. To select and apply probability models for different stochastic phenomena. 5. To conduct correlation and regression analysis and derive conclusions on variable relationship. Constructive allignement						ding, n, 2
	Cons		LO of the				Time
	no	Thematic unit	course	Content/teaching methods	Evaluation		needed
	1.	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations and.	-		2 h
2.5. Course content according to detailed curriculum schedule	2.	Descriptive statistics.	1,2	Attending lectures. Actively involving students through problem solving and discussion.	Students will define fundame of descriptive statistics a indicator values from the descriptive statistics; will continue interpret values for the measure tendency and dispersion through colloquia or written/o Students will apply methods of statistics in transport problem.	nd interpret e field of alculate and res of central parameters ral exams. of descriptive	4 h
	3.	Measures of central tendency	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	Students will define fundame of descriptive statistics a indicator values from th descriptive statistics; will c interpret values for the measu	nd interpret e field of alculate and	4 h

						
					tendency through colloquia or written/oral exams. Students will apply descriptive statistic methods for solving transport problems.	
	4.	Positional measures of central tendency	1, 2	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 through colloquia or written/oral exams. Students will apply descriptive statistic methods for solving transport problems.	4 h
	5.	Measures of dispersion	1, 2	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.	4 h
	6.	Correlation and regression.	5	Attending lectures. Actively involving students through problem solving and discussion.	Students will conduct correlation and regression analysis and derive conclusions on variable relationship through colloquia or written/oral exams. Students will apply statistical methods for solving transport problems	4 h
	7.	Partial exam preparation. Introduction to combinatorics	1, 2, 5, 3	Group problem solving and discussion. Exam preparation. 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	4 h

			1			т
					probability theory in transport problems solving.	
	8.	Introduction to combinatorics	3	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.	4 h
	9.	Permutations, Variations, Combinations	3	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.	4 h
	10.	Introduction to probability theory.	3	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.	4 h
	11.	Introduction to probability theory. A priori probability, a posteriori probability, geometric probability	3	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.	4 h
	12.	Random variable, distributions, expectation, variance.	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. Students will apply probability theory in transport problems solving.	4 h

	13.	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.	4 h			
	14.	Continuous random variables. Normal 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. Students will apply probability theory in transport problems solving.	4 h			
	15.	Final conclusions. Exam preparation	-	Group problem solving and discussion. Exam preparation.	-	4 h			
3. EVALUATION OF STUDENTS` WORK									
	Student obligations are prescribed by the Study Regulations. It is recommended that students actively participate in classes, which includes engaging in discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email								

3.1. Students' obligations

discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email (ivana.beljo@vus.hr, ana.sisak@vus.hr). It is the responsibility of each student to stay informed about the conduct of classes. All announcements regarding the conduct or possible postponement of classes will be posted on the website of the Polytechnic of Šibenik or the course webpage, where all information about the course, as well as teaching materials and a list of literature, can also be found. Students can pass the final exam in the course in two ways: a) During the course through continuous student assessment (active participation in classes and two colloquiums). Students who do not meet some of the learning outcomes are required to take the oral part of the exam. b) During the course (active participation in classes) and by taking the exam (written and oral parts).

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)

	Attendance	0.5	Written exam	2 (without colloquia)	Project	
s ıl	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	0.5
	Colloquium	2,5 (without written exam)	Seminar paper		Other	

						_		
	Class activity	0.5	Oral exam	0.5(without colloquia)	Other			
	The student's work	load on all bases amounts Obligat	*	ours of work per semest	er and is estimated as: Hours (estimated)	ute)		
3.3. Student workload	5. Attendir	ng classes and exercises			60			
	6. Preparat	tion for the Colloquium / e.	xam through self-study		60			
4. GRADING SYSTEM								
4.1. Grading seminar papers								
	Un	satisfactory	Satisfa	ctory	Above	e average		
4.2. Grading colloquia/ written and oral exam	understanding. I basic terms and	emory, without a deeper Does not know or apply concepts. Does not know explain the contents of the aples.	without difficulty knowledge, understa	imparts new th concepts supported	Knowledge is at the level of analysis, synthesis evaluation. Observes the principles, accurately thoroughly explains the content of the material, and logic connects and explains the terms and concepts supported examples. Finds solutions that were not originally given Notes correlations with related material.			
	Activities in class	Preparation for tea	aching units; Understand	ng units; Understanding previous content; Participation in solving tasks together: 0 – 20 points				
4.2 Final and a coording to	Seminar papers			-				
4.3. Final grade according to evaluation elements	Colloquium/writt exam	Preparation/learni	ng; Scoring and grading	according to correct answ	ling to correct answers in the test: $0 - 80$ points (min 40 points)			
	Oral exam	Preparation/learni	ng; additional verificatio	n of unachieved learning	outcomes			
4.4. Final grade according to	_	acquired knowledge, skills es (teaching + final exam)	and Nu	merical grade	F	ECTS grade		
absolute division		90 – 100%	5	(excellent)		A		
		80 – 89,9%	4	(very good)		В		

	65 – 79,9%	3 (good)		С	
	50 – 64,9%	2 (satisfactory)		D	
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE				
5.1. Compulsory literature (available in the library and via		Title		Number of copies in the library	Availability via other media
other media)	Kovač Striko E., Fratović T., Ivanković B., Probab 2008.	oility and statistics, Books of University of Za	greb, Zagreb	1	No
	Šošić I., Serdar V.: Introduction to statistics, Schoo			1	
	Šošić I: Applied statistics, School book, Zagreb, 2	12			
5.2. Additional literature (at the	Azcel A. Sounderpandian J.: Complete Business St.	1			
5.2. Additional literature (at the moment of changes and/or	Zenzerović Z.: Statistical manual, Faculty of Mariti Čižmešija M., Kurnoga Živadinović N.: A collection			5	
amended of study programme)	2006.	2			
amended of study programme)	Patrick R. McMullen: Business statistics for pro	2			
	Polytechnic of Šibenik, 2017.	_			
	Teaching materials on e-learning				
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 regular possible adjournment will be published in a timely contact teachers during the consultation period (at left is also possible to ask questions by e-mail (from working days after receiving the e-mail).	manner on the e-learning site of the course ar east one hour per week), while for short quest	d on the web	site of the Šibeni anations they can	ik University. Students can be contacted during class.

Operational research in traffic

1. GENERAL INFORMATION ABOUT THE COURSE					
1.1. Course title	OPERATIONAL RESEARCH IN TRAFFIC	1.8. ISVU course code	201138 / 202091		
1.2. Course lecturer	Ivana Beljo grad. eng. mat., univ. spec. oec., senior lecture	1.9. MOZVAG course code	-		
1.3. Assistants and/or associates	PhD Ana Perišić, collegue professor	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30+15+0+0)		
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st level – materials available on-line, 0%		
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)	4	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 objective of the course is for students acquire knowledge and skills in analytical thinking, as well as logical reasoning and interpreting results for further education. The goal of the course is for students to be equipped, based on theoretical knowledge and case studies, to understand, comprehend, recognize, and apply various quantitative methods for solving specific problems and methods for optimizing such problems
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 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.

	LO7:	LO7: To apply computer tools for analysis and comparison of data, and suggest an optimal solution in traffic process.						
		To solve problems in traffic by using an	1					
	LU8:	To solve problems in traffic by using an	iaryticai and	/ or grapmeal methods.				
2.4. Expected learning outcomes	Learning outcomes according to the Bloom's taxonomy: (up to two verbs per LO)						Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis	
on the course level	1	0. Formulate a mathematical model for	linear optin	nization problems.			6	
	1	1. Solve optimization problem with gra	phical meth	od.		4		
	1	 Apply computer tools in solving linear programming problems and recommend and valorize the solution through postoptimality analysis. 						
	1	13. Choose the appropriate algorithm and solve the problem on network.						
	14. Design a model for project management and recommend optimal savings by cutting the duration of activities.						6, 5	
	Constructive allignement							
	no.	Thematic ensemble / Lecture Topic	LO of the course	Content / Teaching Method	Evaluation		Time needed	
2.5. Course content according to detailed curriculum schedule	31	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.	-		2 h	
	32.	Formulate a mathematical model	1	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mat model.	thematical	3 h	
	33.	Linear programming	1	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mat model.	thematical	3 h	

			1		1
34.	Linear Programming Problems. Graphical solution	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to model a linear programming problem and sketch a graph and solve an optimization problem.	3 h
35.	Solving linear programming problems: The Simplex method. The Excel Solver	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to model the linear programming problem and solve the problem with the simplex method and using the Solver and recommend the optimal solution.	3 h
36.	Postoptimality analysis	1, 2, 3	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mathematical model and apply computer tools in solving linear programming problems and recommend and valorize the solution through postoptimality analysis.	3 h
37.	The Transportation problem.	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	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
38.	Northwest corner rule, Minimum prices method, Vogel's approximation method, Russel's approximation method	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	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
39.	The Assignment Problem	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve the transport problem and the assignment problem.	3 h
40.	An Overview of Various Applications of Linear Programming Methods in Practical Examples. Exam preparation	1, 2, 3	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mathematical model, apply computer tools in solving linear programming problems and	3 h

					recommend and valorize the solution	
					through postoptimality analysis.	
		Network Optimization Models. The		Attending lectures. Actively	Students will choose the appropriate	
	41.	shortest-path problem. The minimum	4	involving students through	algorithm and solve the problem on	3 h
		spanning tree problem.		problem solving and discussion.	network.	
		The maximum flow problem. The		Attending lectures. Actively	Students will choose the appropriate	
	42.	_	4	involving students through	algorithm and solve the problem on	3 h
		minimum cost flow problem.		problem solving and discussion.	network.	
	43.	Project Management with PERT/CPM	5	Attending lectures. Actively involving students through problem solving and discussion.	Students will design a model for project management and recommend optimal savings by cutting the duration of activities.	3 h
				Attending lectures. Actively	Students will propose optimal business	
	44. Dynamic Programming	5	involving students through	decisions using dynamic programming	3 h	
			problem solving and discussion.	methods.		
				Attending lectures. Actively		
		Final conclusions.	1, 2, 3, 4,	involving students through		3 h
	45.	Exam preparation.	5	problem solving and discussion.	-	
		Exam preparation.	3	Group problem solving and		
				discussion. Exam preparation.		
3. EVALUATION OF STUDENTS	s, moi	RK				
	Studen	t obligations are prescribed by the Study	Regulation	s. It is recommended that students	actively participate in classes, which include	es engaging in
	discuss	sions, solving tasks, etc. Students who are	e unable to a	ttend classes regularly should consu	lt with the professor during consultation hou	rs or via email
		· · ·	-	•	about the conduct of classes. All announcem	
3.1. Students` obligations			-		niversity of Applied Sciences or the course w	
5.1. Students obligations			-		be found. Students can pass the final exam in	
					classes and two colloquiums). Students wh	
	some o	of the learning outcomes are required to	ake the oral	part of the exam. b) during the cou	rse (active participation in classes) and by ta	king the exam
	(writte	n and oral exam).				

Written exam

2 (without

colloquium)

Project

3.2. Monitoring student work

(enter the share of ECTS credits

Attendance

0,5

for each activity so that the total number of ECTS points	Experimental work		Research		Practical work			
corresponds to the credit score of the course)	Essay		Report		Continuous examination	0,5		
	Colloguium	2,5 (without written and oral exam)	Seminar paper		Other			
	, and the second	,	Oral exam	0,5 (without colloquium)	Other			
	The student's workl	load on all bases amounts	•	hours of work per seme				
		Obligat	tion		Hours (estimo	ute)		
3.3. Student workload	7. Attending	g classes and exercises			45			
	8. Preparati	on for the Colloquium / e	or the Colloquium / exam through self-study			65		
4. GRADING SYSTEM								
4.1. Grading seminar papers								
	Unsa	atisfactory	Satisfa	ctory	Above average			
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. Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts and without difficulty imparts new knowledge, understands the material, explains the terms and examples.			e principles, accurately and tent of the material, and logically rms and concepts supported with that were not originally given.				
	Activities in class Preparation for teaching units; Understanding previous content; Participation in solving tasks together: 0 – 20 points							
	Activities in class	Preparation for te	aching units; Understand	ling previous content; P	articipation in solving tasks	together: 0 – 20 points		
4.3. Final grade according to	Activities in class Seminar papers	Preparation for te	aching units; Understand	ling previous content; P	articipation in solving tasks	together: 0 – 20 points		
4.3. Final grade according to evaluation elements		an an		-	articipation in solving tasks swers in the test: $0 - 80$ poi			
	Seminar papers Colloquium/writte	en Preparation/learni		according to correct an	swers in the test: $0 - 80$ poi			

	90 – 100%	5 (excellent)		A B		
	80 – 89,9%	4 (very good)				
	65 – 79,9%	3 (good)		С		
	50 – 64,9%	2 (satisfactory)		D		
5. ADDITIONAL INFORMATIO	N ABOUT THE COURSE					
5.1. Compulsory literature (available in the library and via					Availability via other media	
other media)	Pašagić, H., Ivanković, B., Kapetanović, N.: Mathematical methods in traffic, Zagreb, 2004.			3		
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Neralić, L.: Introduction to Mathematical Programming 1, Zagreb, 2012. Hillier F., Lieberman G.: Introduction to operations Research, McGraw Hill 8th ed. 2005, 8th Ed.					
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 in possible adjournment will be published in a timely many teachers during the consultation period (at least one how also possible to ask questions by e-mail (from the office working days after receiving the e-mail).	nformed about the course, the coursewor ner on the e-learning site of the course an ur per week), while for short questions a	rk, and the cla nd on the webs and explanation	assroom activitie site of the Polyteons they can be c	chnic. Students can contact contacted during class. It is	

Knowledge of goods

1. GENERAL INFORMATION ABOUT THE COURSE						
1.1. Course title	KNOWLEDGE OF GOODS	1.8. ISVU course code	187586 / 202074			
1.2. Course lecturer	PhD Nikolina Gaćina, senior lecturer	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 (professional undergraduate, and professional 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	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	
2.1. 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.
	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the profesional puublic in croation and English.
2.3. Learning outcomes on the	LO2: To organize and implement team work and critically judge the opinions and atitudes od team members.
study programme level	LO3: To individually and responsibly search, interpret and integrate the revevant literature needed to make decisions.
	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.

	LO10: To compare and choose technical and technollogical solutions in treffic and / or traffic logistics.					
	LO13: 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				
	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				
2.4. Expected learning outcomes on the course level	2. Categorize and compare the basic concepts of the science of knowledge of goods.	4, 5				
on the course level	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				
	Analyze and evaluate the specific characteristics and reasons for the application of particular packaging materials for different products.	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.	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 according to detailed curriculum schedule	Const	Constructive alignment								
	No.	Thematic ensemble / Lecture Topic	LO of the course	Content / Teaching Method	Evaluation	Time needed				
		Introduction to the course and detailed curriculum. Introduction to writing a seminar paper.	-	Listen to the lecture.	-	2 h				
		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	4 h				

	-			T			
					basic concepts of the science of knowledge of		
					goods.		
					At the colloquium or the written and oral exam	10 h	
				They listen to a lecture, present	they know: explain the reasons for the product		
	17.	Product identification. GS1.	1, 2, 3, 8	a seminar paper, followed by a	identification, define GS1, enumerate the types		
				discussion, and read literature.	of identification numbers and analyze their		
					specific application.		
					At the colloquium or the written and oral exam	on, of 6 h	
		Norms and norms. The basics of		They listen to a lecture, present	they know: define norms and standardization,		
	18.	quality management.	1, 2, 3, 8	a seminar paper, followed by a	describe and analyze the meaning of		
				discussion, and read literature.	standardization, classify norms, define basic		
					concepts of quality.		
		ISO. ISO standards.	1, 2, 3, 8	They listen to a lecture, present	At the colloquium or the written and oral exam	6 h	
	19.			a seminar paper, followed by a	they know: define and explain the meaning and		
	15.			discussion, and read literature.	importance of ISO, enumerate and describe	• •	
				discussion, and read incrutare.	ISO standards and their form.		
		Packaging. Types of packaging material.	1, 2, 3, 4, 5, 6, 8		At the colloquium or the written and oral exam		
					they know: define the packaging and explain		
				They listen to a lecture, watch	the importance of packaging the product, list		
				multimedia, present a seminar	and describe the advantages and disadvantages	10 h	
	20.			paper, followed by a	of individual packaging materials, choose the		
				discussion, and read literature.	appropriate packaging material for the specific		
				They watch multimedia.	product and explain their choice. List and		
					analyze the primary functions of packaging		
					material.		
		Packaging features. Product Graphic Labeling.	1, 2, 3, 4, 5, 8		At the colloquium or the written and oral exam		
				They listen to a lecture, present a seminar paper, followed by a	they know: define and classify the functions of	8 h	
	21.				packaging, evaluate the choice of packaging		
				discussion, and read literature	material with regard to its function, define,		
				discussion, and read include	describe and analyze the graphic marking of		
					products.		

