POLYTECHNIC OF SIBENIK Undergraduate professional study of Traffic

Trg Andrije Hebranga 11 22000 Šibenik



Sibenik, December 2019

POLYTECHNIC OF SIBENIK Undergraduate professional study of Traffic

Trg Andrije Hebranga 11 22000 Sibenik

THE CURRICULUM OF THE UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC

DIRECTIONS: ROAD TRAFFIC, POSTAL TRAFFIC

Academic year 2019/2020

Dean of Polytechnic of Sibenik

Ph.D. Ljubo Runjić, senior lecturer

Head of Undergraduate professional study of Traffic Ivana Beljo, sc. ing. mat., senior lecturer

Sibenik, December 2019

Undergraduate professional study of Traffic Polytechnic of Šibenik is valued with 180 ECTS credits, which are obtained through enrolled subjects. After enrollment in the academic year, students enroll obligatory subjects and optional subjects whose sum is awarded a maximum of 30 ECTS credits by semester, up to 60 ECTS credits per year, in accordance with the articles of the "Study Regulations" at the Polytechnic of Sibenik.

Enrollment in the academic year

The student is obliged to enroll in the following academic year within the set deadline for enrollment. If one does not enroll in the academic year, the person loses the student's status and rights. Enrollment deadlines are published on the official board and on the internet website of the Polytechnic. A student enrolls at least 27 ECTS credits in one semester and a maximum of 35 ECTS credits. If the student did not regulate the obligations (no signature) for the subject enrolled in the academic year, by enrolling in the new academic year, he/she shall record the repetition of the academic year in which he/she re-enrolls the subject and again fulfills all obligations in that subject. The student is only allowed to enroll in the same subject twice during their studies.

Enrollment in the senior academic year

A student in one academic year enrolles at least 60 ECTS credits. A student acquires the right to enroll in a higher academic year if by the deadline for enrollment he/she has duly fulfilled all obligations from the study program which he/she has assumed by enrolling in the previous year of study and has passed exams in subjects which, according to the credit system, established by the study program, enable him/her to enroll in the higher year of study. Students who have taken the exam before the teaching committee (Committee) in the current academic year and have not yet met the requirements for a positive assessment (have passed the exam) are obliged to re-enroll, listen and regulate their course obligations. Students enroll in a higher academic year if they have earned a minimum of 50 ECTS credits from the previous study year by enrolling in all previous non-completed courses and at least 60 ECTS credits from the previous academic year.

Repetition of the academic year with the possibility of partial enrollment of subjects with the higher academic year

Students have the right to enroll in the repetition of the academic year with partial enrollment of subjects from the higher academic year, subject to the following conditions:

- partial enrollment of the subject from the second (2nd) academic year, if in the first (1st) academic year he/she has earned at least 30 ECTS credits,
- partial enrollment of the subject from the third (3rd) academic year, if in the second (2nd) academic year he/she obtained at least 30 ECTS credits.

Partial enrollment is carried out in such a way that the student enrolls all non-completed subjects from the previous academic year and certain subjects from the higher academic year. The total number of ECTS credits in the recurrent year with partial enrollment is a minimum of 50 ECTS points and a maximum of 60 ECTS points.

The repetition of the academic year

A student who has not obtained the right to enroll in a higher academic year is obliged to enroll in the next academic year to repeat the academic year. A student who repeats the year, on the index is placed under "Repeats". A student may enroll in the repetition of each academic year only once. If even after the repetition of the academic year, the student fails to fulfill all the obligations from the study program from the corresponding academic year, he/she loses the right to continue his/her studies.

Before submitting the Final paper for assessment and defense, the student must pass all courses and earn a minimum of 163 ECTS credits.

1. REQUIREMENTS AND RESULTS OF THE STUDY PROGRAM

The programme of Undergraduate professional study of Traffic is oriented towards professional requests of engineers in traffic. The study offers technical, technological and organizational education necessary for conducting traffic processes, management of equipment and materials, practical application of modern technologies in the organization of transport with the aim of reaching optimal technical, technological and economical effects with protection of environment. The bacis aim of education is to define and analyze theoretical, technological and practical solutions of contemporary transport technologies and systems, logistics of optimal solutions in traffic processes that consequently all make a base for successful realization of traffic processes.

The general competences that the student acquires by completing the studies is the ability to solve problems, analyze, synthesize and evaluate, develop self-learning and literature research, teamwork, planning and organizing, improve numeracy and digital skills, oral and written business communication and demonstrate morality, responsibility, conscientiousness in work and behavior in accordance with solid ethical principles .

During the studies, students acquire specific knowledge, skills and competences related to theoretical and practical knowledge and skills required for the analysis and evaluation of technical-technological road traffic solutions, the application of computer tools for analyzing and comparing the data to be submitted optimal solution in the transport process, evaluation and organization of processes in the road traffic area and transport logistics, the application of fundamental legal and economic principles in organization with socially responsible operations in technical-technological subjects, and monitoring trends in technology development, technology and traffic safety.

The Undergraduate professional study of Traffic consists of six semesters.

2. EXPECTED LEARNING OUTCOMES ON UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC

Learning outcomes (LO) of the Undergraduate professional study of Traffic Polytechnic of Sibenik in the academic year 2019./2020. are:

- 1. 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. To organize and implement team work, and critically judge the opinions and attitudes of team members,
- 3. To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions,
- 4. To apply knowledge from the field of natural and technical sciences to problems in road traffic,
- 5. To apply basic legal and economic principles in organization with socially responsible management in technical-technological subjects,
- 6. To analyze and present relevant facts from the field of traffic needed to reach conclusions,
- 7. To apply computer tools for analysis and comparison of data, and suggest an optimal solution in traffic process,
- 8. To solve problems in traffic by using analytical and/or graphical methods,
- 9. To assess and organize processes in the area of road traffic and/or traffic logistics,
- 10. To compare and choose technical and technological solutions in traffic and/or goods flows,
- 11. To identify, predict and propose solutions in road traffic technology and technique,
- 12. To set up a minor traffic process and critically evaluate it,
- 13. To track trends in the development of technique, technology and safety in traffic.

3. LIST OF LECTURERS WHO TEACH (LECTURES, SEMINARS, EXERCISES) AT THE UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC

NAME AND SURNAME OF THE LECTURER	COURSE NAME	CONTACT E-MAIL	CONSULTATION
Employees of the Polytechnic of Siber	nik who teach		
Jerko ACALIN, sc. ing. IT., lecturer.	Basics of computer science	jerko@vus.hr	Cabinet 6
Darijo ŠEGO, univ. spec. traff., senior lecturer.	 Traffic and spatial planning Traffic Logistics Traffic corridors and merchandise flows Road traffic infrastructures Postal technology and organization Postal and money circulation Information systems in postal traffic Professional practice Semestral professional practice Transport geography 	<u>darijo@vus.hr</u>	Cabinet 14
Ana-Mari POLJIČAK, sc. ing. traff., senior lecturer.	 Transshipment resources I Transshipment resources II Internal transport and storage Distributional centres and terminals Resources and exploitation of road traffic vehicles Infrastructure of postal-telecomunications traffic Planning of postal network Technical means of postal-telecomunications traffic Traffic in tourism 	jankovic@vus.hr	Cabinet 14