	I			T		
	22.	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
	23.	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
	24.	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 methods.	10 h
	25.	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
	26.	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

	27. Hazardous Substances.		ances.	1, 2, 3, 4, 5, 6, 7, 8	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	
	28. Transport an 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 evaluation they are the they are the are they are the are they are the are they are the are they are the a		they know: of hazardo	the colloquium or the written and oral exame know: to define and classify the labeling nazardous substances during transport, to luate the disposal and labeling of hazardous te.		6 h
	29.	Strategic Goods.	2. Colloquium.	1, 2, 3, 5, 6, 7, 8	a seminar paper, followed by a they k			he colloquium or the written and oral exam know: to define and categorize strategic ds, to explain their importance.		
	30.	Concluding C Repetition and Ex	Considerations / xam Preparation.	-	T	ey listen to a lecture and epare individually for the enm.				20 h
3. EVALUATION OF STUDEN	T WO	RK								
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: from 0 – 24,9% ECTS is rated unsuccessful and cannot get ECTS credits and must re-enrol the subject in the next academic year; from 25 – 49,9% ECTS is rated 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 project, passing two colloquia); b) during the course (active participation in the lessons, solving case studies, creating and presenting the seminar paper and project) and passing the exam (written and oral exam).										
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total	Atten	Attendance 0,25		Written	exam	2 (without colloquiums)	Pr	roject		
	Exper	Experimental work 1		Researc	h		Pr	ractical work		
number of ECTS points corresponds to the credit score	Essay	Essay		Report				ontinuous kamination		
of the course)	Collo	quium	3 (without the writte and oral exams)	n Seminar	r paper	0,75	O	ther (inscribe)		

	Class activities		Oral exam	1 (without colloquiums)	Othe	r (inscribe)					
	The student's workload on	all bases amounts to 1 l Commitment	ECTS point for 30	hours of work per semester a	rs of work per semester and is estimated as: Hours (estimate)						
3.3. Student workload	9. Attending class	es		45							
	10. Creating and Pr	resenting seminar paper		10							
	11. Preparation for	the Colloquium / exam t	through self-study	65							
4. GRADING SYSTEM											
	Valuation Element	Poor		Satisfying		Above average					
	Organization	The paper is not organ order and its structure	_	The paper is well structur clear distinction betw introduction, the main part and the conclusion.	een 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.					
4.1. Seminar paper grading	Terminology, writing style	Words and phras harmonized with offic Writing style is n sentences are too vocabulary, and freque grammatical mistakes.	cial terminology. ot appropriate, long, modest ent and repeated	Words and phrases are ali official terminology. The wi is appropriate, the sentence s clear, the vocabulary is a and has little grammatical er	riting style structure is ppropriate	official termino understanding of writing style is ex- clear and concise	ases are aligned with logy and show an f their meaning. The cellent, the sentences are the vocabulary is rich trammatical errors.				
	Quoting and referencing	Sources are not speci references do not mat show a superficial a research topic.	ch the topic and	with errors. The refere	ces are listed, but incomplete and errors. The references are opriate for the subject and show a factory research attitude.		Sources are accurate, complete and consistent. The references are appropriate, their list is "rich" and comprehensive and shows a robust research approach.				
4.2. Colloquium / exam grading	Poo	or	Satisfying			Above a	verage				
	Give answer by munderstanding. Does not apply the basic terms apply or explain the cont	ot know and does not and concepts. Cannot	transfers new k	sic terms, without difficul nowledge, understands subje the terms and the notions the examples.	evaluat thorous logical	Knowledge is at the level of analysis, synthesis evaluation. It observes legitimacy, accurately thoroughly explains the content of the subject, logically links and explains the terms and conce that it encapsulates. Find solutions that are					

				,	ginally given. There relative subjects.	is a correlation with		
	Active participation	70 of attendance	71-80% of attendance	81-90% of at	tendance	91-100%		
	in the lessons	2 points	3 points	4 poir	nts	5 points		
	Research paper	2	3	4		5		
4.3. Creating a final grade	Research paper	8 points	10 points	12 poi	nts	15 points		
according to evaluation		2	3	4		5		
elements	Colloquium / written exam	50-64,9%	65-79,9%	80-89,9	9%	90-100%		
		25 points	35 points	40 poi	nts	50 points		
	Oral ayam	2	3	5	5			
	Oral exam	15 points	20 points	25 poi	its 30 points			
		opted knowledge, skills and (teaching + final exam)	Numerous grade		ECTS gr	ECTS grade		
A.A. Crooting a final anala		90 – 100%	5 (excellent)		A			
4.4. Creating a final grade according to absolute allocation		80 – 89,9%	4 (very good)		В			
		65 – 79,9%	3 (good)		С			
		50 – 64,9% 2 (sufficient)				D		
5. ADDITIONAL INFORMAT	ION ABOUT THE CO	URSE						
5.1. Compulsory literature		Tit			Number of copies in the library	Availability via other media		
(available in the library and through other media)	No. of the second secon	owledge of goods. Internal scr owledge of goods and quality n	4	e-learning				

	5.2. Additional literature (at the moment of changes and/or amended of study programme)	Andrijanić, I., Balen, M., Lazibat, T. (2001). Knowledge of merchandise in commerce. Mikrorad, Zagreb. (Chapters selected) Štrumberger, N. (2000). Handling of materials in traffic. Faculty of transport and traffic sciences, University of Zagreb, Zagreb. (Chapters selected)	4	
•	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 ensure attendance and student activity during classes and provided information on students' progress through sh further guidance to students will be provided in order to increase the efficiency of their work. Students will as well as the methods of work and the required literature. Indicators of quality assurance system: Stud Croatian employment service on the annual state of student employment, surveys from employers and Alicenters.	ort colloquiums and hom ll be informed about the ent survey, monitoring o	ework, information for rights and obligations
	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 activities. teaching will be published on the e-learning pages of the course and on the web pages of the Šibenik Unit the consultation term (at least one hour per week), while brief questions and explanations can be address by e-mail (from the official e-mail address from the domain @ vus.hr) that will be answered in a short receipt of e-mail).	versity. Students can con ed during classes. It is po	tact the teachers during ossible to ask questions

English language I

1. GENERAL INFORMATION ABOUT THE COURSE										
1.1. Course title	ENGLISH LANGUAGE I	1.8. Course code in ISVU	129833 / 202067							
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	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 (professional undergraduate, and professional 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 , 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	X yes □ 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										
2.1. 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 of the course is to familiarize students with the basic parts of business writing. Foreign language teaching seeks to introduce students to new communication systems and facilitate their easier and more direct involvement in world events and to familiarize them with the elements of culture and civilization of English-speaking peoples. Learning a foreign language is in line with the desire to preserve the richness of diversity in a multilingual Europe, as well as to foster a culture of dialogue and civilization.									
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualifi	cation 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.									
study programme tever	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members.								

,	LO3: T	o individually and responsibly sear	rch, interpret ?	and integrate the relevant literature ne	eeded to make decisions.	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.										
	Learı	ning outcomes accroding to the Blo	oom`s taxonoi	my: (up to two verbs per LO)		Level of LO: 1- remembering, 2- understanding 3- application, 4- analysis, 5- evaluation, 6- synthesis										
	1.	. to understand, apply and link ba in written and oral communicati	glish road traffic and use them	2, 3												
	2	2. to apply grammatical structures	in texts and a	issignments.		3										
	3.	1	3, 4													
	4.	1 7	3													
	5.	1 6	3													
	6.			the subjects of the course, to express	one own opinions.	6										
		7. to compare and evaluate differen				5										
		3. to analyse medium complex text				4										
		o. to use part of the general langua	ge competenc	cy at levels B1/B2.		6										
	Const	tructive allignement														
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed									
2.5. Course content according to detailed curriculum schedule	31.	Introduction into the course and detailed plan.	_	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h									
	32.	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 and applied grammatical structures of are evaluated, understand, applied from the professional terminor	on texts and tasks oly and link terms	4 h									

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					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.	
	33.	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
	34.	In The Train – Trouble With The Car (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
	35.	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	4 h

	36.	Keeping Drunken Drivers Off The Road – Past And Perfect Tenses	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	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 topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts	4 h
	37.	Types Of Drivers – Verb 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.	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.	6 h
	38.	Moving About Towns – Verb Tenses I colloquium	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	10 h

					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.	
	39.	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
	40.	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 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

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	41.	The Engine Of A Car – Future Tenses – Will And Going To And Present Continuous	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.	10 h
	42.	About Cars In General – Future Perfect	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
	43.	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	4 h

				and solve tasks, use part of other language competences at B1 level.	
44.	"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 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
45.	Revision – II colloquium	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

	outcomes are: essays oneself about the cou	itten 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 tcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform eself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Šibenik University d 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.									
	Attendance),5	Writter	n exam	1 (wit	thout colloqui	a) Project				
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Resear	ch			Practical work				
for each activity so that the total number of ECTS points corresponds to the credit score	Essay		Report				Continuous examination				
of the course)	Colloquium	l (without written exa	am) Semina	ar paper			Other				
·	Class activity),5	Oral ex	kam	1		Other				
	The student's worklo	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:									
	Commitment						Hours (estimate	?)			
3.3. Student workload	12. Attending classes and exercises						45				
	13. Preparation for the Colloquium / exam through self-study						45				
4. GRADING SYSTEM											
4.1. Grading seminar papers											
	Unsatis	factory	Satisfactory				Above average				
4.2. Grading colloquia/ written and oral exam	Responds by memoral understanding. Doe basic terms and contents of the counterts of the cou	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 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.							
4.3. Final grade according to	Active course	70-75% of	attendance 76-86% of		5% of attendance		87-100% of attendance	Maximum points			
evaluation elements	attendance	3 po	3 points		7 points		20 points	20 points			

	Seminar paper					
	zommaz paper					
		2	3	4	5	
	Colloquia/ Written exam	50-64,9%	65-79,9%	80-89,9%	90-100%	
		25 points	30 points	35 points	40 points	
	Oral exam	2	3	4	5	
	Orar exam	25 points	30 points	35 points	40 points	
		uired knowledge, skills and (teaching + final exam)	5 (excellent)		ECTS grade	
42 Final and according to	90 – 100%		4 (very good)		A	
4.3. Final grade according to absolute division	8	80 – 89,9%	3 (good)		В	
	65 – 79,9%		2 (sufficient)		С	
	5	50 – 64,9%	5 (excellent)		D	

5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Compulsory literature (available in the library and via	Title	Number of copies in the library	Availability via other media
other media)	Katja Bošković Gazdović: "English textbook of Transport I", Faculty of transport and traffic sciences,	10	X
<u> </u>	University of Zagreb, Zagreb, 2002. (selected chapters)	-	
	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", Department for traffic, Polytechnic of Rijeka,		
5.2. Additional literature (at	2007.		X (e-learning,
the moment of changes and/or	Adrian Pilbeam, Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010	10	handouts)
amended of study programme)	A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University		nandouts)
	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		

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 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 Šibenik University. 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).

English language II

1. GENERAL INFORMATION ABOUT THE COURSE						
1.1. Course title	ENGLISH LANGUAGE II	1.8. Course code in ISVU	187599 / 202076			
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	1.9. Course code in MOZVAG	-			
1.3. Assistants and/or associates	Ivana Jardas Duvnjak, professor, title lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30+15+0+0)			
1.4. Study programme (professional undergraduate, and professional 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 , 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	X yes □ 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						
2.1. 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	Four-year secondary education completed; qualification level 4.2 according to the CROQF, Completed course English language I					
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from to in Croatian and English.	echnology and organization of road traffic in written and ora	l communication with the professional public			
study programme tever	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members				

	LO3: T	o individually and responsibly	search, interp	ret and integrate the relevant literature	e needed to make decisions.		
	Learning outcomes accroding to the Bloom's taxonomy: (up to two verbs per LO)						7, 18g,
	1	. to understand and apply b	asic terms from	n the professional terminology of Eng	lish road traffic in English.	2, 3	
	2	. to apply grammatical struct	tures in texts a	nd assignments.		3	
	3	. to interpret and use tenses i	n real-life con	text.		3, 4	
	4	. to develop an essay within	the topics of the	ne course.		5, 6	
	5	. to present own ideas for de	velopment of t	raffic problems.		3	
	6	to communicate in a foreign	n language wit	thin the subjects of the course, to expre	ess one own opinions.	6	
	7	. to compare and evaluate di	fferent traffic	solutions.		5	
	8	to analyse medium complex	x texts and sol	ve tasks.		4	
	9	to use part of the general la	nguage compe	etency at levels B1.		6	
	Cons	tructive allignement					
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed
2.5. Course content according to detailed curriculum schedule	46.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h
	47.	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 and applied grammatical structures or are evaluated, understand, apply from the professional terminological traffic and use them in v	n texts and tasks and link terms ogy of English	4 h

			Т			
					communication verb tenses are interpreted in a real linguistic context, use part of other language competences at B1 level.	
	48.	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
	49.	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 tasks, use part of other language competences at B1 level.	4 h
	50.	MODERN TRANSPORTATION (HYDROFOILS) – Modal verbs	1, 2, 3, 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	4 h

1							1		
						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			
			RAIL TRAFFIC IN		Listen to lectures and read	languages within the course topic, express their			
		51.	EUROPE – Expressing	1, 2, 3, 5,	literature. Use multimedia and	own opinions, present their own ideas related to	4 h		
			habit	6, 9	internet. Solve exercises.	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		
							Listen to lectures and read	are evaluated, verb tenses are interpreted in a real	
				1, 2, 3, 5,	literature. During lectures	linguistic context, can communicate in foreign			
					individually research the content of	languages within the course topic, express their			
		52.	Traffic in the USA – Tenses		this thematic field by searching data	own opinions, present their own ideas related to	6 h		
		02.	Traine in the OBIT Tenses	6, 9	bases, presentt acquired knowledge,	the development of transport solutions to develop	0 11		
					express their own ideas and ways of	a longer essay within course topics, comparing			
					problem solving. Brainstorming,	and evaluating different solutions in the traffic of			
					discussion. Solve exercises.	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			
			Traffic for tomorrow –	1, 2, 3, 5,	Listen to lectures and take part in	applied grammatical structures on texts and tasks			
			Traffic for tomorrow – Tenses, I colloquium	6, 9	discussion. Write the colloquium.	are evaluated, verb tenses are interpreted in a real	10 h		
			renses, reomoquium	0,)	discussion. Write the conoquium.	linguistic context, can communicate in foreign			
						languages within the course topic, express their			
				-					

				T		I
					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	
				Listen to lectures and read	languages within the course topic, express their	
	54.	Hovercraft – Indirect	1, 2, 3, 5,	literature. Solve exercises.	own opinions, present their own ideas related to	6 h
	34.	speech	6, 9	literature. Solve exercises.	the development of transport solutions to develop	6 h
					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	
		Magnetic levitation trains –	1, 2, 3, 5,	Listen to lectures and read	own opinions, present their own ideas related to	
	55.	Personal and reflexive	6, 9	literature. Solve exercises. Discuss.	the development of transport solutions to develop	6 h
		pronouns	Ź		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	In colloquium or written and oral exams the	
	56.	Steam engine cars – Future	1, 2, 3, 5,	literature. Use multimedia and	applied grammatical structures on texts and tasks	10 h
		tenses	6, 9	internet. Solve exercises.	are evaluated, verb tenses are interpreted in a real	
					and a second of the second of	

					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	
	57.	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.	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.	10 h
	58.	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 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

	59.	Sattellites	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.	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
	60.	Revision – II colloquium	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 Šibenik University 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.						
	Attendance (0,5	Written exar	m 1	(without colloqui	a) Project		
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical work		
for each activity so that the total number of ECTS points	Essay		Report			Continuous examination		
corresponds to the credit score of the course)	(Colloguium	1 (without written exam)	Seminar pap	per		Other		
	Class activity (0,5	Oral exam	1		Other		
	The student's worklo			oint for 30 hours	of work per sem	ester and is estimated as:		
		Comn	mitment			Hours (estimate	2)	
3.3. Student workload	1. Attending	classes and exercises	;			45		
	2. Preparation	n for the Colloquium	/ exam through s	self-study		45		
4. GRADING SYSTEM								
4.1. Grading seminar papers	-							
	Unsatis	factory		Satisfactory		Above a	nverage	
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.		difficulty in understands the	Reproduces the basic concepts and without difficulty imparts new knowledg understands the material, explains the term and concepts supported with examples.		Knowledge is at the level evaluation. Observes the thoroughly explains the content connects and explains the term examples. Finds solutions that Notes correlations with related	principles, accurately and t of the material, and logically s and concepts supported with at were not originally given.	
	Active course	70-75% of	attendance	76-86% o	f attendance	87-100% of attendance	Maximum points	
4.3. Final grade according to evaluation elements	attendance	3 po	oints	7 r	oints	20 points	20 points	
	Seminar paper							

	-			i	,	
		2	3	4	5	
	Colloquia/ Written exam	50-64,9%	65-79,9%	80-89,9%	90-100%	
		25 points	30 points	35 points	40 points	
		2	3	4	5	
	Oral exam	25 points	30 points	35 points	40 points	
	_	l knowledge, skills and competenching + final exam)	es Numerical grade	E	ECTS grade	
4.2 Fig.1		90 – 100%	5 (excellent)	5 (excellent)		
4.3. Final grade according to absolute division		80 – 89,9%	4 (very good)		В	
		65 – 79,9%	3 (good)		С	
		50 – 64,9%	2 (sufficient)		D	
			•	•		

5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Compulsory literature (available in the library and via	Title	Number of copies in the library	Availability via other media
other media)	Katja Bošković Gazdović: "English textbook of Transport I", Faculty of transport nad traffic sciences,	10	X
other media)	University of Zagreb, Zagreb, 2002. (selected chapters)	10	Λ
	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", Department for traffic, Polytechnic of Rijeka,		
5.2 Additional literature (at	2007.		X (e-learning,
the moment of changes and/or	Adrian Pilbeam, Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010	10	handouts)
amended of study programme)	A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University		nandouts)
	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		
5.3. Quality assurance methods	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured	through interactive work	. By keeping track of
that ensure the acquisition of	attendance and student activity during classes and provided information on students' progress through short	t colloquiums and homes	work, information for
mat ensure the acquisition of	further guidance to students will be provided in order to increase the efficiency of their work. Students will	he informed about their i	rights and obligations

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

knowledge, skills and	as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the
competences	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 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 Šibenik University. 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).

English language III

1. GENERAL INFORMATION ABOUT THE COURSE								
1.1. Course title	ENGLISH LANGUAGE III	1.8. Course code in ISVU	140775 / 202089					
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	1.9. Course code in MOZVAG	-					
1.3. Assistants and/or associates	Ivana Jardas Duvnjak, professor, title lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(15 + 30 + 0 + 0)					
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11 Level of e-learning application (1st 2nd 3rd level) 1st course materials are on-line						
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	2					
1.6. Year of study	2 nd	1.13. Modernization	X yes □ 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								
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 creation and use of passives, causative constructions, mastery of conditional sentences, transformation of direct into reported speech in the past. 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	Four-year secondary education completed; qualify	ication level 4.2 according to the CROQF, Completed course	English language II					
2.3. Learning outcomes on the	LO1: To apply and link professional terms from te in Croatian and English.	echnology and organization of road traffic in written and oral or	communication with the professional public					
study programme level	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members.						

	LO3: T	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.						
	Learning outcomes accroding to the Bloom's taxonomy: (up to two verbs per LO) 3- 4- 5- 6-							
	1	. to understand, apply and lin written and oral communica		n the professional terminology of Engl	lish road traffic and use them in	2, 3		
	2	. to apply grammatical structu	ures in texts a	nd assignments.		3		
	3	. to interpret and use tenses in	ı real-life con	text.		3, 4		
	4	. to develop a longer essay wi	ithin the topic	es of the course.		5, 6		
	5					3		
	6			thin the subjects of the course, to expres	ss one own opinions.	6		
	7	1				5 4		
	8							
	9	1 0	iguage compe	etency at levels B1/B2.		6		
	Const	tructive allignement						
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed	
2.5. Course content according to detailed curriculum schedule	61.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h	
	62.	Britains Earliest Roads – Tenses	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and applied grammatical structures or are evaluated, understand, apply from the professional terminole	n texts and tasks and link terms	4 h	

63.	The Age Of Bad Roads - The Passive Voice	1, 2, 3, 4, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	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. 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	
64.	Roads And The Church - The Passive Voice, Present times	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	
65.	Early Carriages - The Passive Voice, Past times	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	4 h	

				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.	
66.	Trade And Transport In The Turnpike Era - The Passive Voice, Future times	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
67.	Rivers And River Transport - The Passive Voice	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
68.	The World Of Transport - I colloquium	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	10 h

					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.		
	69.	The Satellite - The Infinitive and the Gerund	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	
	70.	Technology And The Relation Between Transport And Communication - Conditional Sentences (0 And I Type)	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	

71.	Transport, Communications And City Organisation - Conditional Sentences (II Type)	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.	10 h	
72.	Navigation Devices - Conditional Sentences (III Type)	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	
73.	Safe And Clean Road Transport - Conditional Sentences (Mixed Types)	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.	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	4 h	

74.	Scientific Road Making - Conditional Sentences	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.	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.	6 h
75.	Revision – II colloquium	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 word 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 Šibenik University 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.							
	Attendance	0,5	Written exam	1 (withou	out colloquia)	Project		
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points	Experimental work		Research			Practical work		
	Essay		Report			Continuous 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		
	The student's work	kload on all bases amour	nts to 1 ECTS point for 30	hours of wo	ork per semest	er and is estimated as:		
	Commitment					Hours (estimo	ate)	
3.3. Student workload	3. Attendir	ng classes and exercises				45		
	4. Preparation for the Colloquium / exam through self-study 45							
4. GRADING SYSTEM								
4.1. Grading seminar papers	-							
	Unsa	atisfactory	Satisfac	ctory		Abov	ve average	
4.2. Grading colloquia/ written and oral exam	understanding. D basic terms and know how to a	mory, without a deeper Does not know or apply d concepts. Does not apply or explain the ourse with examples.	Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.		nd without inderstands d concepts	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	70-75% of attendance	76-86% of attendance	87-100% of attendance	Maximum points	
	attendance	3 points	7 points	20 points	20 points	
	Seminar paper					
4.3. Final grade according to evaluation elements		2	3	4	5	
ovardanon erements	Colloquia/ Written exam	50-64,9%	65-79,9%	80-89,9%	90-100%	
	CAUM	25 points	30 points	35 points	40 points	
	Out and	2	3	4	5	
	Oral exam	25 points 30 points		35 points	40 points	
		equired knowledge, skills and s (teaching + final exam)	Numerical grade	ECTS	S grade	
40 F: 1		90 – 100%	5 (excellent)		A	
4.3. Final grade according to absolute division		80 – 89,9%	4 (very good)		В	
		65 – 79,9%	3 (good)		С	
		50 – 64,9%		D		
5. ADDITIONAL INFORMATI	ION ABOUT THE COU	RSE		<u> </u>		
5.1. Compulsory literature (available in the library and via		Title		Number of copies the library	in Availability via other media	
other media)		ić: "English textbook of Transport agreb, 2002. (selected chapters)	sciences, 10	X		
50 110 10 10	Tamara Polić: "The Engl	lish Langzage I and II, English Te	xtbook of Road and Rail Transport a			
5.2. Additional literature (at	Services with Grammar	and Exercises for 1st Year Stud-	echnic of	X (e-learning.		

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

the moment of changes and/or

amended of study programme)

Rijeka, 2007.

X (e-learning,

handouts)

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	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
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 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 Šibenik University. 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).

English language IV

1. GENERAL INFORMATION ABOUT THE COURSE									
1.1. Course title	ENGLISH LANGUAGE IV 1.8. Course code in ISVU 140784 / 202097								
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	1.9. Course code in MOZVAG	-						
1.3. Assistants and/or associates	Ivana Jardas Duvnjak, professor, title lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(15 + 30 + 0 + 0)						
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	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, 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	X yes □ 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									
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 relational and causative sentences, sequence of tenses, word formation, usage of abbreviations in business English. 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	, , , , , , , , , , , , , , , , , , , ,	cation level 4.2 according to the CROQF, Completed course							
2.3. Learning outcomes on the	LO1: To apply and link professional terms from to in Croatian and English.	echnology and organization of road traffic in written and ora	l communication with the professional public						
study programme level	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members.							

	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.							
	LO3: 1	o individually and responsibly s	earch, interpre	t and integrate the relevant literature n	needed to make decisions.			
	Leari	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)						
	 to understand, apply and link terms from the professional terminology of English road traffic and use them in written and oral communication. 							
	2	. to create CV (Europass temp	late), job appli	cation, offer, complaint.		3, 4, 6		
	3	3, 4						
	4	. to develop a longer essay wit	hin the topics	of the course.		5, 6		
	5	*	-			3		
	6			n the subjects of the course, to expres	s one own opinions.	6		
	7	1		lutions.		5		
	8	F						
	9	. to use part of the general lang	guage compete	ncy at levels B1/B2.		6		
	Const	tructive allignement						
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed	
2.5. Course content according to detailed curriculum schedule	76.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h	
	77.	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 structures are evaluated, understand, appl from the professional terminolog	on texts and tasks by and link terms	4 h	

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						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.	
		78.	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
		79.	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
		80.	Transport And Tourism - Direct And Indirect Speech – Questions Past	1, 3, 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	4 h

				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	
81.	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.	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
82.	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
83.	The World Of Transport - I colloquium	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	10 h

					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	
	84.	Professionalism In The Public Sector - Defining Relative Clauses	1, 3, 5, 6, 9	Listen to lectures and read literature. 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.	6 h
	85.	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 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

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	86.	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
	87.	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
	88.	The Modern Wonder Of Electronics - Business Letters - Job Interview	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.	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	4 h

				and solve tasks, use part of other language competences at B1 level.	
89.	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
90.	Revision – II colloquium	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

	outcomes are: essa oneself about the c	ritten 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 atcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform neself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Šibenik University at 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.										
	Attendance	0,5	Written exam	1 (w	vithout colloquia	a) Project						
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical work						
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						
	Class activity	0,5	Oral exam	ım 1		Other						
3.3. Student workload	The student's work Commits	kload on all bases amoun tment	ts to 1 ECTS point for 3	f work per seme	ester and is estimated as: Hours (estimate)							
J.J. Diddon Workload	5. Attendin	ng classes and exercises			45							
	6. Preparation for the Colloquium / exam through self-study 45											
4. GRADING SYSTEM												
4.1. Grading seminar papers	-											
	Unsa	atisfactory	Satisfa	actory		Above avera	O .					
4.2. Grading colloquia/ written and oral exam	understanding. Do basic terms and know how to a	d concepts. Does not	Reproduces the basic difficulty imparts understands the materiand concepts supported	new rial, explain	and without knowledge, ins the terms mples.	Knowledge is at the level of a evaluation. Observes the prince thoroughly explains the content of the connects and explains the terms and examples. Finds solutions that we notes correlations with related mater	of analysis, synthesis and principles, accurately and tof the material, and logically s and concepts supported with at were not originally given					
4.3. Final grade according to evaluation elements		70-75% of a	attendance 70	6-86% of at	attendance	87-100% of attendance	Maximum points					

	Active course attendance	3 points	7 points	20 points	20 points	
	Seminar paper					
	Semmar paper					
		2	3	4	5	
		Colloquia/ Written exam	50-64,9%	65-79,9%	80-89,9%	90-100%
		25 points	30 points	35 points	40 points	
	Oral exam	2	3	4	5	
	Orai exam	25 points	30 points	35 points	40 points	
		d knowledge, skills and competence ching + final exam)	Numerical grade		ECTS grade	
4.2 Einst and a sensitive to		90 – 100%	5 (excellent)		A	
4.3. Final grade according to absolute division		80 – 89,9%	4 (very good)		В	
		65 – 79,9%	3 (good)		С	
		50 - 64,9%	2 (sufficient)		D	
			•			

5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Compulsory literature (available in the library and via	Title	Number of copies in the library	Availability via other media
other media)	Katja Bošković Gazdović: "English textbook of Transport I", Faculty of transport and traffic sciences, University of Zagreb, 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", Department for Traffic, Polytechnic of Rijeka, 2007. Adrian Pilbeam, 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	10	X (e-learning, handouts)

	A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University		
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 attendance and student activity during classes and provided information on students` progress through shor further guidance to students will be provided in order to increase the efficiency of their work. Students will as well as the methods of work and the required literature. Indicators of quality assurance system: Student Croatian employment service on the annual state of student employment, surveys from employers and Alum	rt colloquiums and home be informed about their nt survey, monitoring of	work, information for rights and obligations
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 possible adjournment will be published in a timely manner on the e-learning site of the course and on the v contact teachers during the consultation period (at least one hour per week), while for short questions and extra tis also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be a working days after receiving the e-mail).	vebsite of the Šibenik Ur aplanations they can be c	niversity. Students can contacted during class.

Graphic communications

1. GENERAL INFORMATION	ABOUT THE COURSE						
1.1. Course title	GRAPHIC COMMUNICATIONS	1.8. Course code in ISVU	201132 / 202070				
1.2. Course lecturer	Luka Olivari, master of mech., senior lecturer	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 (professional undergraduate, and professional graduate)	Professional undergraduate 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	5				
1.6. Year of study	1 st	1.13. Modernization	X yes □ no				
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 %				
2. COURSE DESCRIPTION							
2.1. Course objectives	to read, understand and produce technical drawings,	retical knowledge, acquired skills and practical examples to: Gain tuse and understand the standards of drawing in technical drawing Auto-CAD computer program) when creating technical document	gs, orthogonal projections, spatial				
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification	ion level 4.2 according to the CROQF.					
	LO4: To apply knowledge from the field of natural and	nd technical sciences to problems in road traffic.					
2.3. Learning outcomes on the study programme level	LO7: To apply computer tools for analysis and comp	LO7: To apply computer tools for analysis and comparison of data, and suggest an optimal solution in traffic process.					
study programme lever	LO8: To solve problems in traffic by using analytical and / or graphical method.						
	Learning outcomes by Bloom: (maximum 2 werbs f	Level of LO: 1- memory, 2- understanding,					

2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	1. 2. 3. 4.	Differentiate concepts in graph Select the view that best depict Design an isometric representa Distinguish the rules of technic	3- application, 4- analysis, 5- evaluation, 6- synthesis. 4 5, 5 5, 5				
2.5. Course content according to detailed curriculum schedule		5. Draw a technical drawing in the AutoCAD computer program. 5. Constructive allignement					
	No	Thematic unit	LO of the course	Content/teaching methods	Eva	aluation	Time needed
	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.	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.	exam: define ar concepts; draw based on a gi	or the written and oral and explain the basic orthogonal projections iven isometric view; een the rules of the	4 h

		Ţ		1	T	
					technical layout and apply them to the	
					technical drawing.	
	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.	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 based on given orthogonal projections.	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.	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
	8.	Spatial presentation.	1, 3, 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; form an isometric representation of the body based on given orthogonal projections; distinguish	4 h

						between the rules of the technical view	
						and apply them to the technical drawing.	
		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 applying measures, creating a template, printing drawings.	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
		13.	AutoCAD, creation and manipulation of objects.	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	4 h

		Т								
							technical drawing; draw			
			I				drawing in an AutoCA	D computer		
							program.			
							At the colloquium or the wr			
			ĺ				exam: define and explai	AD computer vritten and oral ain the basic een the rules of ply them to the a technical AD computer 4 h e students are required to equipment necessary for 5 of ECTS are graded fail tudents can pass the final		
	15.	AutoCAD	self-made			nd read literature. The	concepts; distinguish between			
				1, 4, 5		e the rules of technical	the technical layout and app	-	4 h	
	1	workshop drawnig.	ıg.		presentation. Indeper	ndent exercise.	technical drawing; draw			
	1					drawing in an AutoCA	D computer			
							program.			
	15.	Review, recapitu		_		d read literature. They	_		4 h	
	10.	preparation for th	ne exam.		prepare individually	for the exam.			711	
3. EVALUATION OF STUDEN	T WOR	K								
	In acco	andoneo with the Di	ulahook on St	tudy and the E	Pulabaok on Assassma	nt and Evaluation of St	udant Parformanaa: Full tima	students ere re	aggired to	
		In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Full-time students are required to attend classes at least 70%, which is also a requirement for obtaining the lecturer's signature. Students are required to bring equipment necessary for								
		solving tasks and participating in lectures and exercises. Students who achieve the following during the course: from 0 to 49.9% of ECTS are graded fail								
3.1. Student obligations	_	and must take and pass a written exam (test), more than 50% - students earn the right to take the final exam for the course. Students can pass the final								
		exam for the course in two ways: a) during the course by passing two colloquiums and the oral part of the exam; b) by passing the written and oral parts								
		of the exam.								
		ing classes	2		Written exam	2 (without	Project			
22.21	1 100011	118 01110000			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	colloquiums)				
3.2. Student work monitoring (enter the share of ECTS credits	Experir	mental work			Research	1	Practical work			
for each activity so that the total	Essay				Report		Continuous check			
number of ECTS credits corresponds to the course credit	Colloqu	uiums	2 (without we exam)	vritten	Seminar paper		Field works or Study trips			
value)	Teachir	ng activities	,		The oral part of	1	(other)			
		6			exam				ļ	
	The stu	dent's workload or	n all bases am	ounts to 1 EC	TS point for 30 hours of	of work per semester and	d is estimated as:			
				bligation			Hours (estimated)			
3.3. Student work-load	<u> </u>									
	7.	. Attending class	es				60			
	<u> </u>									

8. Preparation for the Colloquium / exam through self-study	30
(drawing)	
9. Preparation for the Colloquium / exam through self-study	30
(AutoCAD)	
10. Oral exam individual preparation	30

4. GRADING SYSTEM

	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 the	Does not know the rules, does not	Knows most of the rules of the technical	Knows the rules of the technical view,
	rules of technical drawing	apply or misapplies the elements of	view, correctly applies the basic, and with	and correctly applies the elements of the
4.1. Evaluation of written exam		the technical representation.	minor mistakes, the other elements of the	technical view.
			technical view.	
	AutoCAD computer	Does not knows interface or basic	Knows basic and some advanced	Knows basic and advanced commands
	program	commands. It is not capable of	commands in a computer program, uses	in a computer program, uses them
		drawing in a computer program.	them with minor errors. He is able to	without errors. Able to fully draw a
			create a technical drawing in a computer	technical drawing in a computer
			program with a little help and	program.
			suggestions.	
	Knowledge and	It responds by memory, without a	It reproduces the basic concepts and	Knowledge is at the level of analysis,
	expression.	deeper understanding. Does not know	without difficulty imparts new	synthesis and evaluation. Observes the
		or apply basic terms and concepts.	knowledge, understands the material,	principles of physical laws, accurately
		Does not know how to apply or	explains the terms and concepts supports	and thoroughly explains the content of
4.2. Evaluation of oral exam		explain the contents of the course with	them with examples. Knows the expert	the material, and logically connects and
4.2. Evaluation of oral exam		examples.	terminology.	explains the terms and concepts and
				supports them with examples. Finds
				solutions that were not originally given. It notes correlations with related
				material. Fluent in professional
				terminology.
				terminology.

	Colloquiums/	2	3	3		5
4.3. Forming the final grade	Written exam	10-12 points	13-15 points	16-	17 points	18-20 points
ccording to the evaluation	Colloquiums/	2	3		4	5
elements	AutoCAD	10-12 points	13-15 points	16-	17 points	18-20 points
	The oral part of exem	2	3		4	5
		10-12 points	13-15 points	16-	17 points	18-20 points
	Percentage of acquired knowledge, skills and competencies (teaching + final exam)		Numerical grade		ECTS grade	
4.4. Formation of the final grade	90 – 100%		5 (excellent)		A	
pased on the absolute	80 – 89,9%		4 (very good)		В	
distribution	65 -	79,9%	3 (good)		С	
	50 – 64,9%		2 (sufficient)			D

5.1. Compulsory literature (available in the library and via other media)	Title	Number of copies in the library	Availability via other media
other media)	Koludrović, Ć.: Technical drawing in the image with computer applications, Rijeka, 2009.	_	City library
	George O.: Basics of AutoCAD software 2008, MIŠ d.o.o. Zagreb, 2007.	_	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 Šibenik University of Applied Sciences for the course. Opalić, M., Kljajin, M., Sebastijanović, S.: Technical drawing, Zrinski d.d., Čakovec/Slavonski Brod, 2007. Klem N., Koški Ž., Otković I.: Technical drawing and CAD, Faculty of civil engineering, University of Osijek, Osijek 2006. Galeta T., Glazina V., Kljajin M.: AutoCAD Fundamentals of Technical Drawing, Faculty of mechanical engineering, University of Osijek, Slavonski brod, 2005.	-	on-line (e-learning) - - - On-line On-line

	Herold Z .: Computer and Engineering Graphics, Faculty of mechanical and naval engineering,				
	University of Zagreb, Zagreb 2003.				
	Budimir D .: Exercises from AutoCAD, Faculty of transport and traffic sciences, University of				
	Zagreb, Zagreb 2010.				
5.3. Quality assurance methods	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				
that ensure the acquisition of	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				
knowledge, skills and	as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the				
competences	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 classes or possible				
5.4. Informing about the course	adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact				
and contacting the course	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				
lecturer	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).				