Technology and organization of road traffic Traffic techniques	<u>ljubicvus@gmail.com</u>	Cabinet 14
Knowledge of goods	nikolina@vus.hr	Cabinet 1
English language I English language II English language III English language IV	ivanakg@vus.hr	Cabinet 15
Mathematics Operational research in traffic	ibeljo@vus.hr	Cabinet 11
Operational research in traffic	zelimir.mikulic@vus.hr	Cabinet 12
Statistics in Traffic	<u>sisak@vus.hr</u>	Cabinet 3
Traffic and ecology	tanja@vus.hr	Cabinet 2
Economics of Traffic	<u>dijana@vus.hr</u>	Cabinet 2
Graphic communications Physics Technical mechanics Introduction to mechanical engineering Theory of vehicle movement	<u>lolivari@vus.hr</u>	Cabinet 14
	Knowledge of goods English language I English language II English language III English language IV Mathematics Operational research in traffic Operational research in traffic Statistics in Traffic Traffic and ecology Economics of Traffic Graphic communications Physics Technical mechanics Introduction to mechanical engineering	Image: Normal stateImage: Normal stateKnowledge of goodsnikolina@vus.hrEnglish language I English language III English language IVivanakg@vus.hrMathematics Operational research in trafficibeljo@vus.hrOperational research in trafficzelimir.mikulic@vus.hrStatistics in Trafficsisak@vus.hrTraffic and ecologytanja@vus.hrEconomics of Trafficdijana@vus.hrGraphic communications Physics Technical mechanics Introduction to mechanical engineeringlolivari@vus.hr

Ph.D. Dragan BOLANČA, regular professor	Traffic law	dragan.bolanca@pravst.hr	Prema rasporedu predavanja
Ph.D. Ivan MAVRIN, regular professor	Resources and exploitation of road traffic vehicles	<u>mavrin@fpz.hr</u>	Cabinet 12
Ph.D. Ernest BAZIJANAC, regular professor	Introduction to mechanical engineering	<u>ebazijanac@fpz.hr</u>	According to the schedule of lectures
M.sc. Danijel MILETA, senior lecturer	Basics of electrical engineering and electronics Information systems in road traffic	danijel.mileta@gmail.com	Cabinet 1
M.sc. Josip PAIĆ, senior lecturer	Physics	josip.paic@skole.hr	Cabinet 14
M.sc. Srećko ĐURANOVIĆ, senior lecturer	Introduction to mechanical engineering	sduranovic@fpz.hr	Cabinet 15
Ante PRAŽEN, sc. ing. traff., lecturer	Traffic and spatial planning		According to the schedule of lectures
Luca OLIVARI, mag. math., assistant	Mathematics		According to the schedule of lectures Cabinet 11

4. PLACE OF TEACHING OF THE UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC

Teaching at the Undergraduate professional study Management is performed at the Polytechnic of Sibenik, in Sibenik, at the address "Trg Andrije Hebranga 11". In the mentioned location, apart from the service offices, there are 12 lecture halls with a total area of 757 m^2 .

The lecture halls in which the teaching process takes place is to provide optimal conditions in view of the enrolled students.

STUDY YEAR	REGULAR S	TUDENTS	EXTRAORDINARY STUDENTS			
SIUDI ILAK	first enrollment	repeats	first enrollment	repeats		
I study year	16	2	7	1		
II study year	22	3	1	1		
III study year	18	1	4	0		

Number of enrolled students in a	academic 2019/2020
----------------------------------	--------------------

The specified space contains spatial capacities that, in keeping with the standards of higher education, enable students to have good quality monitoring and participation in educational activities.

Classes at the Polytechnic of Sibenik take place from Monday to Friday (in exceptional cases on Saturdays in the morning) according to the fixed schedule of the lectures published on the official notice boards and on the official internet website of the Polytechnic. In accordance with the requirements of the *Regulation on the content of license and conditions for issuing license to perform activities of higher education, carrying out study programs and re-accreditation of higher education institutions* (Public papers No. 24/10) Article 5 (2), the Polytechnic meets the ratio of the number of students enrolled and the space available for teaching.

5. LIST OF COURSES, LECTURES AND ASSOCIATES, HOURS AND WORKLOAD OF STUDENTS, AT THE UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC

COURSES		LECTURER			COURSE SCHEDLUE				
				L	S	Number	Ε	Number	БОТО
TT 1 C	NT	T	Seminars/	Hours	Hours	of groups	Hours	of groups	ECTS credits
Head of course	Name	Lecturer	Exercises	per	per		per		creates
				week	week		week		
I. semester									
Beljo I.	Mathematics	Beljo I.	Olivari L.	3	-	-	3	1	8
Paić J.	Physics	Paić J.	Olivari L.	2	-	-	2	1	5
Olivari L.	Graphic communications	Olivari L.	Olivari L.	2	-	-	2	1	5
Acalin J.	Basics of computer science	Acalin J.	Acalin J.	1	-	-	3	1	5
Gaćina N.	Knowledge of goods	Gaćina N.	Gaćina N.	2	1	1	-	-	4
Kardum Goleš I.	English language I	Kardum Goleš I.	Kardum Goleš I.	2	-	-	1	1	3
II. semester									
Ljubić Hinić I.	Modern traffic systems	Ljubić Hinić M.	Ljubić Hinić M.	3	1	1	-	-	6
Mileta D.	Basics of electrical engineering and electronics	Mileta D.	Mileta D.	2	-	-	2	1	5
Šego D.	Traffic Logistics	Šego D.	Šego D.	2	2	1	-	-	4
Kardum Goleš I.	English language II	Kardum Goleš I.	Kardum Goleš I.	2	-	-	1	1	3
Olivari L.	Technical mechanics	Olivari L.	Olivari L.	3	-	-	3	1	8
Radić Lakoš T.	Traffic and ecology	Radić Lakoš T.	Radić Lakoš T.	2	1	1	_	-	4

	COURSES	LECTURER		COURSE SCHEDLUE			LECTURER COURSE SCHEI			
Head of course	Name	Lecturer	Seminars/ Exercises	L Hours per week	S Hours per week	Number of groups	E Hours per week	Number of groups	ECTS Credit s	
III. semester				1	1		1		1	
Đuranović S.	Introduction to mechanical engineering	Đuranović S./ Bazijanac E./ Olivari L.	Olivari L.	3	-	-	3	1	6	
Poljičak A-M.	Transshipment resources I	Poljičak A-M.	Poljičak A-M.	2	2	1	2	1	5	
Poljičak A-M.	Internal transport and storage	Poljičak A-M.	Poljičak A-M.	2	-	-	2	1	5	
Beljo I.	Operational research in traffic	Beljo I./ Mikulić Ž.*	Beljo I.	2	-	-	1	1	4	
Mečev D.	Economics of Traffic	Mečev D.	Mečev D.	2	-	-	1	1	3	
Šego D.	Traffic Logistics	Šego D.	Šego D.	2	2	1	-	-	4	
Kardum Goleš I.	English language III	Kardum Goleš I.	Kardum Goleš I.	1	-	-	2	1	3	
IV. semester	·						•	•		
Poljičak A-M.	Transshipment resources II	Poljičak A-M.	Poljičak A-M.	2	-	-	1	1	4	
Olivari L.	Theory of vehicle movement	Olivari L.	Olivari L.	2	-	-	1	1	4	
Poljičak A-M.	Distributional centres and terminals	Poljičak A-M.	Poljičak A-M.	2	2	1	-	-	5	
Šego D.	Traffic corridors and merchandise flows	Šego D.	Šego D.	2	2	1	-	-	4	
Bolanča D.	Traffic law	Bolanča D.	Bolanča D.	2	1	1	-	-	3	
Ljubić Hinić M.	Technology and organization of public city transport	Ljubić Hinić M.	Ljubić Hinić M.	2	1	1	-	-	5	
Kardum Goleš I.	English language IV	Kardum Goleš I.	Kardum Goleš I.	1	-	-	2	1	3	
Šego D.	Professional practice	Šego D.	Šego D.	-	-	-	60	-	2	

	COURSES	COL	COURSES COURSES		COURSES				
			Seminars/	L Hours	S Hours	Number of groups	E Hours	Number of groups	ECTS Credit
Head of course	Name	Lecturer	Exercises	per week	per week	of groups	per week	of groups	s
V. semester									
Šego D.	Road traffic infrastructures	Šego D.	Šego D.	3	2	1	1	1	6
	Resources and exploitation of road traffic vehicles	Mavrin I.	Poljičak A-M.	3	-	-	1	1	5
	Technology and organization of road traffic	Ljubić Hinić M.	Ljubić Hinić M.	3	-	-	2	1	7
Ljubić Hinić M.	Traffic techniques	Ljubić Hinić M.	Ljubić Hinić M.	3	1	1	-	-	6
Mileta D.	Information systems in road traffic	Mileta D.	Mileta D.	2	1	1	-	-	3
Šego D.	Transport geography*	Šego D.	Šego D.	2	1	1	-	-	3
Poljičak A-M.	Traffic in tourism*	Poljičak A-M.	Poljičak A-M.	2	1	1	-	-	3
	eminars, E – exerciese. JRSE - the student selects one optional of	courses offered.							
Šego Darijo	Semestral professional practice°	-	-	-	-	-	390	-	13
	Final paper	-	-	-	510	-		-	17

6. ACADEMIC CALENDAR FOR THE ACADEMIC YEAR 2019/2020

The academic calendar of the Polytechnic of Sibenik for the academic year 2019/2020 was adopted at the 31st session of the Expert Council of the Polytechnic of Sibenik, held in September 2019.

WINTER SEMESTER:

- lectures in the winter semester runs from September, 30 2019 to January, 25 2020,
- winter holidays run from December, 23 2019 to January 3 2020,
- additional consultative lectures for extraordinary students will be held during the semester at a time to be determined by each lecturer,
- the winter regular exam period runs from January 27 to February 21 2020.

SUMMER SEMESTER:

- summer semester lectures run from February 24 to June 5 2020,
- additional consultative classes for extraodrinary students will be held during the semester at a time to be determined by each lecturer,
- the summer regular exam period runs from June 8 to July 8 2020

AUTUMN EXAM TIME PERIOD:

• the autumn regular exam period runs from August 24 to September 19 2020

SEMESTER TESTING:

- winter semester testing and summer semester enrollment will run from February 13 to February 20, 2020,
- summer semester testing and academic year enrollment will run July 13 to July 18 2020, and from September 24 to September 30 2020.

7. NATIONAL PUBLIC HOLIDAYS AND NON-WORKING DAYS IN THE REPUBLIC OF CROATIA

DATE OF HOLIDAY	NAME OF PUBLIC HOLIDAYS
October 8th	Independence Day
November 1st	All Saints' Day
25th and 26th December	Christmas and St. Stephen's Day
January 1st	New Year's Day
January 6th	Epiphany
April 13nd	Easter Monday
May 1st	International Workers' Day
June 22nd	Anti-Fascist Struggle Day
June 25th	Statehood Day
August 5th	Homeland Thanksgiving Day
August 15th	Assumption of Mary

8. CALENDAR OF THE EXAMS, FOR ACADEMIC YEAR 2019/2020 AT THE UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC

Dear students, the tables below show the dates of regular written exams in the winter, summer, and autumn exam periods, while the exact exam time (hourly rate) will be published on the official internet website of the Polytechnic of Sibenik (understudy Traffic - Exam deadlines) and on official bullet board in the hallway of the Polytechnic. The dates of exam periods for the other months of the year are issued by the Expert Council of the Polytechnic of Sibenik upon the proposal of the Dean, and they are published separately on the website and the bullet board of the Polytechnic. Due to unforeseen reasons, it is possible to move the specified dates for the written exams.

HEAD OF COURSE	NAME OF COURSE		EXAM DATES						
		Febr	uary	June	/ July	August / S	September		
I. STUDY YEAR (I. semes	ster).								
Beljo Ivana	Mathematics	04.02.	18.02.	16.06.	30.06.	01.09.	15.09.		
Paić Josip	Physics	05.02.	19.02.	17.06.	01.07.	02.09.	16.09.		
Olivari Luka	Graphic communications	29.01.	12.02.	10.06.	24.06.	26.08.	09.09.		
Acalin Jerko	Basics of computer science	30.01.	13.02.	12.06.	26.06.	28.08.	11.09.		
Gaćina Nikolina	Knowledge of goods	06.02.	20.02.	23.06.	08.07.	27.08.	10.09.		
Kardum Goleš Ivana	English language I	04.02.	18.02.	16.06.	30.06.	01.09.	15.09.		
I. STUDY YEAR (II. seme	ester).								
Šego Darijo	Traffic and spatial planning	29.01.	12.02.	16.06.	30.06.	28.08.	11.09.		
Ljubić Hinić Martina	Modern traffic systems	28.01.	11.02.	18.06.	02.07.	25.08.	08.09.		
Šego Darijo	Traffic logistic	30.01.	14.02.	09.06.	23.06.	27.08.	10.09.		
Mileta Danijel	Basics of electrical engineering and electronics	27.01.	10.02.	08.06.	23.06.	24.08.	07.09.		
Perišić Ana	Statistics in traffic	04.02.	18.02.	16.06.	30.06.	26.08.	09.09.		
Kardum Goleš Ivana	English language II	04.02.	18.02.	16.06.	30.06.	01.09.	15.09.		
Olivari Luka	Tehnical mechanics	03.02.	17.02.	15.06.	29.06.	31.08.	14.09.		
Radić Lakoš Tanja	Traffic and ecology	06.02.	20.02.	18.06.	02.07.	03.09.	17.09.		

II. STUDY YEAR (III. s	emester).						
Đuranović Srećko	Introduction to mechanical engineering	03.02.	17.02.	15.06.	29.06.	31.08.	14.09.
Poljičak Ana-Mari	Transshipment resources I	31.01.	14.02.	10.06.	24.06.	26.08.	09.09.
Mečev Dijana	Economics of Traffic	05.02.	19.02.	17.06.	01.07.	03.09.	17.09.
Beljo Ivana	Operational research in traffic	04.02.	18.02.	16.06.	30.06.	01.09.	15.09.
Poljičak Ana-Mari	Internal transport and storage	30.01.	14.02.	09.06.	23.06.	27.08.	10.09.
Šego Darijo	Traffic Logistics	30.01.	14.02.	09.06.	23.06.	27.08.	10.09.
Kardum Goleš Ivana	English language III	04.02.	18.02.	16.06.	30.06.	01.09.	15.09.
						•	
II. STUDY YEAR (IV. s							
Poljičak Ana-Mari	Transshipment resources II	30.01.	14.02.	09.06.	23.06.	27.08.	10.09.
Poljičak Ana-Mari	Distributional centres and terminals	31.01.	14.02.	10.06.	24.06.	26.08.	09.09.
Olivari Luka	Theory of vehicle movement	05.02.	19.02.	17.06.	01.07.	02.09.	16.09.
Sladoljev Jasmina	Basics of management	04.02.	18.02.	09.06.	23.06.	01.09.	15.09.
Šego Darijo	Traffic corridors and merchandise flows	29.01.	12.02.	16.06.	30.06.	28.08.	11.09.
Bolanča Dragan	Traffic law	29.01.	12.02.	17.06.	01.07.	26.08.	09.09.
Ljubić Hinić Martina	Technology and organization of public city transport	28.01.	11.02.	18.06.	02.07.	25.08.	08.09.
Kardum Goleš Ivana	English language IV	04.02.	18.02.	16.06.	30.06.	01.09.	15.09.
III. STUDY YEAR (V. s	emester).						
Šego Darijo	Road traffic infrastructures	30.01.	14.02.	09.06.	23.06.	27.08.	10.09.
Mavrin Ivan	Resources and exploitation of road traffic vehicles	31.01.	14.02.	10.06.	24.06.	26.08.	09.09.
Ljubić Hinić Martina	Technology and organization of road traffic	28.01.	11.02.	18.06.	02.07.	25.08.	08.09.
Ljubić Hinić Martina	Traffic techniques	28.01.	11.02.	18.06.	02.07.	25.08.	08.09.
Mileta Danijel	Information systems in road traffic	27.01.	10.02.	08.06.	23.06.	24.08.	07.09.
Poljičak Ana-Mari	Traffic in tourism	31.01.	14.02.	10.06.	24.06.	26.08.	09.09.
Šego Darijo	Transport geography	29.01.	12.02.	16.06.	30.06.	28.08.	11.09.