Theory of vehicle movement

1. GENERAL INFORMATION ABOUT THE COURSE						
1.1. Course title	THEORY OF VEHICLE MOVEMENT	1.8. Course code in ISVU	142538 / 202104			
1.2. Course lecturer	Luka Olivari, master of mech., senior lecturer	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+15+0+0)			
1.4. Study programme (professional undergraduate, and professional 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%)	1st, course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	7.			
1.6. Year of study	2 nd	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						
2.1. Course objectives	The aim of the course is to provide students with theoret the vehicle dynamics problems.	ical knowledge and practical examples to acquire the knowl	edge necessary to successfully solve			
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF					
	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.					
2.3. Learning outcomes on the study programme level	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.					
study programme tever	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.					
	LO7: To apply computer tools for analysis and comparis	on of data, and suggest an optimal solution in traffic process	5.			

	LO8: T	O8: To solve problems in traffic by using analytical and / or graphical methods.						
	LO13: 1	To track trends in the development	of technique, t	echnology and safety in traffic.				
						Level of LO:		
						1- memory,		
						2- understanding,		
	Learni	ing outcomes by Bloom: (maximum	m 2 werbs for I	_O)		3- application,		
						4- analysis,		
						5- evaluation,		
2.4. Expected learning outcomes						6- synthesis.		
on the course level (4-10	1.	Differentiate concepts in vehicle	dynamics.			5		
learning outcomes)	2.	Distinguish the drive engines, co	ncepts and eler	ments of transmission of road vehicles.		5		
	3.	Formulate the final equation of movement of the vehicle.	of the 6					
	4.	Evaluate the fuel economy of a re	oad vehicle.			5		
	5.	Analyze the properties and perfo	ormance of the 1	road vehicle under different operating co	onditions.	5		
	6.	Perform vehicle dynamics calcul				6		
2.5. Course content according to detailed curriculum schedule		ructive allignement						
	No	Thematic unit	LO of the course	Content/teaching methods	Evaluation	n	Time needed	
	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 and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and exam, students: differentiate concepts from statics: solve numerical problems from		4 h	
	2.	Construction of motor vehicles. IC engines. Power transmission.	1, 2	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks.	At the colloquium or the exam, students: differential statics; solve numerical prospecified unit.	ate concepts from	4 h	

	т——	1				
				Independent task solving. Individual		
	<u> </u>			preparation for colloquiums.		
	3.	Forces on the vehicle. Static and dynamic axle reactions.	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	4.	Tire. Tire hysteresis. Rolling resistance factor. Wheel slipping and rolling.	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	5.	Movement resistances. Rolling resistance. Air resistance. Climb resistance. Inertia resistance.	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	6.	Traction force. Traction force hyperbole. Traction diagram. Adhesion force.	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	7.	Engine characteristic. Engine elasticity. Power balance. Traction-speed characteristics.	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	8.	Vehicle economy. Fuel consumption equation.	1, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h

9.	Vehicle steering. Oversteering and understeering.	1,5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
10.	Vehicle stability. Longitudinal and transverse stability.	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
11.	Acceleration. Dynamic characteristic. Time and path of acceleration. Overtaking.	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
12.	Braking. Braking characteristic. Distribution of braking forces.	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
13.	Active stability systems. Braking with active stability systems. Anti-blocking devices.	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
14.	Vehicle dynamics calculations.	3, 5, 6	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit. Submit vehicle dynamics calculation.	4 h
15.	Review, recapitulation, and preparation for the exam.	-	Listen to a lecture and read literature. Prepare individually for the exam.	-	4 h

3. EVALUATION OF STUDEN	T WORK							
3.1. Student obligations	In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Full-time students are required to attend classes at least 70%, which is also a requirement for obtaining the lecturer's signature. All students must submit seminar paper (vehicle dynamics calculation), which is also a requirement for obtaining the lecturer's signature. Students are required to bring a calculator and other equipment necessary for solving tasks and participating in lectures and exercises. Students who achieve the following during the course: from 0 to 49.9% of ECTS are graded F (fail) and must take and pass a written exam (test), more than 50% students earn the right to take the final exam for the course. Students can pass the final exam for the course in two ways: a) during the course by passing two colloquiums and the oral part of the exam; b) by passing the written and oral parts of the exam.							
3.2. Student work monitoring	Attending classes	2	Written exam	1 (without colloquiums)	Project			
(enter the share of ECTS credits	Experimental work		Research		Practical work			
for each activity so that the total	Essay		Report		Continuous check			
number of ECTS credits corresponds to the course credit	Colloquiums	1 (without written exam)	Seminar paper	0,5	Field works or Study trips			
value)	Teaching activities		The oral part of exam	0,5	(other)			
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:							
		Obligation		Hours (estimated)				
	11. Attending classe	es		60				
3.3. Student work-load	12. Creating and Pro	esenting seminar paper		15				
	13. Preparation for	the Colloquium / exam throu	gh self-study	30				
	14. Oral exam individual preparation			15				
4. GRADING SYSTEM								
	Elements of evaluation	Bad		Satisfying		Above average		

Nonstandard units have been converted to

basic units with minor errors in

calculation.

Nonstandard units have been converted

to base units without error.

Nonstandard physical units have not

been converted to basic or have been

converted wrong.

4.1. Evaluation of written exam

Physical quantities and

units

of

their

measurement

					_		
	Structure, traceability,	The task is not properly structure			isfactorily structured,	The task is clearly structured, complete,	
	legibility and orderliness	is not traceable, and it is not read			able. The diagrams and	very neat and legible. The diagrams are	
	of the procedure,	Diagrams and sketches are	non-	sketches are mean	ingful, neat with minor	completely accurate, clear and very	
	diagrams and sketches	existent, inaccurate, messy, un	nclear	errors.		neat.	
		and ambiguous.					
	Application of	Uses expressions that do not des		1	s that describe the	Uses expressions that describe the	
	appropriate equation	the problem specified, or incor	rectly	•	on, accurately derives	problem in question, accurately derives	
	(formulas) and the final	expresses the physical unit from	m the	physical quantities	s from the expression,	physical quantities from expressions,	
	result.	expression. Numeric values ar	e not		erical values into the	lists units of measure without errors, the	
		included in the expression. The	e end	expression with	smaller numbers, the	final result is completely accurate.	
		result is incorrect.		final result has sr	naller deviations from		
				the exact result.			
	Knowledge and	It responds by memory, with	out a	It reproduces the	e basic concepts and	Knowledge is at the level of analysis,	
	expression.	deeper understanding. Does not	know	without difficu	lty imparts new	synthesis and evaluation. Observes the	
		or apply basic terms and concepts.		knowledge, understands the material,		principles of physical laws, accurately	
		Does not know how to apply or		explains the terms and concepts supports		and thoroughly explains the content of	
		explain the contents of the course with		them with examples. Knows the expert		the material, and logically connects and	
4.2. Evaluation of oral exam		examples.		terminology.		explains the terms and concepts and	
						supports them with examples. Finds	
						solutions that were not originally given.	
						It notes correlations with related	
						material. Fluent in professional	
						terminology.	
	Colloquiums/	2		2			
	Written exam	2		3	4	5	
4.3. Forming the final grade according to the evaluation	,, Ittori chum	50-64,9%		65-79,9%	80-89,9%	90-100%	
elements		50-64,9 points	6	5-79,9 points	80-89,9 points	90-100 points	
	The oral part of exem	2		3	4	5	
		50-64,9 points	6	5-79,9 points	80-89,9 points	90-100 points	

	Percentage of acquired knowledge, skills and competencies (teaching + final exam)	Numerical grade	ECTS grade			
4.4. Formation of the final grade	90 – 100%	5 (excellent)	A			
based on the absolute distribution	80 – 89,9%	4 (very good)	В			
distribution	65 – 79,9%	3 (good)	С			
	50 – 64,9%	2 (sufficient)	D			
5. ADDITIONAL INFORMATION ABOUT THE COURSE						
		Nı	umber of			

5.1. Compulsory literature	Title	Number of copies in the library	Availability via other media			
(available in the library and via other media)	Olivari L.: Theory of vehicle movement: a collection of tasks and instructions for drawing up a traction calculation, Polytechnic in Šibenik, Šibenik, 2023.	-	On-line (e-learning)			
	Mikulić, D.: Motor vehicles: Theory of movement and construction (III edition), Polytechnic of Velika Gorica, Velika Gorica, 2020 (selected chapters)	5	On-line (e-learning)			
	Lectures and exercises of the course Technical Mechanics.	-	On-line (e-learning)			
	Perše, S., Višnjić, V.: Mechanical engineering in traffic, Faculty of transport and traffic		-			
5.2. Additional literature (at the	sciences, University of Zagreb, Zagreb, 2005. (selected chapters)	5				
moment of changes and/or	Cerovac V.: Technique and safety of road traffic, Faculty of transport and traffic sciences,		-			
amended of study programme)	University of Zagreb, Zagreb, 2001. (selected chapters)	5				
	Vrhovski D., Nikšić M.: Basics of mechanical engineering - a collection of solved tasks, Faculty		-			
	of transport and traffic sciences, University of Zagreb, Zagreb, 2000. (selected chapters)	10				
5.3. Quality assurance methods	The control of students' work quality and the acquisition of necessary knowledge and skills will l	be ensured through in	nteractive work. By keeping track of			
that ensure the acquisition of	attendance and student activity during classes and provided information on students' progress the	rough short colloquiv	ıms and homework, information for			
knowledge, skills and	further guidance to students will be provided in order to increase the efficiency of their work. Stu	idents will be informe	ed about their rights and obligations			
competences	as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the					
competences	Croatian employment service on the annual state of student employment, surveys from employer	rs and Alumni associa	ation.			
5.4. Informing about the course	It is the responsibility of each student to be regularly informed about the course, the coursework, a	and classroom activiti	les. All notices of classes or possible			
and contacting the course	adjournment will be published in a timely manner on the e-learning site of the course and on the	e website of the Šiber	nik University. 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

lecturer

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).

Traffic in tourism

1. GENERAL INFORMATION ABOUT THE COURSE								
1.1. Course title	TRAFFIC IN TOURISM	1.8. Course code at ISVU	201142 / 202110					
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	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 (professional undergraduate, and professional graduate)	Professional undergraduate 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)	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 and required competences	Four-year secondary education completed, disalification level 4.7 according to the CROOP						
	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.						
2.3. Learning outcomes on the	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.						
study programme level	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.						

2.4. Expected learning outcomes	Learning outcomes according to Bloom's taxonomy: (maximum 2 werbs for LO)	Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis.
on the course level	1. define and explain the basic concepts in transport and tourism.	1, 2
	2. to analyze and compare the transport sectors in the tourism industry.	4, 2
	3. choose the form of tourist transport as part of a tourism product.	5
	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

		Constructive allignement								
		no Thematic unit		LO of the course	Content/teaching methods	Evaluation	Time needed			
2.5. Course content according to detailed curriculum schedule	91.	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				
		1 9 2. *	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	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	6 h			

			that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	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.	
93.	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
94.	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 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 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 paper created and presented (using computer programs independently).	6 h
95.	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 knowledge. In the group work on seminar teaching, the	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 in tourist destinations. Explain nautical tourism and list its parts. Give an example of river-lake-canal round-trip cruises.	6 h

,				hasimatamaina mathad and the discoving	Combination and an advantage of the control of the	ı
				brainstorming method and the discussion method on the topic are applied.	Seminar paper created and presented (using computer programs independently).	
	96.	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
	97.	Guest lecture in English: Tourism and Railways (Basic knowledge), Glacier Express - the slowest express Train in the World, the Trans-Siberian Railway (Russian tourism offer).	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 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 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 examples. Seminar paper created and presented (using computer programs independently).	9 h
	98.	The repetition and preparation for the colloquium. Colloquium I.	1, 2, 3, 4, 5	They listen to a lecture and read literature. They prepare individually for the colloquium.	-	12 h
	99.	Field teaching - Airport Zadar/Split	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 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 regular and charter air traffic. Explain the features of low-cost companies. Give examples of low cost airlines. Explain pick-up and departure technology for airport passengers. Give an example of air traffic services to tourists with special requirements.	3 h

100.	Field teaching - Dogus Marine in Šibenik (Mandalina)	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 explain the purpose of marinas and rent a boat. Seminar paper created and presented (using computer programs independently).	5 h
101.	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 tourist destination. Seminar paper created and presented (using computer programs independently).	6 h
102.	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 presented (using computer programs independently).	5 h
103.	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	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

						_	od and the discussion			
						method on the topic	* *			
		104.	Parking destinations	in tourist . Colloquium II.	1, 4, 5	the seminar teach explore the content searching the databa and the literature rea that presents the acc group work on	are and read literature. At ing, they individually to f this topic area by use, and on the basis of it d, create a seminar paper quired knowledge. In the seminar teaching, the nod and the discussion are applied.	At the colloquium or writte knows define basic terms differentiate ways of pa destinations.	of parking and	3 h
		Concluding considerations. Repeating and preparing for the exam. They listen to a lecture and prepare individually for the exam.		-		17 h				
	3. EVALUATION OF STUDEN	T WOR	K							
	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 unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% - are assessed by 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 preparation of a mental map and case study, preparation and presentation of seminar work and two colloquium); b) during class (active participation in class and preparation of a mental map and case study, preparation and presentation of seminar work) and passing exams (written and oral part of the exam).								
		Attenda	ance			Written exam	1,5 (without colloquia)	Project		
	3.2. Monitoring student work (enter the share of ECTS credits	Experii work	nental			Research		Practical work		
	for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Essay				Report		Continuous examination		
		Colloqu	ıium	1,5 (without wries exam)	tten	Seminar paper	0,5	Other		
		Class a	ctivity	0,5		Oral exam	0,5	Other		

	The student's workload on all bases amounts to 1 ECTS point for 30 l	nours of work per semester and is estimate	ed as:							
	Obligation	Нои	rs (estimated)							
3.3. Student workload	15. Attending classes		45							
	16. Creating and Presenting seminar paper		10							
	17. Preparation for the Colloquium / exam through self-study		35							
4. FORMATION OF GRADES	4. FORMATION OF GRADES									

	Element of evaluation	Bad	Satisfying	Above average
	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.
4.1. Evaluation of a of seminar work	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.
	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.	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.

		Bad	Satisfying			Above average
4.2. Grading of the colloguium / written and oral exam	understanding. Do terms and concept	memory, without a deeper Does not know or apply basic ots. Does not know how to apply contents of the course with	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		the material, and logically connects and explains	
	Active	70-75% of the presence	76-86% of the presence	87-100% of th	ne presence	Case studies resolved
	attendance	2 points	4 points	7 poir	nts	10 points
	Seminar paper	2	3	4		5
4.3. Forming the final grade	Sellillai papei	5 points	7 points	8 poir	nts	10 points
according to the evaluation	Examination /	2	3	4		5
elements	Written	50-64,9%	65-79,9%	80-89,	,9%	90-100%
	examination	25 points	30 points	35 poi	ints	40 points
	Oral part of the	2	3	4		5
	exam	25 points	30 points	35 poi	ints	40 points
		of adopted knowledge, skills and ences (teaching + final exam)	Numerous grade		ECTS grade	
4.4. Formation of final grade		90 – 100%	5 (excellent)			A
based on absolute distribution		80 – 89,9%	4 (very good)			В
		65 – 79,9%	3 (good)			С
		50 – 64,9%	2 (sufficient)			D

5. ADDITIONAL INFORMATION ABOUT THE COURSE									
5.1. Required literature	Title	Number of copies in the library	Availability via other media						
(available in the library and through other media)	Mrnjavac E.: Traffic in tourism, Faculty of tourism and hotel management, University of Rijeka, Opatija, 2006. (selected chapters)	5							
	Maršanić R.: Parking in tourist destination, IQPLUS d.o.o., Rijeka, 2008.	5							
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Baričević H.: Traffic in tourism, Collegue of tourism, Šibenik, 2003. Lumsdon L. M., Page S. J.: Tourism and Transport, Issues and Agenda for the New Millennium, Routledge, 2003.	11 0	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 student attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information neede further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working met and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students progress through the midterm will provide the information neede further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working met and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students are represented by the control of the classical states are represented by								
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 possible adjournment will be published in a timely manner on the e-learning site of the course and on t contact teachers during the consultation period (at least one hour per week), while for short questions at It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will working days after receiving the e-mail).	he website of the Šibenik nd explanations they can	University. Students can be contacted during class.						

Freight-distributional centres and terminals

1. GENERAL INFORMATION ABOUT THE COURSE						
1.1. Course title	FREIGHT-DISTRIBUTIONAL CENTRES AND TERMINALS	1.8. Course code at ISVU	140777 / 202101			
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	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+30+0)			
1.4. Study programme (professional undergraduate, and professional 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 - 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	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	
2.1. Course objectives	The goal is to provide students with theoretical knowledge: Define basic goods-distribution terms; Understand the division, structure and function of goods-distribution centers and terminals; Understand the technical and technological characteristics of goods-distribution centers and terminals and the design and planning of management systems; 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 on the	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.
study programme 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.