9. THE CURRICULUM AND THE CONTENT OF ALL COURSES AT UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC WITH THE EXPECTED LEARNING OUTCOMES AND LITERATURE



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

1. GENERAL INFORM	ATION					
1.1. Course lecturer	Ivana Beljo	1.8. Course code in ISVU	129837			
1.2. Course title	MATHEMATICS	1.9. Course code in MOZVAG				
1.3. Assistants and/or associates	Luca Olivari	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(45+45+0+0)			
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	 1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%) 	1 st , course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	2			
1.6. Year of study	1 st	1.13. Modernization	Yes			
1.7. Credit score (ECTS)	8	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□			
2. COURSE DESCRIPTIO	ON					
2.1. Course objectives	· · · ·	retical knowledge: of the analytical way of thinking, and the logical way of co ots of mathematics and prepare them for their practical app	c			
2.2. Terms of course entry and required competences	4 year secondary education completed; c	ualification 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. LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.					



	LO8: 1	Γo solve problems in traffic by us	ing analyti	ical and / or graphical methods.			
2.4. Expected learning	Lear	ning outcomes accroding to the H	3loom`s ta	xonomy: (up to two verbs per LO)		Level of LO: 1- remember 2- understa 3- applicate 4-analysis, 5-evaluatio 6-synthesis	nding, ion, n,
outcomes on the course level		o perform fundamental operation occurry out fundamental operatio		ices and vectors		4	
		To propose a method and solve system				5,4	
		o conduct basic analysis of funct		A		4	
	5. To derive the functions of one variable.						
	б. Т	4					
	7. T	4,5					
	Cons	tructive allignement					
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluatio	on	Time
2.5. Course content according to detailed curriculum schedule	1.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		3 h
	2.	Sets. Sets of numbers.	1, 4, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or writter students know how to distinguish basic conc assemblies and p operations on sets.	enumerate and	6 h



3.	Matrices and determinants. The inverse matrix. Systems of linear equations.	2, 3, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to to define matrices, perform basic computational operations with matrices, calculate the determinant and inverse of a matrix, recommend a method for solving a system of linear equations and solve a system and apply it to problems.	9 h
4.	Vectors. Scalar, vector and mixed vector product.	2, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to define vectors, perform basic computational operations with vectors.	9 h
5.	Revision for colloquium. Colloquium. Functions	1, 2, 3, 4, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	-	40 h
6.	Functions – basic terms, Elementary functions, Composition of the functions. Inverse function.	1, 4, 7	Write the colloquium.	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.	40 h
7.	Limits of sequences. Limit of the function. Continuous functions.	4, 5, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to to calculate limits.	9 h
8.	Derivatives.	1, 4, 5, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to solve derivatives.	6 h
9.	Basic analysis of functions of one variable.	1, 4, 5, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to to examine the basic properties of a function, to analyze the solutions obtained and to	6 h



				draw a graph of the function based on them, and to comment on the obtained solutions.	
10.	Revision for colloquium. Colloquium. Integrals.	1, 4, 5, 6, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	-	40 h
11.	Indefinite Integrals. Definite Integrals.	6, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to to solve an indefinite and definite integral.	6 h
12.	Substitution Rule and Integration By Parts	6, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to solve an indefinite integral using the method of substitution and partial integration.	6 h
13.	Applications of Integration.	4, 6, 7	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to analyze and sketch a graph of functions, and solve a definite integral.	6 h
14.	Applications of Integration. Revision for colloquium. Colloquium.	6, 7	Write the colloquium.	-	40 h
15.	Revision		Listen to lectures and read literature.	-	40 h

3. EVALUATION OF STUDENTS' WORK

	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance
	of at least 70%. Part-time students are required to attend classes at least 50%. All students are required to carry calculator and formulae list.
2.1 Studente' obligations	Students who have during the course achieved:
3.1. Students` obligations	• from 0 - 24,9% ECTS credits- are rated F (unsuccessful) and cannot obtain ECTS credits, and must re-enroll in the next academic year;
	• from 25 - 49,9% - are assessed by FX (insufficient) and must pass the written exam (test). Written exam (test) can be held in a regular or
	extraordinary exam period;



	• more than 50% - students have the right to take the final exam.									
	Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and through three colloquia); b) by passing the exam (written and oral part of the exam).									
3.2. Monitoring student	Attendance	1	Writt	ten exam	4 (without colloquia)	Project				
work (enter the share of	Experimental work		Rese	arch		Practical work				
ECTS credits for each activity so that the total number of ECTS points	Essay		Repo	ort		Continuous examination	1			
corresponds to the credit score of the course)	Colloquium	4 (without written exam)	¹ Semi	inar paper		Other				
score of the course)	Class activity	1	Oral	exam	1	Other				
3.3. Student workload4. GRADING SYSTEM	U	n all bases for 1 EC lasses and exercises olloquia or exams th	s 90 hours			estimated as:				
4.1. Grading seminar papers										
	Unsatis	factory		Satisfactory		Above average				
4.2. Grading colloquia/ written and oral exam deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the		without knowledg explains	es the basic c difficulty im e, understands the terms an with examples.	parts new the material,	evaluation. Observes the principles, accurately and thoroughly explains the content of the material and logically					
4.3. Final grade according	Active course	70-74,9% of atte	endance	75-79,9% of a	ttendance	80-89,9% of attendance	90-100% of attendance			
to evaluation elements	attendance	2 points		5 poir	its	10 points	20 points			



		2	3	4		5				
	Colloquia/ Written exam	50-64,9%	65-79,9%	80-89,9%	6	90-100%				
	winden exam	25 points	30 points	35 point	s	40 points				
	Oral exam	2		5		5				
	Orai exam	25 points	30 points	35 point	s	40 points				
	e	acquired knowledge, skills and es (teaching + final exam)	Numerical gra	de	ECTS	grade				
4.3. Final grade according		90-100%	5 (excellent)		А					
to absolute division		80 - 89,9%	4 (very good)	В					
		65 – 79,9%	3 (good)		C					
		60 - 64,9%	2 (satisfactory	,	D					
		50 - 59,9%	2 (satisfactory	2 (satisfactory)		E				
5. ADDITIONAL COURS	E INFORMATION									
5.1. Compulsory literature (available in the library		Title			Number of copies in the library	Availability via other media				
and via other media)	Mrušić, S., Matematika I udžbenik s riješenim primjerima, Zagreb, 2007. (selected chapters) 7									
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Babić Z., Tomić Pla Babić Z., Tomić N., Harshbarger R.J., Re 2004. (selected chap	Teaching material and exercises Babić Z., Tomić Plazibat N., Poslovna matematika, Ekonomski fakultet Split, 2003 (selected chapters) Babić Z., Tomić N., Aljinović Z., Matematika za ekonomiste, Ekonomski fakultet Split, 2004 (selected chapters) Harshbarger R.J., Reynolds J.J., Mathematical Applications for the Management, Life and Social Sciences, Houghton Mifflin Company, Boston, 2004. (selected chapters)								
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.									