	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	Learning outcomes according to Bloom's taxonomy: (maximum 2 werbs for LO)	Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis.						
on the course level	 define and explain basic concepts in the field of distribution and trade in goods. 	1, 2						
	2. comment on the fundamental characteristics of the goods centers and terminals in the transport system.	4						
	3. integrate and critically evaluate technological processes in goods distribution centers and terminals.	3, 5						
	4. to choose transshipment facilities at terminals according to the type of goods and technological procedures.	3						
	distinguish between types of storage and technological storage procedures.	2						
	6. present the acquired knowledge independently and in a team.	6						

		Constr	ructive allignement				
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed	
2.5. Course conter detailed curriculur	•	106.	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. at the seminar teaching, they are introduced to the methodology of writing seminar papers. They choose the topic of the seminar papers and the brainstorming method and the method of discussing the selected topic are applied.	-	2 h

		Goods transport centers and types of goods transport centers	1, 2,	They listen to a lecture and read literature.	At the colloquium or the written and oral exam define the basic goods-distribution terms. They describe the role and difference of goods-distribution centers, warehouses and goods-transport centers and know how to list and explain logistic activities of goods-transport centers.	2 h
	107.	Field teaching VELPRO Šibenik.	2, 3	They listen to a lecture. (Touring the goods distribution center. Getting acquainted with the technology of receiving and distributing goods, ways of storing and storing goods, and commissioning goods for distribution. The method of experiential learning and self-discovery is applied. At seminar classes, they make seminar papers individually or in pairs and discuss the given topic.	At the colloquium or the written and oral exam they can explain the role of goods distribution.	2 h
	108.	Terminals and terminal types	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. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching.	At the colloquium or the written and oral exam they define the basic terms of the terminal. They know how to list and distinguish types of terminals.	4 h
	109.	Port Terminals. Multifunctional and universal terminals.	1, 2, 3	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. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching.	At the colloquium or the written and oral exam they know how to define and enumerate port terminals. Describe the role and characteristics of multipurpose and universal terminals. Seminar paper created and presented (using computer programs independently).	4 h

110	Container terminals.	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 reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. 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 what containerization and container is, and list the advantages and disadvantages of containerization. Enumerate and describe container types. Describe container port terminals, their technological processes, types of warehouses and list loading and unloading devices. At the colloquium or written and oral exam knows enumerate the types of container ships at the colloquium or the written and oral exam. Define and describe landbased container terminals. Explain Huckepack technologies and list loading and unloading devices. Describe storage types. Seminar paper created and presented (using computer programs independently).	10 h
111	. Ro-Ro terminals.	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 reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. 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 and describe Ro-Ro terminals, explained by technological processes of work on them, enumerate and describe the loading and unloading devices and describe storage. List the advantages and disadvantages of Ro-Ro technology.	7 h
112	LUF terminals. LASH terminals.	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 reading the	At the colloquium or written and oral exam knows define and describe LUF and LASH terminals explain the technological processes of work on	7 h

			literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	them, enumerate and describe the loading and unloading devices and describe storage. List the advantages of the LUF system and the advantages and disadvantages of the LASH system. List the types of LASH ships and describe the technology of loading / unloading barges on ships. Seminar paper created and presented	
113.	Repetition and preparation for the colloquium. Colloquium I.	1, 2, 3, 4, 5	They listen to lectures and read literature and individually prepare for the colloquium.	(using computer programs independently).	25 h
114.	Terminals for the transhipment of dry and bulk cargo.	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 reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. 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 know how to define and describe ways of transshipment in ports and terminals. Describe the coal and iron ore transhipment terminal and the phosphate transhipment terminal and explain their technological processes. Enumerate loading and unloading devices and explain storage of coal and iron ore and phosphate. At the colloquium or the written and oral exam they can define and describe cereals and cement transshipment terminals. Explain their technological processes of work and the list of loading unloading devices. Explain storage of cereals and cement. Seminar paper created and presented (using computer programs independently).	10 h

-	1	ı		They listen to a lecture. (Visiting Split RO-RO,		
	115.	Field teaching Port of Split and LDC KONZUM in Dugopolje.	2, 3, 4, 5	container and truck terminals, coastal and refrigeration warehouses, bulk cargo terminals, timber terminals, iron terminals. Getting acquainted with technological processes at terminals, warehousing and warehousing of goods and transhipment machinery. the Konzum distribution center monitoring the process of storing and storing different types of goods in the rack warehouse and cold store and preparing and controlling the goods before distribution. Types of forklifts. The experiential and self-discovery methods are applied.	At the colloquium or written and oral examination know to describe and explain the technological processes of work on terminals, state of loading unloading devices and explain storage.	4 h
	116.	Terminals for the transhipment of oil and petroleum products. Terminals for transhipment of liquefied gases.	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 reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. 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 know how to define and describe the terminals for transhipment of oil and petroleum products and terminals for transhipment of liquefied gases. Explain their technological processes of work and the list of loading unloading devices. List the types of storage and explain storage. Enumerate and describe systems with buoys for cargo handling. Seminar paper created and presented (using computer programs independently).	8 h
	117.	Dangerous goods terminals. Terminals for the transhipment of heavy and very heavy loads. The terminals for the transhipment of wood and wood products.	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 reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group	At the colloquium or written and oral exam knows define and enumerate dangerous cargoes. List the systems by which the classification of the transport of dangerous goods is carried out. Describe the technological process of handling hazardous	8 h

,						
				work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	materials. Give an example for very heavy loads. List and describe methods for loading heavy loads on board. Enumerate loading / unloading devices and explain storage of heavy loads. Describe the technological process of work on the terminal for wood and wood products. Enumerate the loading and unloading devices and describe storage at the terminal for wood. Seminar paper created and presented (using computer programs	
	118.	Terminals for animal transshipment. Terminals for the transshipment of southern fruit and food products.	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 reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	independently). At the colloquium or the written and oral exam, they are able to list the factors on which the transport, transhipment and storage of perishable products depends. List the groups of frozen foods and give an example. Explain the technological process of working at a food product terminal. List the infrastructure and superstructure that the animal terminal must have at its disposal. Describe the technological process of work and the list of loading unloading devices for animals.	6 h
	119.	Repetition and preparation for the colloquium. Colloquium II.	1, 2, 3, 4, 5	They listen to lectures and read literature and individually prepare for the colloquium.	-	25 h
	120.	Concluding considerations. Repeating and preparing for the exam.	-	They listen to a lecture and prepare individually for the exam.	-	26 h

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 Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Student have achieved during the course: from 0 - 24.9% of ECTS credits - they are rated unsuccessful and cannot earn ECTS credits and must re-enroll next academic year; from 25-49.9% - are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in roor 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 a) during the course of teaching through continuous monitoring of students (active participation in classes and development and presentation of seminar work) and passing exams (vand oral part of the exam).									
	Attendance		Written exam	3 (without colloquia)	Project					
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research		Practical work	:				
for each activity so that the total number of ECTS points	Essay		Report		Continuous examination					
corresponds to the credit score of the course)	Colloquium	3 (without written exam)	Seminar paper	0,5	Other					
	Class activity	0,5	Oral exam	1 (without colloquia)	Other					
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:									
		Obliga	tion		Hours (estimated)					
3.3. Student workload	18. Attending	classes			60					
o o o o o o o o o o o o o o o o o o o	19. Creating	and Presenting seminar	paper		20					
	20. Preparation	on for the Colloquium /	exam through self-study		70					
4. GRADING SYSTEM										
4.1. Evaluation of a of seminar work	Element of evalua	ntion	Bad	Satisfying	Satisfying Above average					

		The paper is not organi			well structured		he paper is well structured with a clear istinction between the introduction, the	
	Organization	order and lacks structur	_	introduction, th	introduction, the main body of the text and the conclusion.		main body of the text and the conclusion, which are logically interconnected.	
	Terminology, writing style	Words and expressions official terminology. T is not appropriate, the s long, of a modest voca frequent and repeate errors.	he writing style entences are too bulary and with	Words and exp official termine is appropriate, clear, the vocab	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.		Vords and expressions are aligned with a fficial terminology and show an inderstanding of their meaning. The priting style is excellent, the sentences are clear and concise, the vocabulary is chand there are no 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.		and with errors. The references are		es are ar ar	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.	
	Ва	ıd	Satisfying				Above average	
4.2. Grading of the colloguium / written and oral exam	It responds by memoral understanding. Does not terms and concepts. Does or explain the content examples.	t know or apply basic s not know how to apply	difficulty impar	he basic concepts new knowled plains the terms a examples.	ge, understands	and evaluaccurately of the mexplains to with example.	ge is at the level of analysis, synthesis luation. It observes the legality, and thoroughly explains the content material, and logically connects and the terms and concepts that it supports mples. Finds solutions that were not given. It notes correlations with atterial.	
	Active 70	-75% of the presence	76-86% of t	the presence	87-100% of t	he presence	e Case studies resolved	
	attendance	2 points	4 pc	oints	7 po	ints	10 points	
4.3. Forming the final grade according to the evaluation	Caminar papar	2		3	4		5	
elements	Seminar paper	5 points	7 pc	oints	8 po	ints	10 points	
	Examination / Written	2	3	3	4		5	
	examination examination	50-64,9%	65-7	9,9%	80-89,9%		90-100%	

		Oral part of the 2		30 points		35 points 4		40 points
	Oral part of the							5
	exam	25 points		30 points		35 points		40 points
		Percentage of acquired knowledge, skills and competences (teaching + final exam)		Numerous grade			ECTS grade	
447	90 – 100%			5 (excellent)		A		
4.4. Formation of final grade based on absolute distribution	80 – 89,9% 65 – 79,9%			4 (very good)		В		
				3 (good)		С		
		50 – 64,9%			2 (sufficient)		D	
5. ADDITIONAL INFORMATION ABOUT THE COURSE								
Number of copies Availability						Availability via other		

5.1. Required literature (available in the library and	Title	Number of copies in the library	Availability via other media
through other media)	Poljičak, AM., Ljubić Hinić, M.: Freight Terminals - Authorized script, Polytechnic of Šibenik, Šibenik, 2016.		Available online
	Dundović, Č.: Freight terminals, Faculty of Maritime Studies, University of Rijeka, Rijeka, 2002.		
5.2. Supplementary literature (at	Mlinarić T. J.: Freight-distributional centres, Faculty of transport and traffic sciences, University of	3	
the time of the submission of	Zagreb, Zagreb, 2013.		Available online
changes and / or additions to the	Dundović, Č., Kesić, B.: Technology and organization of ports, Faculty of Maritime Studies, University	2	Avanable omine
study program)	of Rijeka, Rijeka, 2001.	3	
	Kirinčić, J.: Ports and terminals, School book, Zagreb, 1991.		
5.3. Quality assurance methods	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured	•	
that ensure the acquisition of	students' attendance and activity in the classroom and information obtained about student progress through	-	
that chare the acquisition of	and differ forther and done to students in order to increase their mode officiency. Condents will be income		1 abligations as wall as

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 Šibenik University. 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).

Transshipment resources

1. GENERAL INFORMATION	. GENERAL INFORMATION ABOUT THE COURSE									
1.1. Course title	TRANSSHIPMENT RESOURCES	1.8. Course code at ISVU	214571 / 214572							
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	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)	(45 + 15 + 15 + 0)							
1.4. Study programme (professional undergraduate, and professional 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 , 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	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 DESCRIPTION	
2.1. Course objectives	The goal is to provide students with theoretical knowledge: Distinguish between types of transshipment resources; 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. 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 CROQF.
2.3. Learning outcomes on the study programme level	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.
	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.								
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.								
		Level of LO:							
		1- remembering,							
		2- understanding,							
	Learning outcomes according to Bloom's taxonomy:	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	1							
2.4. Expected learning outcomes	technical characteristics of the goods,	1							
on the course level	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							
	5. sketch and select the required elements of the crane,	4, 5							
	6. distinguish and propose types of cranes with regard to the scope,	2, 6							
	7. calculate the productivity of transshipment mechanization with periodically action,	3							
	8. define and calculate the number of pallets and containers required.	1, 3							

		Constructive allignement							
2.5	2.5. Covers content according to	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed		
	2.5. Course content according to detailed curriculum schedule	121.	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		

 		•			•
	Basics of transverse mechanization.	1	They listen to lectures and read literature. At the seminar classes, they get acquainted with the methodology of writing seminar papers. They choose the topics of seminar papers. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied. During the exercises classes they repeat the units of measurement and formulas needed to calculate the productivity of transhipment machinery.	At the colloquium or written and oral exam, they state the types of transhipment according to the degree of mechanization and automation. They state the division of goods according to the technical convenience for transport and transhipment and state the physical and technical characteristics of the goods. They define and sketch the embankment angle. They list the types of productivity of transhipment machinery with continuous operation.	6 h
122.	Belt conveyors. Band conveyor belts.	2, 3, 4	They listen to lectures and read literature. In seminar classes, they individually research the content of this thematic area by searching the database, and on the basis of it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied. In the exercises classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral exam, they can list the features and sketch the belt conveyor and explain its constituent elements. Give an example of application. List and explain the types of conveyor belts. State and sketch the shapes of the bearing surfaces of the conveyor belts of the belt conveyor. They know how to calculate the productivity of belt conveyors.	10 h
123.	Drums and rollers of belt conveyors. Devices for loading and unloading. Calculation of belt conveyors.	2, 3, 4	They listen to lectures and read literature. In seminar classes, they individually research the content of this thematic area by searching the database, and on the basis of it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied. In the exercises classes, they	At the colloquium or written and oral exam, they can enumerate and explain the role of drums. Sketch the belt conveyor drive with one, two and three drive drums. List and sketch the types of rollers according to construction solutions and shape. They can state, sketch and explain the role of loading and unloading devices. Prepared and presented seminar paper (independent use of computer programs). They know how to calculate the required belt width for a belt	10 h

			calculate the productivity of the conveyor	conveyor. They know how to calculate the	
			by analytical methods.	productivity of belt conveyors.	
124.	Screw conveyors. Scope, shapes and calculation of a screw conveyor.	2, 3, 4	They listen to lectures and read literature. In seminar classes, they individually research the content of this thematic area by searching the database, and on the basis of it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied. In the exercises classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral exam, they can explain the role of screw conveyors and state its advantages and disadvantages. Give an example of application. They can enumerate and sketch the shapes of the conveyor auger and indicate the type of material they are used for. Sketch and explain the working principle of a screw conveyor for piece goods. Prepared and presented seminar paper (independent use of computer programs). They know how to calculate the productivity of belt conveyors.	8 h
125.	Elevators. Forms of construction and calculation. Pneumatic conveyors. Forms of construction and calculation.	2, 3, 4	They listen to lectures and read literature. In seminar classes, they individually research the content of this thematic area by searching the database, and on the basis of it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied. In the exercises classes, they calculate the productivity of the conveyor by analytical methods.	At the colloquium or written and oral exam, they know how to define elevators and list and explain the types of elevators. Sketch and explain the principle of operation of the elevator. List the types of buckets and the elements for the transfer of piece goods. At the colloquium or written and oral exam, they can state the types of pneumatic conveyors, sketch and explain their working principle. Prepared and presented seminar paper (independent use of computer programs). They know how to calculate the productivity of screw conveyors.	8 h
126.	Sectional conveyors. Features and calculation of sectional conveyors. Vibrating conveyors. Scope, forms and calculation.	2, 3, 4	They listen to lectures and read literature. In seminar classes, they individually research the content of this thematic area by searching the database, and on the basis of it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the	At the colloquium or written and oral exam, they can state the characteristics of sectional conveyors and sketch and explain their working principle. At the colloquium or written and oral exam, they can state the characteristics of vibrating conveyors, explain their working principle and sketch	8 h

1							
					brainstorming method and the method of	them. Prepared and presented seminar paper	
					discussion on the presented topic are	(independent use of computer programs).	
					applied. In the exercises classes, they	They know how to calculate the productivity	
					calculate the productivity of the conveyor	of elevators.	
					by analytical methods.		
					They listen to lectures and read literature. In	At the colloquium or written and oral exam,	
					seminar classes, they individually research	they know how to define gravity conveyors,	
					the content of this thematic area by	explain the principle of work and state their	
					searching the database, and on the basis of	advantages and disadvantages. Explain the	
					it and the read literature, they prepare a	principle of operation of a flat gravity slide	
					seminar paper which presents the acquired	and sketch it. Explain the principle of	
			Gravity conveyors. Scope,		knowledge. In the seminar classes, the	operation of a spiral gravity slide, list the	
			shapes and calculation of		brainstorming method and the method of	designs and sketch them. List the types of	
		127.	gravity conveyors.	1, 2, 3, 4	discussion on the presented topic are	gravity rollers and explain their working	8 h
			Conveyors scrapers. Scope, forms and calculation of scraper conveyors.	3, 2, 3, 1	applied. In the exercises classes, they	principle. Give an example of application.	
					calculate the productivity of the conveyor	They can explain the principle of operation	
					by analytical methods.	and sketch the scraper conveyor. Give an	
					by unarytical methods.	example of application. Explain what redlers	
						are. Prepared and presented seminar paper	
						(independent use of computer programs).	
						They know how to calculate the productivity	
	•		Daniel de la companya del companya del companya de la companya de		The Property of the second second Property of	of pneumatic conveyors.	
		128.	Repetition and preparation	1 2 2 4	They listen to lectures and read literature		25.1
			for the colloquium.	1, 2, 3, 4	and individually prepare for the	-	25 h
			Colloquium I.		colloquium.		
					They listen to lectures and read literature. In		
					the seminar classes, they individually	At the colloquium or written and oral exam,	
					research databases and, based on that, read	they can state and explain the classes of the	
			Crane operating class.		the literature and prepare a seminar paper	crane and calculate the theoretical and	
		129.	Crane elements.	5, 6, 7	which presents the acquired knowledge.	operational productivity. List, distinguish and	8 h
			Crane cicinents.		The brainstorming method and the	sketch crane elements and identify the crane	
					discussion method are applied in the	class. Prepared and presented seminar paper	
					seminar classes. In the exercises classes,	(independent use of computer programs).	
					they get acquainted with the calculation of		
			1			1	