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



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

1. GENERAL INFORM	IATION		
1.1. Course lecturer	Josip Paić	1.8. Course code in ISVU	187585
1.2 Course title	PHYSICS	1.9. Course code in MOZVAG	
1.3. Assistants and/or associates	Luka Olivari	Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+30+0+0)
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on- line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4
1.6. Year of study	1 st	1.13. Modernization	Yes
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %
2. COURSE DESCRIP	TION		
2.1. Course objectives	The aim of the course is to master the physical of the transport profession rests.	laws necessary for mastering and understanding the courses of	on which the technical knowledge
2.2. Terms of course entry and required competences	Four-year secondary education completed; qual	ification level 4.2 according to the CROQF.	
2.3. Learning outcomes on the study programme level	LO4: To apply knowledge from the field of natu LO8: To solve problems in traffic by using anal	ural and technical sciences to problems in road traffic ytical and / or graphical methods	
2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	Learning outcomes by Bloom: (maximum 2 w	Level of LO: 1 - memory, 2 - understanding, 3 - application, 4 - analysis,	

Stranica **1** od **10**



						5 - evaluation,	
						6 – synthesis.	
	1	. Describe the basic concepts in				2	
	2	. Recognize physical quantities	2				
	3	1 7 7 7		system of vectors, and divide the vectors int	•	3	
	4	. Compare the basic laws of mot example.	tion of a p	article or solid body and identify the type o	f motion in a given	4, 4	
	5	. Distinguish Newton's laws, equipation, and choose appropriate		conditions, laws of conservation of mechan solve a given problem.	ical energy and amount of	4, 5	
	6	2	2	or a graphical representation of the path the conversion of various forms of energy int	· • •	4	
	7	. Identify the causes of motion o	f a particl	e or solid, and evaluate the effects of the for	rce on the particle or solid.	4, 5	
	8	e	-	and laws of fluid mechanics, such as hydrost nd Bernoulli's equation, and choose appropr	·	4, 5	
	9	. Apply physical laws adopted to	o solve co	mplex problems		6	
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement					
			LO of				
	No	Thematic unit	the course	Content/teaching methods	Evaluation	l	Time
	1.	Introductory presentation (introducing students to the content and obligations of the course). Introduction to mechanical engineering, determining the shape and	1, 2, 3, 4	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 page of the course. The lecture is performed with prepared presentations, recorded	acceleration. Distinguish mean and current values	of worry and alyze body oquium or the ney define and	4 h



			· · · · · · · · · · · · · · · · · · ·		
	dimensions of machine parts,		experiments and independently solving		
	selection of materials		simple examples. The exercises	quantities and units of measure.	
			demonstrate how to solve tasks.		
			Independent task solving.		
	Free fall. Vertical shot. Curved		The lecture is performed with prepared	Describe the free fall. Investigate and	
	track motion (horizontal and		presentations, recorded experiments and	describe complex movements. Analyze	
	oblique shot, circular motion).		independently solving simple examples.	circular motion as uniformly accelerated	
	_	1 4 5	The exercises demonstrate how to solve	motion. At the colloquium or the written	
2.		1, 4, 5	tasks. Independent task solving.	and oral exam they know: to define,	4 h
			·	explain, identify and compare types of	
				motion; solve numerical tasks from the	
				specified area.	
	Forces and laws of motion		The lecture is performed with prepared	Describe the interaction of body and	
	(force and mass, Newton's		presentations, recorded experiments and	types of forces. Draw a force diagram.	
	laws of mechanics, body		independently solving simple examples.	Add up force vectors. Apply Newton's	
	weight and density). The		The exercises demonstrate how to solve	Laws. Relate force impulse and amount	
	amount of motion and the law			÷	
			tasks. Independent task solving.	of motion. Apply the law of conservation	
	of conservation of the amount	1, 3, 4,		of the amount of motion. At the	
3.	of motion.	5,6		colloquium or the written and oral exam	4 h
		- , -		they know: to define, explain and	
				distinguish Newton's laws and the laws	
				of conservation of the amount of motion;	
				choose physical laws to solve a given	
				problem, solve numerical problems from	
				the specified area.	
	Friction. Centripetal force.		The lecture is performed with prepared	Relate friction to centripetal force and	
	Elastic force. Motion of a rigid		presentations, recorded experiments and	elastic force. Explain the concept of	
4.	body (rigid body, force	1, 3, 4,	independently solving simple examples.	centripetal force and centripetal	4 h
	moment, rotation of a rigid	5,6	The exercises demonstrate how to solve	acceleration. Distinguish the motion of a	
			tasks. Independent task solving.	material point and a rigid body and make	
			usks. independent task solving.	material point and a fight body and make	



1						
		body about a fixed axis, moment of inertia)			an analogy.At the colloquium or the written and oral exam they can define and explain friction, analyze the influence of	
					friction; identify the causes and type of motion, evaluate the consequences of the action of forces and moments; solve numerical tasks from the specified area.	
	5.	Rotation work and power. Rotational kinetic energy. Moment of amount of motion. An analogy between the laws of translation and rotation.	1, 4, 5, 7	The lecture is performed with prepared presentations, recorded experiments and independently solving simple examples. The exercises demonstrate how to solve tasks. Independent task solving.	Relate work and power to work and power when rotating. Solve and comment on examples. At the colloquium or the written and oral exam they can define and explain work, strength, energy and other phenomena during rotation; solve numerical tasks from the specified area.	4 h
	6.	Statics (force action on a rigid body, equilibrium of a rigid body affected by more forces). The action of parallel forces on a rigid body. The emphasis.	1, 3, 5, 9	The lecture is performed with prepared presentations, recorded experiments and independently solving simple examples The exercises demonstrate how to solve tasks. Independent task solving.	Relate the action of force to a material point and to a rigid body. Apply and analyze equilibrium equations for a solid body, written and oral examination, evaluate the consequences of the action of a system of forces and / or static moment using graphical and analytical methods; solve numerical tasks from the given area.	4 h
	7.	A pair of forces. Solid-state equilibrium conditions (examples). Types of balance. Motion relativity and inertial forces (the principle of relativity, inertial forces in a	1, 3, 5	The lecture is performed with prepared presentations, recorded experiments and independently solving simple examples. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for the colloquium.	Determine the equilibrium conditions of a rigid body using examples. Apply and analyze equilibrium equations for a solid body, written and oral examination, evaluate the consequences of the action of a system of forces and / or static moment using graphical and analytical	4 h



1						
		straight and circularly			methods; solve numerical tasks from the	
		accelerated system).			given area.	
		Work and force (work of		The lecture is performed with prepared	Link energy change and work done. Link	
		constant force, work of		presentations, recorded experiments and	the concept of work and strength. At the	
		variable force).	1, 6, 7,	independently solving simple examples.	colloquium or the written and oral exam	
	8.		1, 0, 7, 9	The exercises demonstrate how to solve	they can define and explain work and	4 h
			7	tasks. Independent task solving.	strength, identify the type of motion of a	
					particle or solid, solve numerical	
					problems in the field of kinematics.	
		The work of the resultant		The lecture is performed with prepared	Describe examples of conversion of	
		force. Energy (kinetic energy,		presentations, recorded experiments and	different forms of energy. Apply the law	
		potential energy, energy		independently solving simple examples.	of conservation of energy. Express	
		conservation law.		The exercises demonstrate how to solve	utility. At the colloquium or the written	
				tasks. Independent task solving.	and oral exam they can define and	
	9.		1, 6, 7		explain the basic terms in the specified	4 h
					area, identify the type of motion of a	
					particle or solid body; evaluate the action	
					of force; analyze energy conversions;	
					solve numerical tasks in the field of	
					kinematics.	
		Collisions. Mechanical tools		The lecture is performed with prepared	Apply the law of conservation of motion	
		and machines (mechanical		presentations, recorded experiments and	and the law of conservation of energy. At	
		effect of the machine, slope,		independently solving simple examples.	the colloquium or the written and oral	
	10.	wedge, wheels and pulleys,	1, 5, 6	The exercises demonstrate how to solve	exam they can define, explain and	4 h
		machine efficiency).		tasks. Independent task solving.	distinguish the terms and physical laws	
					from the specified area; solve numerical	
					tasks.	
		Gravity (Newton's law of		The lecture is performed with prepared	Describe the historical development of	
	11.	general gravity). The work of	1, 5	presentations, recorded experiments and	the idea of the motion of the celestial	4 h
		gravitational force and		independently solving simple examples.	body and the variability of scientific	



		gravitational potential energy.		The exercises demonstrate how to solve	ideas. At the colloquium or the written	
		Gravitational phenomena		tasks. Independent task solving.	and oral exam they can define, explain	
		around the Earth.			and distinguish the terms and physical	
					laws from the specified area; solve	
					numerical tasks.	
-		Gravity in the solar system.		The lecture is performed with prepared	Describe the motions and interactions of	
		Gravity in space. Fluid		presentations, recorded experiments and	the body in the solar system. Explain the	
		v 1				
		mechanics (aggregate states		independently solving simple examples. The exercises demonstrate how to solve	expression for the first and second cosmic velocities and relate them to the	
		and properties of substances,				
	10	fluids at rest)	1 5 0	tasks. Independent task solving.	weightless state. Analyze examples	
	12.		1, 5, 8		involving the application of Newton's	4 h
					law of gravity. At the colloquium or the	
					written and oral exam they can define,	
					explain and distinguish basic concepts in	
					fluid mechanics; solve numerical	
					problems in the field of fluid mechanics.	
		The buoyancy. Archimedes'		The lecture is performed with prepared	Describe basic terms in hydrostatics.	
		Law. Fluids in motion (fluid		presentations, recorded experiments and	Apply expressions to examples. At the	
		flow and velocity, continuity		independently solving simple examples.	colloquium or the written and oral exam	
	13.	equation)	1, 8, 9	The exercises demonstrate how to solve	they can define, explain and distinguish	4 h
				tasks. Independent task solving.	basic concepts in fluid mechanics; solve	
					numerical problems in the field of fluid	
					mechanics.	
		Bernoulli equation		The lecture is performed with prepared	Describe basic concepts in	
		(applications of Bernoulli		presentations, recorded experiments and	hydrodynamics. Apply Bernoulli's	
		equation). Force in real liquids		independently solving simple examples.	equation to examples. At the colloquium	
	14.	(shape of free surface of fluid,	1, 8, 9	The exercises demonstrate how to solve	or the written and oral exam they can	4 h
		dissipative forces in liquids)		tasks. Independent task solving.	define, explain and distinguish basic	
				Individual preparation for the	concepts in fluid mechanics; solve	
				colloquium.	•	
				Å		



		ments of evaluation		Bad			Satisfying		41	ove average	
4. FORMATION OF STU	J DEN 'I	Г GRADE									
	3. Oral exam individual preparation30					30					
		2. Colloquiums and written exam individual preparation					60				
5.5. Shuuelli Wolk-Ioau		1. Attending classes					60				
3.3. Student work-load		Obligation				Hours (estimated)					
	hours), preparation of seminar work and presentation (30 hours).										
	Stude	ent workload on all ba	ses is 1 EC	TS credit	for 30 hours of	work per	r semester and is e	estimated as	going to fieldv	ork or study tri	ips (30
course credit value)	Teac	hing activities			The oral part of	exam	1	(other)			
credits corresponds to the		-	exam)					Study	trips		
total number of ECTS	Colle	oquiums	2 (without	written	Seminar paper			Field v	vorks or		
each activity so that the	Essa	у			Report			Contin	uous check		
share of ECTS credits for	Expe	erimental work			Research			Practic	al work		
monitoring (enter the							colloquiums)				
3.2. Student work	Atter	nding classes	2		Written exam		2 (without	Project	t		
-	the c	ourse in two ways: a) d	luring the co	ourse, by	taking colloquiur	ns and or	ral part of the exam	n; b) passing	the written and	oral part of the	exam.
3.1. Student obligations		red to attend classes at		•							
	In ac	cordance with the Rul	ebook on St	tudy and	the Rulebook on	Assessn	nent and Evaluation	on of Student	Performance:	Full-time stude	nts are
3. EVALUATION OF	STUD	ENT WOR									
		consideration.			They prepare in	0	• •		solve numerica fluid mechanic	•	
	15.	independently solving similar		experiments and distinguing		basic conce	pts in fluid	4 h			
				The lecture i			• •		quium or the w		
								mechanics.			
								-	problems in the	field of fluid	



1				
	Physical quantities and	Nonstandard physical units have	Nonstandard units have been	Nonstandard units have been
	their units of measurement	not been converted to basic or have	converted to basic units with minor	converted to base units without
		been converted wrong.	errors in calculation.	error.
	Structure, traceability,	The task is not properly structured,	The task is satisfactorily structured,	The task is clearly structured,
	legibility and orderliness	it is not traceable, and it is not	traceable and readable. The diagrams	complete, very neat and legible. The
	of the procedure, diagrams	readable. Diagrams and sketches	and sketches are meaningful, neat	diagrams are completely accurate,
	and sketches	are non-existent, inaccurate,	with minor errors.	clear and very neat.
4.1. Evaluation of written		messy, unclear and ambiguous.		
exam	Application of appropriate	Uses expressions that do not	Uses expressions that describe the	Uses expressions that describe the
	equation (formulas) and	describe the problem specified, or	problem in question, accurately	problem in question, accurately
	the final result.	incorrectly expresses the physical	derives physical quantities from the	derives physical quantities from
		unit from the expression. Numeric	expression, incorporates numerical	expressions, lists units of measure
		values are not included in the	values into the expression with	without errors, the final result is
		expression. The end result is	smaller numbers, the final result has	completely accurate.
		incorrect.	smaller deviations from the exact	
			result.	
	Knowledge and	It responds by memory, without a	It reproduces the basic concepts and	Knowledge is at the level of
	expression.	deeper understanding. Does not	without difficulty imparts new	analysis, synthesis and evaluation.
		know or apply basic terms and	knowledge, understands the material,	Observes the principles of physical
		concepts. Does not know how to	explains the terms and concepts	laws, accurately and thoroughly
		apply or explain the contents of the	supports them with examples. Knows	explains the content of the material,
4.2. Evaluation of oral		course with examples.	the expert terminology.	and logically connects and explains
exam				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	3		4	5	
4.3. Forming the final	Written exam	50-64,9%	65-79,9%	80-8	39,9%	90-100%	
grade according to the		50-64,9 bodova	65-79,9 bodova	80-89,9) bodova	90-100 bodova	
evaluation elements	The oral part of exem	2	3		4	5	
		50-64,9 bodova	65-79,9 bodova	80-89,9) bodova	90-100 bodova	
	Percentage of acquired competencies (teac	•	Numerical grade		ECTS grade		
4.4. Formation of the final	90 – 1	100%	5 (excellent)			А	
grade based on the	80 - 8	9,9%	4 (very good)		В		
absolute distribution	65 - 79,9%		3 (good)		С		
	60 - 6	64,9%	2 (sufficient)		D		
	50-5	9,9%	2 (sufficient)			Ε	
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE					
5.1. Compulsory literature (available in the library and via other media)Title					Number of opies in the library	Availability via other media	
	Paić Josip, FIZIKA udžbenik, Veleučilište u Šibeniku, Šibenik, 2017.				-	on-line (e-learning)	
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Polytechnic for t 2. Kulišić, P.: Meh 3. Kulišić, P.: Rijes 4. Mikuličić, Varić	exercises on the e-learning sys Mechanical Engineering. ijiga, Zagreb, 2005. opline, Školska knjiga, Zagrel a zadataka 1-4, Školska knjig	o, 2005	-	on-line (e-learning) city library city library city library		
	20125. Halliday, Resnick, Walker: Fundamentals of phisics, Sixth Edition				-	city library	