1	Ţ				
			the productivity of transhipment machinery		
			with occasional operation and calculate the		
			productivity with an analytical method.		
130.	Ropes and steel ropes. Hooks.Chain. Grippers.	5,7	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes. In the exercises classes, they determine the classes of cranes by the analytical method.	At the colloquium or written and oral exam, they know how to list and describe the types of ropes and choose the necessary rope. List and explain ways of fixing steel ropes. List, describe and sketch the types of hooks, perform the calculation of the dangerous cross section of the hook. List, explain, sketch the types of chains and give an example from practice. They can list, describe and sketch the types of catchers and give an example from practice. Calculate the parameters for classifying cranes into classes and, based on the parameters, classify the cranes into a specific class.	8 h
131.	Pulleys. Brakes.	5, 7	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes. In the exercises classes, they solve numerical problems for manipulative vehicles using the analytical method In the exercises classes, they solve numerical problems with the analytical method, which determine the parameters for classifying cranes into classes.	At the colloquium or written and oral exam, they can explain the task of the pulley, list the types of pulley, sketch the performance of the pulley in practice. They know how to explain the task of brakes, list the types and give an example from practice. Sketch and explain the brakes with two and one pedal. They can sketch and explain conical, belt and lamellar brakes. Calculate the parameters for classifying cranes into classes and, based on the parameters, classify the cranes into a specific class.	10 h
132.	Division of the crane. Design of small cranes.	5, 6, 7, 8	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read	At the colloquium or written and oral exam, they can list small and large cranes. Sketch and explain small cranes and give an example	10 h

			the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes. In the exercises classes, they solve numerical problems for a hydraulic crane using the analytical method.	from practice. Calculate the required pressure in the hydraulic jack cylinder, the required force at the end of the drive lever and the piston diameter.	
133.	Large cranes.	5, 6, 7, 8	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes. In the exercises classes, they solve numerical problems with the use of containers using the analytical method.	At the colloquium or written and oral exam they know how to group large cranes. Sketch and explain large cranes. Explain the difference between boundaries and cranes. Give an example from practice. Calculate the required number of containers.	12 h
134.	Universal manipulative vehicles. Forklifts, loaders and small towing vehicles. Pallets and containers.	8	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes. In the exercises classes, they solve numerical problems with the use of containers using the analytical method.	At the colloquium or written and oral exam, they know how to list and define universal manipulative vehicles. State the division of the forklift and give an example from practice. Explain loaders, list and describe small towing vehicles and give an example from practice. At the colloquium or written and oral exam, they know how to define and list the types of pallets and containers and give an example from practice. Calculate the control number of the container.	8 h
135.	Repetition and preparation for the colloquium. Colloquium II. Concluding considerations. Repeating and preparing for the exam.	5, 6, 7, 8	They listen to the lecture and read the literature and individually prepare for the colloquium/ exam.	-	40 h

3. EVALUATION OF STUDEN	3. EVALUATION OF STUDENT WORK								
3.1. Students` obligations	Part-time students a achieved during the academic year; from extraordinary exame during classes thro	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 unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% - are assessed by 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 pass the final exam in the course in two ways: a) during classes through continuous monitoring of students (active participation in classes and preparation and presentation of seminar paper and two colloquia); b) during classes (active participation in classes and preparation of seminar paper) and taking exams (written and oral part of the exam).							
	Attendance		Written exam	4 (without colloquia)	Project				
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research		Practical work				
for each activity so that the total number of ECTS points	Essay		Report		Continuous examination				
corresponds to the credit score of the course)	Colloquium	4 (without written exam)	Seminar paper	0,5	Other				
	Class activity	0,5	Oral exam	1(without colloquia)	Other				
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:								
		Obliga	tion		Hours (estimated)				
3.3. Student workload	21. Attendin	g classes			75				
	22. Creating	and Presenting seminar p	paper		10				
	23. Preparation for the Colloquium / exam through self-study 95								
4. GRADING SYSTEM									
	l 								

4.1. Grading of seminar work

Element of evaluation	Bad	Satisfying	Above average
		The paper is well structured with a clear	The paper is well structured with a clear
Organization	The paper is not organized in a logical	distinction between the introduction,	distinction between the introduction, the
Organization	order and lacks structure.	the main body of the text and the	main body of the text and the conclusion,
		conclusion.	which are logically interconnected.

	Terminology, wri	Words and expressions official terminology. T is not appropriate, the s long, of a modest voca frequent and repeate errors.	logy. The writing style e, the sentences are too st vocabulary and with		off the sentence structure is bulary is appropriate and are		ords and expressions are aligned with cicial terminology and show an derstanding of their meaning. The iting style is excellent, the sentences e clear and concise, the vocabulary is h and there are no grammatical errors.	
	Citing and references	The sources are not li references do not fit the a cursory approach to topic.	topic and show	and with error	The sources are listed but incomplete and with errors. The references are elevant to the topic and show a atisfactory research attitude.		The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.	
		Bad		Satisfying			Above average	
4.2. Grading of the colloguium / written and oral exam	understanding. Doe terms and concepts.	nemory, without a deeper es not know or apply basic Does not know how to apply entents of the course with	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		and evaluaccurately the materia the terms examples.	Knowledge is at the level of analysis, synthesis and evaluation. It observes the legality, accurately and thoroughly explains 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	70-75% of the presence	76-86% of the presence 87-100% of the		ne presence	Case studies resolved		
	attendance	2 points	4 po	4 points 7 points		nts	10 points	
	Caminan nanan	2	3 4			5		
4.3. Forming the final grade	Seminar paper	5 points	7 po	ints	8 poi	nts	10 points	
according to the evaluation	Examination /	2	3	}	4		5	
elements	Written	50-64,9%	65-79	9,9%	80-89,9%		90-100%	
	examination	25 points	30 points		35 points		40 points	
	Oral part of the	2	3	3	4		5	
	exam	25 points	30 pc	oints	35 poi	nts	40 points	

	Percentage of adopted knowledge, skills and competences (teaching + final exam)	Numerous grade	ECTS grade
4.4. Formation of final grade	90 – 100%	5 (excellent)	A
based on absolute distribution	80 – 89,9%	4 (very good)	В
	65 – 79,9%	3 (good)	С
	50 - 64,9%	2 (sufficient)	D

5. ADDITIONAL INFORMATION ABOUT THE COURSE

employer survey and Alumni Association.

that ensure the acquisition of

knowledge, skills and

competences

	Title	Number of copies in the library	Availability via other media
5.1. Required literature	Mavrin I.: Conveyors, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 1999. Šćap D.: Transmissions and elevators, Faculty of Mechanical and Naval Engineering, University of	0	Available online
(available in the library and through other media)	Zagreb, Zagreb, 2004. (selected chapters) Bognolo, D., Kršulja, M.: Transhipment means - Collection of solved tasks, Polytechnic of Rijeka,	0	
	Rijeka 2017. (selected chapters) Boris Ribarić: Examples of solved tasks in the subject of handling machinery, Faculty of transport and	3	
	traffic sciences, University of Zagreb, Zagreb 1994 (selected chapters)	0	
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Serdar J.: Transmissions and elevators, Lexicographic Institute "M. Krleža", Zagreb, 1995.	5	
5.3. Quality assurance methods	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured the attendance and activity in the classroom and information obtained about student progress through the	•	

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,

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 Šibenik University. 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).

Traffic and ecology

1. GENERAL INFORMATION ABOUT THE COURSE							
1.1. Coures title	TRAFFIC AND ECOLOGY	1.8. ISVU course code	201135 / 202080				
1.2. Coures lecturer	MSc Tanja Radić Lakoš, senior lecturer	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 (professional undergraduate, and professional 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	□ yes X no				
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% □ More than 20 % □				

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

	Cons	Constructive alignment						
2.5. Course content according to detailed curriculum schedule	No	Thematic ensemble / Lecture Topic	LO of the Course	Content / Teaching Method	Evaluation	Time needed		
detaned curriculum schedule	136.	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	-	2 h		

		T	ı			
				course content and documents on the e-		
				learning course page.		
		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
	137.	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
	138.	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 distinguish organisms with regard to the trophy.	4 h
	139.	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	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	10 h

			presenting adopted knowledge and ideas,	of the environment. Created mental	
			discuss issues.	map. Solved case study.	
140.	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
141.	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
142.	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	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	10 h

				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	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	
				group.	paper (by independent use of computer programs).	
	143.	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 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 types of fossil fuels and RES and choose and comment on the most environmentally acceptable solution. Created and Presented seminar paper (by independent use of computer programs).	4 h
	144.	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

145.	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 roads and to propose mitigation and / or rehabilitation measures. Solved case study.	8 h
146.	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.	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
147.	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	1 h

				T	
				independent use of computer	
				programs).	
148.	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
149.	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
150.	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: from 0 - 24,9% ECTS credits- is rated 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 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				_			e lessons, creating mental
	map, solving case studies	s, creating and presenting	g the seminar pape	r) and pa		and oral	exam).	
	Attendance		Written exam		2 (by submitting both colloquiums the student is relieved of an written examination)	Project		
3.2. Monitoring student work	Experimental work		Research			Practica	al work	
(enter the share of ECTS credits	Essay		Report			Continu	ious examination	
for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Colloquium co	B (by submitting both colloquiums the tudent is relieved of a written and oral examination)	Seminar paper		0,5	Other (i	inscribe)	
	Class activities 0),5	Oral exam		1 (by submitting both colloquiums the student is relieved of an oral examination)	Other (i	inscribe)	
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:							
		Commitment			Hours (estimate)			
3.3. Student workload	24. Attending class	ses			45			
	25. Creating and P	Presenting seminar paper	•		10			
	26. Preparation for	r the Colloquium / exam	through self-study	<i>y</i>			65	
4. GRADING SYSTEM								
	Valuation Element	Poor	ŗ		Satisfying		Abov	e average
4.1. Seminar paper grading	Organization	The paper is not orga	-	clear introdu	aper is well structured distinction between action, the main part of e conclusion.	n the	distinction betwee	estructured with a clear in the introduction, the ext and the conclusions

						that are another	perfectly logically linked to one	
	Terminology, writin	sentences are too vocabulary, and freque grammatical mistakes.	ial terminology. ot appropriate, long, modest ent and repeated	official terminolo is appropriate, the clear, the vocab and has little gran	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.		and phrases are aligned with terminology and show an anding of their meaning. The style is excellent, the sentences are ad concise, the vocabulary is rich the are no grammatical errors.	
	Quoting ar referencing	Sources are not speci references do not mate show a superficial a research topic.	ch the topic and	Sources are listed with errors. T appropriate for th satisfactory resea	he reference e subject and	es are consiste show a their lis	consistent. The references are appropriate,	
4.2. Colloquium / exam grading	Give answer by understanding. Does	memory, no deeper not know and does not as and concepts. Cannot ontents of the course.	Reproduces basic terms, without difficulty transfers new knowledge, understands subject matter, explains the terms and the notions that substantiate by examples			Above average Knowledge is at the level of analysis, synthesis and evaluation. It observes legitimacy, accurately and thoroughly explains the content of the subject, and logically links and explains the terms and concepts that it encapsulates. Find solutions that are not originally given. There is a correlation with correlative subjects.		
	Active participation in the	70-75% of attendance	76-86%	of attendance	87-100% of attendance		Created mental map. Solved case study.	
	lessons	2 points	4	points	7	points	3 points	
4.3. Creating a final grade	Saminan nanan	2		3		4	5	
according to evaluation elements	Seminar paper —	5 points	7	points	8	points	10 points	
elements		2		3		4	5	
	Colloquium / written exam	50-64,9%	65	5-79,9%	80-89,9%		90-100%	
		25 points	30) points	35	points	40 points	

		Oral exam	2		3	5		5
		Oral Cxam	25 points		30 points 35 point		ts	40 points
	.4. Creating a final grade ccording to absolute allocation	Percentage of adopted knowledge, skills and competences (teaching + final exam)			Numerous grade			ECTS grade
4.4. Constinu			90 – 100%		5 (excellent)			A
_		80 – 89,9%			4 (very good)			В
		65 – 79,9%			3 (good	d)	С	
			50 – 64,9%		2 (suffici	ent)		D

5. ADDITIONAL INFORMATION ABOUT THE COURSE

		Title	Number of copies in the library	Availability via other media
(available	npulsory literature le in the library and other media)	European Parliament and Council of the European Union: "White Paper - A Single European Transport Space Platoon - A Road to a Comprehensive Transport System Resourcefully Managing Resources", COM (2011) 144 final, 2011. Golubić, J.: Traffic and environment, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 1999. Radić Lakoš, T. Environmental management in Tourism, Polytechnic in Šibenik, Šibenik, 2022. (selected chapters)	5	Available On-line Available On-line
moment	litional literature (at the of changes and/or d of study programme)	Radić Lakoš, T.: Environmental management, Polytechnic of Šibenik, Šibenik, 2018. (selected chapters) Glavač, V.: Introduction to global ecology, Croatia University Edition, Zagreb, 2001. Udovičić, B.: Human and environmental, Kigen, Zagreb, 2009.	5	Available On-line
5.3. Qual	ality assurance methods ure the acquisition of lge, skills and	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensure attendance and student activity during classes and provided information on students` progress through she further guidance to students will be provided in order to increase the efficiency of their work. Students will as well as the methods of work and the required literature. Indicators of quality assurance system: Stud Croatian employment service on the annual state of student employment, surveys from employers and Ali	ort colloquiums and hom Il be informed about thei ent survey, monitoring o	ework, information for rights and obligations

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 activities. All information about teaching or any delay in teaching will be published on the e-learning pages of the course and on the web pages of the Šibenik University. 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 later than five working days from the receipt of e-mail).

Traffic corridors and merchandise flows

1. GENERAL INFORMATION	ABOUT THE COURSE						
1.1. Course title	TRAFFIC CORRIDORS AND MERCHANDISE FLOWS	1.8. Course code in ISVU	140771 / 202099				
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code in MOZVAG	-				
1.3. Assistants and/or associates	PhD Luka Vukić, assistant college professor	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30+0+30+0)				
1.4. Study programme (professional undergraduate, and professional 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 , 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	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							
2.1. Course objectives		lge and case studies: become familiar with the creation and de World and Croatia, distinguish the main transport corridors	-				
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification lev	el 4.2 according to the CROQF.					
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from technology in Croatian and English.	and organization of road traffic in written and oral communic	cation with the professional public				
	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.						
	LO3: To individually and responsibly search, interpret and	integrate the relevant literature needed to make decisions.					
	LO6: To analyze and present relevant facts from the field o	f traffic needed to reach conclusions.					
	LO10: To compare and choose technical and technological	solutions in traffic and/or goods flows.					
	LO12: To set up a minor traffic process and critically evaluate it.						

	Learn	ing outcomes by Bloom: (maximum 2 w	verbs for LO)			Level of LO:		
2.4. Expected learning						1- memory,		
outcomes on the course level (4-						2- understanding,		
10 learning outcomes)						3- application,		
						4- analysis,		
						5- evaluation,		
						6- synthesis.		
	1.	Present and comment on the historical	developmen	t of the traffic branches.		6, 3		
	2.	List and explain the main factors for the	ne creation ar	nd development of commodity flows.		1, 2		
	3.	Analyze and evaluate world trade in go	oods.			4, 5		
	4.	Present and comment on the traffic co	nnection of th	ne Republic of Croatia.		6, 4		
	5.	List and compare major transport corri	1, 2					
	6.	Comment on the objective and strategy transport.	4					
	7.	Use materials and tools to search scien	tific and pro	fessional literature in native and English langu	ages.	3		
	8.	Present the acquired knowledge, ideas	, problems, a	nd solutions independently and in a team.		6	6	
2.5. Course content according to detailed curriculum schedule	Const	ructive allignement						
	No	Thematic unit	LO of the	Content/teaching methods	Eval	uation	Time	
			course				needed	
				Listening to the lecture. In the course of				
		Introductory presentation (introducing		seminars, they are introduced to the course				
	1.	students to the course content and	-	content and documents on the e-learning		-	2 h	
		obligations)		page of the course by working				
				independently on a computer.				
		Geo-traffic factors of formation and		They listen to a lecture and read literature.	· •	or the written and		
		location of commodity flows (General		At the seminar class, they individually		nts know how to		
	2.	geo-traffic factors, natural	2, 7, 8	explore the content of this topic area by		and distinguish the	6 h	
		predispositions, socio-economic		searching the database, and on the basis of it and reading the literature, create a		the formation and		
		factors)		seminar paper that presents the acquired	(general, natur	commodity flows al and socio-		
				schinal paper that presents the acquired	(general, flatur	ai aiiu socio-		

		T				I
				knowledge and presents their own ideas,	economic factors). Identify	
				and ways to solve problems.	abbreviations of economic groups of	
					the world. Seminar paper created	
					and presented (by computer	
					programs).	
				They listen to a lecture and read literature.	At the colloquium or written and	
				At the seminar class, they individually	oral exam students know to present	
				explore the content of this topic area by	and comment on the historical	
		The development of transport on land		searching the database, and on the basis of	development of transport on land.	
	3.	(development of road, rail, and	1, 3, 7, 8	it and reading the literature, create a	Analyze and evaluate the	6 h
		pipeline transport)		seminar paper that presents the acquired	merchandise trade in land traffic, in	
				knowledge and presents their own ideas,	the world. Seminar paper created	
				and ways to solve problems.	and presented (by computer	
				and ways to seem processes.	programs).	
				They listen to a lecture and read literature.	At the colloquium or the written and	
				At the seminar class, they individually	oral exam students know how to	
			explore the content of this topic area by	present and comment on the		
				searching the database, and on the basis of	historical development of water	
		The development of transport on the water (history, World and European ports, shipping routes, ships for freight)	1, 3, 7, 8		_	
	4			it and reading the literature, create a	traffic, the development of seaports.	<i>(</i> 1)
	4.			seminar paper that presents the acquired	Analyze and evaluate the	6 h
				knowledge and presents their own ideas,	merchandise of trade in the world's	
				and ways to solve problems.	water transport. Categorize seaports,	
					regions, and routes. Seminar paper	
					created and presented (by computer	
					programs).	
				They use multimedia and network. They	At the colloquium or written and	
				listen to a lecture and read literature. At the	oral exam students know present	
				seminar class, they individually explore the	seaports in the world. Identify and	
		The development of the second of		content of this topic area by searching the	distinguish terminals at the seaport.	
	5.	The development of transport on the	1, 3, 7, 8	database, and on the basis of it and reading	Analyze and evaluate the cargo	6 h
		water (video films)		the literature, create a seminar paper that	traffic of the seaport. Categorize	
				presents the acquired knowledge and	seaports, ships, regions, and routes.	
				presents their own ideas, and ways to solve	Seminar paper created and presented	
				problems.	(by computer programs).	
				Proceeding.	(c) tompater programs).	