5.3. Quality assurance methods that ensure the formation for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about



acquisition of knowledge,	their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey,
skills and competences	monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and
	Alumni association.
	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes
5.4. Informing about the	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
course and contacting the	can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted
course lecturer	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).



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

1. GENERAL INFORM	IATION					
1.1. Course lecturer	Luka Olivari	1.8. Course code in ISVU	129836			
1.2. Course title	GRAPHIC COMMUNICATIONS	1.9. Course code in MOZVAG				
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+30+0+0)			
 1.4. Study programme (specialist, undergraduate, graduate) 	Undergraduate professional study of traffic	1 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		Yes			
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□			
2. COURSE DESCRIP	TION					
2.1. Course objectives	• Gain the knowledge and skills necessary to read, u	chnical drawings, orthogonal projections, spatial rendering and	cross sections.			
2.2. Terms of course entry and required competences	Four-year secondary education completed; 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 LO7: To apply computer tools for analysis and comparison of data, and suggest an optimal solution in traffic process LO8: To solve problems in traffic by using analytical and / or graphical methods					
	Learning outcomes by Bloom: (maximum 2 werbs for LO) Level of LO: 1 - memory,					



100							
2.4. Expected learning			2 - understanding,				
outcomes on the course			3 - application,				
level (4-10 learning			4 - analysis,				
outcomes)						5 - evaluation,	
			6-synthesis.				
	1	. Describe the basic concepts in	graphical con	mmunication		1, 2	
	2	. Draw orthogonal projections be	ased on the g	iven isometric view		4	
	3	. Design an isometric representa	tion of the bo	ody based on the given orthogonal project	ctions	4	
	4	\$ 1		on and apply them to the technical drawi		4, 3	
	5	. Draw a technical drawing in th			6	4	
2.5. Course content	-					· · · · · · · · · · · · · · · · · · ·	
according to detailed	Cons	tructive allignement					
curriculum schedule	0011						
			LO of the				
	No	Thematic unit	course	Content/teaching methods	Evalu	ation	Time
		Introductory presentation		Listen to a lecture. By working	At the colloquium or	the written and oral	4 h
		(introducing students to the		independently on a computer, they	exam they define ar	nd explain the basic	
		content and obligations of the		become acquainted with the course	concepts.	•	
	1.	course). The importance of	1	content, obligations, literature and	•		
		graphical communications.		documents on the e-learning course			
		Short history and development		page.			
		of graphic communications					
		Technical letter, line types and		Listen to a lecture and read literature.	At the colloquium or	the written and oral	
		widths, paper formats, scale		The exercises demonstrate the rules of	exam: define and		
	2.	and components of the	1,4	technical display. Independent	concepts; distinguisl	•	4 h
	-	technical drawing.	*	exercise.	of the technical layor		
		6			the technical drawing	** •	
		Fundamentals of geometric		Listen to a lecture and read literature.	At the colloquium or		-
	3.	structures.	1, 2, 4	The exercises demonstrate the rules of	exam: define and		4 h
				The enteroises demonstrate the fulles of	chaine define und	enplain the Suble	<u> </u>



 -			•		
			technical presentation. Independent		
			exercise.	based on a given isometric view;	
				distinguish between the rules of the	
				technical layout and apply them to the	
				technical drawing;	
	Technical spatial sketching		Listen to a lecture and read literature.	At the colloquium or the written and oral	
	and construction. Orthogonal		The exercises demonstrate the rules of	exam: define and explain the basic	
	projections. European and	1 0 0	technical presentation. Independent	concepts; draw orthogonal projections	41
4.	American display mode.	1, 2, 3	exercise.	based on a given isometric view; form an	4 h
				isometric representation of the body	
				based on given orthogonal projections;	
	Display rules in technical		Listen to a lecture and read literature.	At the colloquium or the written and oral	
	drawings. Applying measures.		The exercises demonstrate the rules of	exam: define and explain the basic	
			technical presentation. Independent	concepts; draw orthogonal projections	
5.		1, 2, 4	exercise.	based on a given isometric view;	4 h
		1, 2, 1		distinguish between the rules of the	• ••
				technical layout and apply them to the	
				technical drawing;	
	Markings on the technical		Listen to a lecture and read literature.	6.	
	-			At the colloquium or the written and oral	
	drawing (marks of machining,		The exercises demonstrate the rules of	exam: define and explain the basic	
	roughness, tolerances of	1.0.4	technical presentation. Independent	concepts; draw orthogonal projections	
6.	dimensions and shape)	1, 2, 4	exercise.	based on a given isometric view;	4 h
				distinguish between the rules of the	
				technical layout and apply them to the	
				technical drawing;	
	Cross sections and rules for		Listen to a lecture and read literature.	At the colloquium or the written and oral	
	screwing.		The exercises demonstrate the rules of	exam: define and explain the basic	
7.		1, 2, 4	technical presentation. Independent	concepts; draw orthogonal projections	4 h
			exercise.	based on a given isometric view;	
				distinguish between the rules of the	
I		1		~	



1.25						
					technical layout and apply them to the technical drawing;	
:	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 between the rules of the technical view and apply them to the technical drawing.	4 h
	9.	Introduction to Computer- Aided Design. CAD / CAM systems. Software packages and scope.	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium or the written and oral exam: define and explain the basic concepts; distinguish between the rules of the technical layout and apply them to the technical drawing; draw a technical drawing in an AutoCAD computer program.	4 h
1	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
1	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