6.	The development of traffic in the air (types of aircraft, aircraft manufacturers, airlines, airports and routes)	1, 3, 7, 8	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.	At the colloquium or written and oral exam students know to present and comment on the historical development of traffic in the air. Analyze and evaluate the merchandise in air traffic in the world. Categorize airports and airlines. Seminar paper created and presented (by computer programs).	6 h
7.	The development of traffic in the air (video film)	1, 3, 7, 8	They use multimedia and network. 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.	At the colloquium or written and oral exam students know the present airport in the world. Identify and distinguish the types and capacity of aircraft for passenger and cargo transportation. Analyze and evaluate continental air routes. Seminar paper created and presented (by computer programs).	6 h
8.	Transport corridors in Europe (Trans- European transport network, transport corridors in Western and Northern Europe, Pan-European transport corridors, pipeline corridors, inland waterways)	5, 7, 8	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.	At the colloquium or written and oral exam students know state and compare the main transport corridors in all parts of Europe and all branches of transport. Define the term of traffic corridor. List the countries through which each transport corridor passes. Seminar paper created and presented (by computer programs).	6 h
9.	Transport corridors in the Republic of Croatia (Geographical location, traffic directions, traffic corridors in the road, rail, air, water, and pipeline transport)	4, 5, 7, 8	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	At the colloquium or the written and oral exam, students can identify and compare major traffic corridors in Europe and the Republic of Croatia. Present, critically evaluate the traffic connection of the Republic of	6 h

		T		T	[
				knowledge and presents their own ideas,	Croatia in the road, rail, air, pipeline		
				and ways to solve problems.	and inland waterway transport.		
					Seminar paper created and presented		
					(by computer programs).		
				They listen to a lecture and read literature.	At the colloquium or the written and		
				At the seminar class, they individually	oral exam, students know how to		
		Manager 1 and 1 an		explore the content of this topic area by	define the concept of goods traffic.		
		Merchandise and traffic flows in the		searching the database, and on the basis of	Categorize, analyze and evaluate the		
	4.0	modern world (Concept and	2.7.0	it and reading the literature, create a	world trade of food, raw materials,		
	10.	characteristics of traffic flow,	3, 7, 8	seminar paper that presents the acquired	and industrial products. List the	6 h	
		commodity flows of food, raw		knowledge and presents their own ideas,	countries with the largest importers		
		materials, and industrial products)		and ways to solve problems.	and exporters of all types of goods.	ı	
				and ways to solve processing.	Seminar paper created and presented		
					(by computer programs).		
				They listen to a lecture and read literature.	At the colloquium or the written and		
		Merchandise and traffic flows in the modern world (Concept and characteristics of traffic flow, commodity flows of food, raw materials, and industrial products)		At the seminar class, they individually	oral exam, students know how to		
				explore the content of this topic area by	define the concept of goods traffic.		
			3, 7, 8				
				searching the database, and on the basis of	Categorize, analyze and evaluate the		
	11.			it and reading the literature, create a	world trade of food, raw materials,	6 h	
				seminar paper that presents the acquired	and industrial products. List the		
				knowledge and presents their own ideas,	countries with the largest importers		
				and ways to solve problems.	and exporters of all types of goods.		
					Seminar paper created and presented		
					(by computer programs).		
				They listen to a lecture and read literature.	At the colloquium or the written and		
				At the seminar class, they individually	oral exam students know how to		
		Merchandise and traffic flows of the		explore the content of this topic area by	analyze and evaluate the trade of		
				searching the database, and on the basis of	products in the Republic of Croatia.		
	10	Republic of Croatia (import and	2 4 7 0	it and reading the literature, create a	List the products that the Republic of		
	12.	export of products, merchandise and traffic flows of the Republic of Croatia in land, water, and air)	3, 4, 7, 8	seminar paper that presents the acquired	Croatia imports/exports the most.	6 n	
				knowledge and presents their own ideas,	Present, critically evaluate and		
				and ways to solve problems.	comment on the traffic connection		
				,r	of the Republic of Croatia in all		
					branches of traffic. Seminar paper		
					oraniones of traffic. Bellimar paper		

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 unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by 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 participation in classes and through two exams); b) passing the exam (written and oral part of the exam). 3.2. Student work monitoring (enter the share of ECTS credits) Attending classes 1 Written exam 1 (without Project colloquims)										
At the colloquium or the written and oral extenses, they individually explore the content of this topic area by searching the projects) 13. European Union White Paper on Transport (White Paper tites, key 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) 15. Final considerations/Repeating and preparing for the exam. 16. Staudent obligations In accordance with the Rulebook on Study and the Rulebook on Study and the Rulebook on Student obligations In accordance with the Rulebook on Study and the Rulebook on Students does not paper to receive the chain grant and must pass and pass the written exam (test), written exam (test), and must rear microlling the content and preparing the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar plaper that presents their own ideas, and ways to solve problems. At the colloquium or the written and prepare in transport area for the future, visions for developing a competitive and sustainable transport system, strategy - what needs to be done) 5,7,8 6,7									by computer	
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. 15. Final considerations/Repeating and preparing for the exam. 15. Final considerations/Repeating and preparing for the exam. 16. They listen to a course lecture and prepare individuals for the exam. 17. Student obligations 18. Student obligations 19. 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 unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49.9% are assessed by 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 participation in classes and through two exams); b) passing the exam (written and oral part of the exam). Attending classes 1 Written exam 1 (without project)		13.	objective, program		6, 7, 8	listen to a lecture and reseminar class, they individe content of this topic are database, and on the base the literature, create a presents the acquired presents their own ideas problems.	ad literature. At the ridually explore the a by searching the is of it and reading seminar paper that knowledge and , and ways to solve	At the colloquium or the oral exam, students car goal and strategy of the program. Distinguish Marco Polo. Critically professional video film Seminar paper created at (by computer programs)	n define the Marco Polo activities evaluate the as program. and presented	4 h
3. 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 unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by 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 participation in classes and through two exams); b) passing the exam (written and oral part of the exam). 3.2. Student work monitoring (enter the share of ECTS credits)		14.	Transport (White Paper titles, key 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) At the seminar class, they individue explore the content of this topic are searching the database, and on the bas it and reading the literature, creat seminar paper that presents the acquiring knowledge and presents their own in		they individually this topic area by and on the basis of terature, create a sents the acquired s their own ideas,	oral exam, students defi and strategy of the currer Paper on transport. Com professional projects in transport. Seminar paper	ne objective nt EU White ment on EU the field of created and	6 h		
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 unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by 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 participation in classes and through two exams); b) passing the exam (written and oral part of the exam). 3.2. Student work monitoring (enter the share of ECTS credits) Attending classes 1 Written exam 1 (without Project colloqiums)		15.			-		1 1	-		40 h
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 unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by 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 participation in classes and through two exams); b) passing the exam (written and oral part of the exam). 3.2. Student work monitoring (enter the share of ECTS credits) Attending classes 1 Written exam 1 (without colloquims)	3. EVALUATION OF STUDEN	NT WO	RK							
3.2. Student work monitoring (enter the share of ECTS credits (ent	3.1. Student obligations	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 has achieved during the course: from 0 - 24,9% ECTS credits are rated unsuccessful and cannot earn ECTS credits, and must re-enroll in the next acader year; from 25 - 49,9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraording 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 course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (written and or							who have academic nordinary uring the	
for each activity so that the total Experimental work Research Practical work	3.2. Student work monitoring (enter the share of ECTS credits	Attend	ding classes	1		Written exam	`	Project		
	for each activity so that the total	Exper	imental work			Research	•	Practical work		

number of ECTS credits	Esaay		Report			Continuous check		
corresponds to the course credit value)	Colloquiums 1 (without written part of exam) Se		Seminar paper	Seminar paper		(other)		
	Teaching activities	1	The oral part of	exam	0,5	(other)		
3.3. Student work-load	The student's workload on	all bases amounts to 1 ECTS poi	nt for 30 hours of	of work per semester and is estimated as:				
	Obligation			Hours (estimate)				
	27. Attending classe	es		30				
	28. Creating and Pr	esenting seminar paper		30				
	29. Preparation for the Colloquium / exam through self-study				60			
A CDADING CYCTEM								

4. GRADING SYSTEM

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

4.2. Gradeing of the colloquium/written and oral		Bad	Satisfying		Abov	ve average
exam	does not know or apply ba	ithout a deeper understanding. It asic terms and concepts. It does explain the contents of the course	It reproduces the basic condifficulty imparts new known the material, explains the tethat it supports with example	ledge, understands erms and concepts	Knowledge is at the level of analysis, synthesis, and evaluation. It observes the legality, accurately and thoroughly explains 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.	
4.3. Forming the final grade according to the evaluation	Active attendance on class	70-75% attendance	76-86% attendance	87-100% attendance		Mental map created, Case studies resolved
elements		2 points	4 points	7 points		3 points
	Seminar paper Colloquiums/ Written part of exam	2	3	4		5
		5 points	7 points	8 points		10 points
		2	3	4		5
		50 - 64,9%	65 - 79,9%	80 - 89,9%		90 - 100%
		25 points	30 points	35 points		40 points
		2	3	5		5
	Oral part of exam	25 points	30 points	35 points		40 points
4.4. Formation of the final grade based on the absolute	0 1	red knowledge, skills and eaching + final exam)	Numerical grade		ECTS grade	
distribution	90 – 100%		5 (excellent)		A	
	80	- 89,9%	4 (very good)		В	
	65 – 79,9%		3 (good)		C	
	50	- 64,9%	2 (sufficient	t)	D	

5. ADDITIONAL INFORMATION ABOUT THE COURSE									
5.1. Compulsory literature	Title	Number of copies in the	Availability via						
(available in the library and via		library	other media						
other media)	Šego Darijo: Traffic corridors and merchandise flows, Script for internal use, Polytechnic of Sibenik,	-	e-learning system						
	Šibenik 2016.	-	Internet website						
	Strategy for Transport Development of the Republic of Croatia for the Period 2014-2030. (selected		Internet website						
	chapters)								
	World trade organization http://www.wto.org/ (selected chapters)		Internet website						
	Transport in EU http://ec.europa.eu/transport/index_en.htm(selected chapters)		Internet website						
	Central Bureau of Statistics of the Republic of Croatia https://www.dzs.hr/								
5.2. Additional literature (at the	Teaching materials from lectures and seminars on the e-Learning system of the Sibenik University	-	e-learning system						
moment of changes and/or	of Applied Sciences for the mentioned course.								
amended of study programme)	International trade statistics https://www.trademap.org/Index.aspx		Internet website						
	UN agency for food http://www.fao.org/home/en/		Internet website						
5.3. Quality assurance methods	The control of students' work quality and the acquisition of necessary knowledge and skills will be	ensured through interactive we	ork. By keeping track of						
that ensure the acquisition of	attendance and student activity during classes and provided information on students' progress throu	gh short colloquiums and hor	mework, information for						
knowledge, skills and	further guidance to students will be provided in order to increase the efficiency of their work. Students	nts will be informed about the	eir rights and obligations						
competences	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 an	d Alumni association.							
5.4. Informing about the course	It is the responsibility of each student to be regularly informed about the course, the coursework, and		-						
and contacting the course	adjournment will be published in a timely manner on the e-learning site of the course and on the w	ebsite of the Šibenik Universi	ity. Students can contact						
lecturer	teachers during the consultation period (at least one hour per week), while for short questions and exp	planations they can be contact	ed during class. It is also						
	possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will be an	swered as soon as possible (no	o later than five working						
	days after receiving the e-mail).								

Modern traffic systems

1. GENERAL INFORMATION ABOUT THE COURSE						
1.1. Course title	MODERN TRAFFIC SYSTEMS	1.8. Course code at ISVU	270665 / 270666			
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code at MOZVAG	-			
1.3. Assistants and/or associates	PhD Ana-Mari Poljičak, senior lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30+0+30+0)			
1.4. Study program (professional undergraduate, and professional 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%)	1st, course materials are on-line, 0%			
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)	5	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 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; 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 competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF
2.3. Learning outcomes on the study program 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.
	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.

	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.								
		1- remembering, 2- understanding,							
	Learning outcomes according to Bloom's taxonomy:	3- application,							
		4- analysis,							
		5- evaluation,							
		6- synthesis							
2.4. Expected learning outcomes	1. to enumerate and explain the elements and branches of the transport system.	1, 2							
on the course level	to demonstrate knowledge and understanding of course content by defining and describing an interdisciplinary approach to the transport system.	1, 2							
	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.	5, 6							
	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							

	Constr	ructive alignment				
	no	no Thematic unit LO of the course Content/teaching methods		Evaluation	Time needed	
2.5. Course content according to detailed curriculum schedule	151.	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.	-	2 h
15		Definition of traffic. Historical development of traffic branches.	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	4 h

	1			1. 1	1
				development of the elements and	
				branches of the transport system.	
152.	Maritime traffic.	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
153.	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
154.	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
155.	Study trip (port of Rijeka).	1, 2, 3, 4, 5, 6	They listen to a lecture.	In colloquium or written and oral exams they identify and explain seaports, and 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.	8 h
156.	Road traffic.	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	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	4 h

			up with their own ideas, and ways to solve	transport in the transport system. Seminar	
			problems.	work is done in groups with discussion.	
157.	Road traffic.	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
158.	Rail traffic. 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, 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.	4 h
159.	Rail traffic.	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this	4 h		
160.	Air traffic.	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

161.	Postal traffic.	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
162.	Telecommunication traffic.	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
163.	Pipeline transport. Cable car 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 pipeline and cableway traffic, and define and describe the role of technical and technological characteristics of pipeline and cableway traffic in the transport system. Seminar work is done in groups with discussion.	4 h
164.	City traffic. 2nd 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 identify and explain the elements and technologies of urban transport, and define and describe the role of urban transport in the transport system.	4 h
165.	Concluding considerations. Repeating and preparing for the exam.	6, 7	They listen to a lecture and prepare individually for the exam.	-	62 h

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 they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% are assessed by 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).								
	Attendance 1		Written exam	1 (without colloquia)	Project			
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical	work		
for each activity so that the total number of ECTS points	Essay		Report			Continuo		1	
corresponds to the credit score of the course)	l Colloguium	without written am)	Seminar paper			Other			
	Class activity 0,5	j	Oral exam	1		Other			
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as: **Obligation** *Hours (estimate)**								
			Hours (estimate)						
3.3. Student workload	30. Attending class		30						
	31. Creating and		30						
	32. Preparation fo		120						
4. GRADING SYSTEM								<u>.</u>	
	Element of evaluation	1	Bad		Satisfying		Ab	ove 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,

style

writing

Words and expressions low in line with Words and expressions are in line with

official terminology. The writing style official terminology. The writing style

Words and expressions are aligned with

official terminology and show an

	Citing and references	a cursory approach to topic.	bulary and with ed grammatical sted at all. The etopic and show	The sources a and with error relevant to t satisfactory res	the sentence strubulary is appropri grammatical errors are listed but incomes. The reference the topic and search attitude.	ate and write are or rich error omplete ces are how a write are com	e sources are accurately, completely consistently listed. The references appropriate, their list is "rich" and apprehensive and shows a detailed earch approach.
4.2. Grading of the colloquium / written and oral exam	understanding. Do terms and concept	memory, without a deeper oes not know or apply basic s. Does not know how to apply contents of the course with	Satisfying It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		Above average Knowledge is at the level of analysis, synthesis and evaluation. It observes the legality, accurately and thoroughly explains 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 0 points	76-86% of t		sence 87-100% of the presence 0 points		Case studies resolved 0 points
		2	1	3 4			5
4.3. Forming the final grade	Seminar paper	Made and handed over	Made and h	anded over	Made and h	anded over	Made and handed over
according to the evaluation	Examination /	2	3	}	4		5
elements	Written	50-64%	65-8	80%	81-9	0%	91-100%
	examination	25-32 points	33-40	points	41-45 1	points	46-50 points
	Oral part of the	2	3	3	5		5
	exam	25-32 points	33-40	points	41-45 points		46-50 points

	Percentage of acquired knowledge, skills and competences (teaching + final exam)	Numerical grade	ECTS grade				
4.4.5	90 – 100%	5 (excellent)	A				
4.4. Formation of final grade based on absolute distribution	80 – 89,9%	4 (very good)	В				
	65 – 79,9%	3 (good)	С				
	50 – 64,9%	2 (sufficient)	D				
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE						
5.1. Required literature	Title		Number of copies in the library	Availability via other media			
(available in the library and through other media)	Cerovac, V.: Technology and traffic safety, Faculty of tra- Zagreb, Zagreb, 2001. (selected chapters) Božičević, D., Kovačević, D.: Modern transport technologies University of Zagreb, Zagreb, 2002.	3	No				
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Courses Lectures. Zelenika, R.: Traffic systems, Faculty of economics, University Zelenika, R.: Multimodal traffic systems, Faculty of economics, University Sussman, J.: Introduction to Transportation Systems, Artech	. 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 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 Šibenik University. 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).						

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Traffic logistic

1. GENERAL INFORMATION ABOUT THE COURSE								
1.3. Course title	TRAFFIC LOGISTIC	1.8. Course code in ISVU	140773 / 202084					
1.4. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	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+0+30+0)					
1.4. Study programme (professional undergraduate, and professional 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 , 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	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								
2.1. Course objectives		rledge and case studies: learn about the elements of the logistie, transportation, and traffic, mastering the modern logistics of	· · · · · · · · · · · · · · · · · · ·					
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification le	evel 4.2 according to the CROQF.						
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from technolog public in Croatian and English.	y and organization of road traffic in written and oral commu	nication with the professional					
	LO2: To organize and implement team work, and critically	y judge the opinions and attitudes of team members.						
	LO3: To individually and responsibly search, interpret and	I integrate the relevant literature needed to make decisions.						
	LO5: To apply basic legal and economic principles in orga	anization with socially responsible management in technical-	technological subjects.					
	LO6: To analyze and present relevant facts from the field	of traffic needed to reach conclusions.						
	LO7: To apply computer tools for analysis and comparison	n of data, and suggest an optimal solution in traffic process,						
	LO9: To assess and organize processes in the area of road	traffic and/or traffic logistics.						

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	LO11	O11: To identify, predict and propose solutions in road traffic technology and technique.						
	LO12	D12: To set up a minor traffic process and critically evaluate it.						
	LO13	D13: To track trends in the development of technique, technology and safety in traffic.						
	Learr	ning outcomes by Bloom: (maximum	2 werbs for L	LO)		Level of LO:		
2.4. Expected learning						1- memory,		
outcomes on the course level (4-						2- understanding,		
10 learning outcomes)						3- application,		
						4- analysis,		
						5- evaluation,		
						6- synthesis.		
	1	. Define and differentiate basic term	ns and division	n in logistics, warehousing, and freight forwardi	ng.	1, 2		
	2	. Analyze and extract information a	nd communic	ation technologies in transport logistics.		4, 2		
	3. Select, evaluate and categorize services in the warehouse business. 3, 5							
	4. Choose the appropriate packaging and analyze the optimal shipment on the pallet and means of transport. 5, 4							
	5. Compare and connect ways of transportation of products, organization of distribution and performance of city logistics. 4, 6							
	6. Propose ways of doing urban logistics, handling of products and reduction of inventory costs.							
	7. Use materials and tools to search the scientific and professional literature in their native and English languages.							
	8. Present the acquired knowledge, ideas, problems, and solutions independently and in a team.							
2.5. Course content according to	Const	tructive allignement				<u> </u>		
detailed curriculum schedule								
	No	Thematic unit	LO of the	Content/teaching methods	Eva	luation	Time	
			course				needed	
		Introductory presentation		Listening to the lecture. In the course of				
	1	Introductory presentation (introducing students to the course		seminars, they are introduced to the course content and documents on the e-learning page			2 h	
	1.	content and obligations)	-	of the course by working independently on a	- 2 h			
		content and obligations)		computer.				
	2.	The term of logistics (term,	1, 6, 7	They listen to a lecture and read literature. At	1	m or the written and	4 h	
		developmental factors, elements of	, ,	the seminar class, they individually explore	oral exam, stud	lents know how to		

				1.0	
	the logistics system, logistics		the content of this topic area by searching the	define and distinguish basic	
	system division)		database, and on the basis of it and reading	concepts in logistics, types of	
			the literature, create a seminar paper that	logistics, factors of logistics	
			presents the acquired knowledge and presents	development. Seminar paper created	
			their own ideas, and ways to solve problems.	and presented (by computer	
				programs).	
			They listen to a lecture and read literature. At	At the colloquium or the written and	
			the seminar class, they individually explore	oral exam, students know how to	
			the content of this topic area by searching the	define and distinguish the basic	
	Human resources in logistics		database, and on the basis of it and reading	concepts in freight forwarding.	
3.	(management, freight forwarders,	1, 6, 7	the literature, create a seminar paper that	Enumerate all freight forwarding	4 h
3.	FIATA documents, customs	1, 0, 7	presents the acquired knowledge and presents	jobs, distinguish between customs	411
	officers).		their own ideas, and ways to solve problems.	documents, human resources	
				working in logistics. Seminar paper	
				created and presented (by computer	
				programs).	
			They listen to a lecture and read literature. At	At the colloquium or the written and	
			the seminar class, they individually explore	oral exam students know how to	
			the content of this topic area by searching the	define and differentiate the basic	
	W		database, and on the basis of it and reading	concepts of storage. Distinguish,	
	Warehouses and storage (concept,		the literature, create a seminar paper that	describe and present warehouse	
	types and division, the factors for		presents the acquired knowledge and presents	equipment. Analyze and evaluate	
4.	determining the location,	1, 3, 6, 7	their own ideas, and ways to solve problems.	factors for determining location.	4 h
	equipment and furnishing		,	Select, evaluate and categorize	
	warehouses, methods of storage			services in the warehouse business.	
	operations)			List the rules and methods for	
				storing goods. Seminar paper	
				created and presented (by computer	
				programs).	
			They use multimedia and network. They	At the colloquium or the written and	
			listen to a lecture and read literature. At the	oral exam, students can distinguish,	
5.	Warehousing and storage of	1, 3, 6, 7	seminar class, they individually explore the	describe and present the warehouse	4 h
	products (video films)	, - , - , ,	content of this topic area by searching the	equipment. Choose adequate racks	
			database, and on the basis of it and reading	and forklifts for the storage of	
			database, and on the sasts of it and reading	and forking for the storage of	

	- 1					
				the literature, create a seminar paper that	products and internal transport.	
				presents the acquired knowledge and presents	Seminar paper created and presented	
				their own ideas, and ways to solve problems.	(by computer programs).	
				They use multimedia and network. They	At the colloquium or the written and	
				listen to a lecture and read literature. At the	oral exam, students can define the	
		Freight terminals and Freight-		seminar class, they individually explore the	basic terms of the Freight terminals	
		transportation centers (concept		content of this topic area by searching the	and the Freight-transportation	
6	6	and division, development goals of	1, 3, 6, 7	database, and on the basis of it and reading	centers. Distinguish between	4 h
0.	υ.	1 0	1, 3, 0, 7	the literature, create a seminar paper that	Freight-transport centers by size and	4 11
		Freight-transportation center,		presents the acquired knowledge and presents	location. Select and categorize	
		functions, services, 3PL)		their own ideas, and ways to solve problems.	services provided at terminals and	
				-	centers. Seminar paper created and	
				presented (by computer programs).		
				They use multimedia and network. They	At the colloquium or the written and	
				listen to a lecture and read literature. At the	oral exam, students can distinguish	
				seminar class, they individually explore the	between information and	
	Information and communication		content of this topic area by searching the	communication technologies in		
				database, and on the basis of it and reading	logistics, warehouse management	
		system in the function of logistics		the literature, create a seminar paper that	system, Bar code technology, and	
7.	7	(elements, methods of	2, 6, 7	presents the acquired knowledge and presents	RFID identification. Identify the	4 h
-	•	communication, modern computer	2, 0, 7	their own ideas, and ways to solve problems.	abbreviations of information and	
		programs, warehouse management		then own ideas, and ways to solve problems.	communication technologies.	
		system)			Establish the difference, strengths	
					and the weakness of using it.	
					Seminar paper created and presented	
					(by computer programs).	
				They listen to a lecture and read literature. At	At the colloquium or the written and	
				•	*	
		Inventory management and		the seminar class, they individually explore	oral exam, students can propose	
	· ·	manipulation with products		the content of this topic area by searching the	ways of manipulating with products	
8.	8.	(inventory planning and control,	5, 6, 7	database, and on the basis of it and reading	(packaging, palletizing) and	4 h
		supply chain, packaging of goods,		the literature, create a seminar paper that	reducing the cost of supplies (supply	
		palletization and containerization)		presents the acquired knowledge and presents	chain). Define and describe Supply	
		· /		their own ideas, and ways to solve problems.	Chain and Just in time procurement.	
					Identify the difference between	

	T				
				applying pallets and containers.	
				Seminar paper created and presented	
				(by computer programs).	
			They listen to a lecture and read literature. At	At the colloquium or the written and	
			the seminar class, they individually explore	oral exam, students know how to	
	Transportation in the logistics		the content of this topic area by searching the	distinguish transport modes in	
	system (road, rail, air and pipeline		database, and on the basis of it and reading	logistics, in all branches of traffic.	
9.	transport, inland waterways	2, 4, 6, 7	the literature, create a seminar paper that	Identify the advantages,	4 h
	transport, transport costs, transport		presents the acquired knowledge and presents	disadvantages and costs of	
	documents)		their own ideas, and ways to solve problems.	transportation. Seminar paper	
	, ,		,,	created and presented (by computer	
				programs).	
			They use multimedia nad network. They	At the colloquium or the written and	
			listen to a lecture and read literature. At the	oral exam, students know how to	
			seminar class, they individually explore the	isolate and analyze transport	
	Modern transport technologies in		content of this topic area by searching the	technologies in logistics in the road,	
	transport logistics (conditions for		database, and on the basis of it and reading	rail, water, and air transport.	
10		2 4 6 7			4 %
10.	development, integral transport,	2, 4, 6, 7	the literature, create a seminar paper that	Compare, identify	4 h
	technologies on the road, rail,		presents the acquired knowledge and presents	similarities/differences in the	
	water, and air transport)		their own ideas, and ways to solve problems.	transportation of products with	
				modern transportation technologies.	
				Seminar paper created and presented	
				(by computer programs).	
			They use multimedia and network. Using a	At the colloquium or the written and	
			computer program, students arrange the	oral exam, students know	
			shipments on the pallet and the means of	distinguish information and	
			transport. At the seminar class, they	communication technologies and	
	The computer program for		individually explore the content of this topic	computer programs in logistics. Use	
11.	stacking pallets	1, 2, 4	area by searching the database, and on the	the computer program to choose the	4 h
	STACKBUILDER		basis of it and reading the literature, create a	appropriate packaging, draw and	
			seminar paper that presents the acquired	analyze the optimal packaging on	
			knowledge and presents their own ideas, and	the pallet. Seminar paper created	
			ways to solve problems.	and presented (by computer	
				programs).	

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12.	Distribution and ordering of goods (concept, purpose, and structure of the distribution system, distribution networks, costs in distribution, term of the order, processes in ordering)	4, 6, 7	They use multimedia and network. 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.	At the colloquium or the written and oral exam, students can define the terms of order and distribution. Propose the ways of orders in case of missing products. Determine the difference between physical distribution and distribution channels. Compare and explain distribution network concepts. Identify distribution costs. Seminar paper created and presented (by computer programs).	4 h
13.	City logistics (concept, task, and goal of city logistics, initiatives, the structure of city logistics system, optimization of logistics flows)	4, 5, 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.	At the colloquium or the written and oral exam, students can define the concept and the goal of city logistics. Distinguish and isolate participants in city logistics. Categorize flows of products in city logistics. Identify means of transport. Suggest city logistics concepts. Identify the advantages and disadvantages of optimizing the flow of products. Seminar paper created and presented (by computer programs).	4 h
14.	Study trip to KONZUM or LIDL Logistics-distribution center (located in Dugopolje and Perušić).	1, 3, 4, 5		On a study tour, students will be able to define and differentiate basic terms and divisions in logistics, warehousing, and freight forwarding. Select, evaluate and categorize services in the warehouse business. Compare and connect modes of product transport, organization of distribution of	8 h

								products. Suggest manipulation with the reducing inventory of	he products and	
	15.	Final conside and preparing for	erations/Repeating or the exam.	-	They listen to a continuity individuals for the		lecture and prepare	-		62 h
3. EVALUATION OF STUDEN	3. EVALUATION OF STUDENT WORK									
3.1. Student obligations	Part-t have acade or ext ways:	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 unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by 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 participation in classes and through two exams); b) passing the exam (written and oral part of the exam).						dents who in the next a regular rse in two		
3.2. Student work monitoring (enter the share of ECTS credits		nding classes	1	,	Written exam		1 (without colloqiums)	Project		
for each activity so that the total	Expe	rimental work			Research		-	Practical work		
number of ECTS credits corresponds to the course credit	Esaay	y			Report			Continuous check		
value)	Collo	oquiums	1 (without writte exam)	n part of	Seminar paper		0,5	(other)		
	Teach	hing activities	1	,	The oral part of exar	m	0,5	(other)		
3.3. Student work-load	The s	tudent's workload			point for 30 hours of	f work p	per semester and is es		-	
			Obliga	ation				Hours (estimate)		
		33. Attending cla	isses					30		
		34. Creating and	Presenting seminar	paper				30		
	35. Preparation for the Colloquium / exam through self-study 60									
4. GRADING SYSTEM										
4.1. Evaluation of seminar paper		Elements of evaluation	Bad			Satisfy	ying	Abo	ove average	

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	Organization	The paper is not organized in a	The paper is well structu		* *	structured with a clear
		logical order and lacks structure.	distinction between the intro	ŕ		n the introduction, the
			body of the text and the con	iciusion.	which are logically	text and the conclusion,
	Terminology, writing	Words and expressions are not in	Words and expressions	oro in lino with		sions are aligned with
	style	line with official terminology.	official terminology. The		official terminological	ū
	Style	The writing style is not	appropriate, the sentence	• •		eir meaning. The writing
		appropriate, the sentences are	the vocabulary is appropri		_	the sentences are clear and
		too long, of a modest vocabulary	few grammatical errors.	and and more are	•	lary is rich and there are
		and with frequent and repeated	2		no grammatical erro	-
		grammatical errors.			Ü	
	Citing and	The sources are not listed at all.	The sources are listed bu	t incomplete and	The sources are ac	curately, completely and
	referencing	The references do not fit the	with errors. The references	are relevant to the	consistently listed	. The references are
	references	topic and show a cursory	topic and show a satis	sfactory research	appropriate, their	list is "rich" and
		approach to exploring the topic.	attitude.		comprehensive and	shows a detailed research
					approach.	
4.2. Gradeing of the		Bad	Satisfying	3	Abov	ve average
colloquium/written and oral	It responds by memory	, without a deeper understanding.	It reproduces the basic con	cepts and without	Knowledge is at	the level of analysis,
exam		ly basic terms and concepts. It does	difficulty imparts ne	-	•	luation. It observes the
	not know how to appl	ly or explain the contents of the	understands the material, e	explains the terms	legality, accurately	and thoroughly explains
	course with examples.		and concepts that it support	ts with examples.	the content of the	material, and logically
					connects and explai	ns the terms and concepts
						with examples. Finds
						not originally given. It
	1				notes correlations w	rith related material.
10 5 1 1 6 1	A .:	Г				
4.3. Forming the final grade	Active attendance on	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created,
according to the evaluation	Active attendance on class				attendance	Mental map created, Case studies resolved
		70-75% attendance 2 points	76-86% attendance 4 points			Mental map created,
according to the evaluation	class			7 p	attendance	Mental map created, Case studies resolved
according to the evaluation		2 points	4 points	7 p	attendance	Mental map created, Case studies resolved 3 points

	Written part of exam	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%
		25 points	30 points	35 g	points	40 points
	Oral part of exam	2	3		5	5
	Oral part of exam	25 points	30 points	35 g	points	40 points
4.4. Formation of the final grade	Percentage of acc	uired knowledge, skills and	Numerical gr	ade	EC	CTS grade
based on the absolute	competencies	(teaching + final exam)				
distribution		90 – 100%	5 (excellen	t)		A
	8	80 – 89,9%	4 (very goo	d)		В
		55 – 79,9%	3 (good)			С
	-	50 – 64,9%	2 (sufficien	t)		D

5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Compulsory literature	Title	Number of copies in the	Availability via other
(available in the library and via		library	media
other media)	Ivakovic C., Stankovic R., Šafran M.: Freight Forwarding and Logistics Processes, Faculty of	-	City of Sibenik library
	Transport and traffic sciences, University of Zagreb, Zagreb, 2010 (selected chapters)	-	PDF (Internet website)
	Mlinarić Josip T.: Freight-transport Centers, Faculty of Transport and traffic sciences, University	2.	
	of Zagreb, 2013 (selected chapters)	_	
	Zelenika R.: Logistics Systems, University of Rijeka, Faculty of Economics, Rijeka, 2005		
	(selected chapters)	-	City of Sibenik library
	Bloomberg D.: Logistics, MATE, Zagreb School of Economics and Management, Zagreb, 2006		City of blocking horary
	(selected chapters)		
5.2. Additional literature (at the	Teaching materials from lectures and seminars on the e-Learning system of the Sibenik		e-learning system
moment of changes and/or	University of Applied Sciences for the mentioned course.		City of Sibenik library
amended of study programme)	Zelenika R.: Transport Systems, University of Rijeka, Faculty of Economics, Rijeka, 2001.		City of Sidelik lidialy
	Zelenika R.: Transport and freight forwarding business, University of Rijeka, Faculty of		City of Sibonile library
	Economics, Rijeka, 2001.		City of Sibenik library
	Logistics www.logistika.com.hr		Internet website

5.3. Quality assurance methods	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of				
that ensure the acquisition of	attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for				
knowledge, skills and	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				
competences	as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from				
	Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.				
5.4. Informing about the course	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				
and contacting the course	adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact				
lecturer	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).				