1						
		AutoCAD, commands for		Listen to a lecture and read literature.	At the colloquium or the written and oral	
		applying measures, creating a		The exercises demonstrate the rules of	exam: define and explain the basic	
		template, printing drawings.		technical presentation. Independent	concepts; distinguish between the rules	
	12.		1, 4, 5	exercise.	of the technical layout and apply them to	4 h
					the technical drawing; draw a technical	
					drawing in an AutoCAD computer	
					program.	
		AutoCAD, creation and		Listen to a lecture and read literature.	At the colloquium or the written and oral	
		manipulation of objects.		The exercises demonstrate the rules of	exam: define and explain the basic	
				technical presentation. Independent	concepts; distinguish between the rules	
	13.		1, 4, 5	exercise.	of the technical layout and apply them to	4 h
					the technical drawing; draw a technical	
					drawing in an AutoCAD computer	
					program.	
		AutoCAD, self-made		Listen to a lecture and read literature.	At the colloquium or the written and oral	
		workshop drawing.		The exercises demonstrate the rules of	exam: define and explain the basic	
				technical presentation. Independent	concepts; distinguish between the rules	
	14.		1, 4, 5	exercise.	of the technical layout and apply them to	4 h
					the technical drawing; draw a technical	
					drawing in an AutoCAD computer	
					program.	
		Final consideration, repetition		Listen to a lecture and read literature.	-	
	15.	and preparation for the exam.	-	They prepare individually for the		4 h
		and propulation for the exam.		exam.		
3. EVALUATION OF S	TUDI	ENT WORK				
	In acc	cordance with the Rulebook on S	tudy and the	e Rulebook on Assessment and Evaluation	on of Student Performance: Full-time stude	nts are



2.2.6.1.4.1	Attending classes	2	Written exam	`	vithout	Project	
3.2. Student work				colle	oquiums)		
monitoring (enter the	Experimental work		Research			Practical work	
share of ECTS credits for each activity so that the	Essay		Report			Continuous check	
total number of ECTS	Colloquiums	2 (without written	Seminar paper			Field works or	
credits corresponds to the		exam)				Study trips	
course credit value)	Teaching activities		The oral part of	1		(other)	
			exam				
	Student workload on all ba	ases is 1 ECTS credit for	or 30 hours of work p	er sem	nester and is estimated as going to fieldwork or study trips (30		
	hours), preparation of semi	inar work and presentation	on (30 hours).				
	Obligation				Hours (estimated)		
3.3. Student work-load	1. Attending classes	5			60		
	2. Colloquiums and	written exam individual	preparation (drawing)	30		
	3. Colloquiums and	.D)	30				
	4. Oral exam individ	dual preparation			30		

4. FORMATION OF STUDENT GRADE

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

Stranica 6 od 9



				T			0 11 1		
				computer progra	m with a little	e help	2	v a technical drawing in a	
				and suggestions.			computer		
	Knowledge and	1 5 57		It reproduces the	-		-		
	expression.	deeper understanding. D		without difficu	•		-	synthesis and evaluation.	
		know or apply basic te		knowledge, unde				the principles of physical	
		concepts. Does not know		explains the to		-		curately and thoroughly	
		apply or explain the conter	its of the	supports them w	•	Luows	-	he content of the material,	
4.2. Evaluation of oral		course with examples.		the expert termin	ology.		Ũ	ally connects and explains and concepts and supports	
exam								examples. Finds solutions	
								e not originally given. It	
								orrelations with related	
								Fluent in professional	
							terminology.		
	Colloquiums/	2		3	4			5	
4.3. Forming the final grade according to the	Written exam	10-12 points		13-15 points	16-17 points		S	18-20 points	
evaluation elements	Colloquiums/	2		3	4			5	
	AutoCAD	10-12 points		13-15 points	16-17 points		S	18-20 points	
	The oral part of exem	2		3		4		5	
		10-12 points		13-15 points	16-1	7 point	S	18-20 points	
	Percentage of acquired	U	•	Numerical grade			F	CTS grade	
	competencies (teac						L	CID Sidde	
4.4. Formation of the final	90 - 1	100%		5 (excellent)				А	
grade based on the absolute distribution	80 - 8	39,9%		4 (very good)				В	
absolute distribution	65 - 7	79,9%		3 (good)			С		
	60 - 6	54,9%		2 (sufficient)				D	



	50-59,9%	2 (sufficient)		E			
5. ADDITIONAL INFOR	EMATION ABOUT COURSE						
5.1. Compulsory literature (available in the library	Title		Number of copies in the library	Availability via other media			
and via other media)	1. Koludrović, Ć.: Tehničko crtanje u slici s 2009.	-	City library City library				
5.2. Additional literature (at the moment of changes and/or amended of study programme)	 Teaching materials from the lectures and exe Polytechnic for the course Opalić, M., Kljajin, M., Sebastijanović, Čakovec/Slavonski Brod, 2007. Klem N., Koški Ž., Otković I.: Tehničko Sveučilišta u Osijeku, Osijek 2006. Galeta T., Glazina V., Kljajin M.: AutoCAD fakultet u Slavonskom brodu Sveučilišta u O Herold Z.: Računalna i inženjerska grafika Sveučilišta u Zagrebu, Zagreb 2003. Budimir D.: Vježbe iz AutoCAD-a, Fakult 	 Opalić, M., Kljajin, M., Sebastijanović, S.: Tehničko crtanje, Zrinski d.d., Čakovec/Slavonski Brod, 2007. Klem N., Koški Ž., Otković I.: Tehničko crtanje i CAD, Građevinski fakultet Sveučilišta u Osijeku, Osijek 2006. Galeta T., Glazina V., Kljajin M.: AutoCAD Osnove za tehničko crtanje, Strojarski fakultet u Slavonskom brodu Sveučilišta u Osijeku, Slavonski brod 2005. Herold Z.: Računalna i inženjerska grafika, Fakultet strojarstva i brodogradnje Sveučilišta u Zagrebu, Zagreb 2003. 					
 5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences 5.4. Informing about the course and contacting the course lecturer 	Zagrebu, Zagreb 2010. The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. If the control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. If the control of students activity during classes and provided information on students` progress through short colloquiums and the formation for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Stude nonitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employment association.						



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).



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

1. GENERAL INFOR	RMATION				
1.1. Course lecturer	Jerko Acalin	1.7. Credit score (ECTS)	5		
1.2. Course title	BASICS OF COMPUTER SCIENCE	1.8. Forms of teaching (number of hours Lecturing+Practical exercises + Seminars + e learning)	15L+45P		
1.3. Assistants and/or associates	no	1.9. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1.level- materials on-line, 0%		
1.4. Study programme(specialist,undergraduate,graduate)	Undergraduate professional study of traffic	1.10. Number of course revisions	2		
1.5. Course status (obligatory, optional)	Obligatory	1.11. Modernization	Yes		
1.6. Year of study	1 st	1.12. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□		
2. COURSE DESCRIPT	TION				
2.1. Course objectives	÷	nformation systems, as well as to know how to apply inf to enable direct communication with technical staff or hnologies or renewal of existing IT structures.			
2.2. Terms of course entry and required competences	Four-year high school education completed; having a d	ualification at level 4.2.			
2.3. Learning outcomes on the study programme level	To apply knowledge from the field of natural and techn To analyze and present relevant facts from the field of To apply computer tools for analysis and comparison of To solve problems in traffic by using analytical and / of	traffic needed to reach conclusions of data, and to suggest an optimal solution in traffic proc	ess		



2.4. Expected learning outcomes on the course level	- It is o	t is expected that students will be able to: to use the operating system (MS Windows) use text editing software, use a spreadsheet calculator use a presentation application use the Internet and e-mail be familiar with the concepts of IS and IT, the basic structure of computers and network systems Know how to deal with IS security issues						
	Cons	structive allignement Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time		
2.5. Course content according to detailed curriculum schedule	1.	Introduction to the course and detailed curriculum. Exercises: Introducing eLearning and Webmail	-	They listen to a lecture. In the course of the seminar, they are introduced to the course content and documents on the e-learning page of the course by working independently on a computer.	-	2 h		
	2.	Informatics and Computing Exercises: MS Windows basics work	1	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	At the midterm exam or the written and oral exam, they know how to use the MS Windows operating system	6 h		
	3.	Historical Computer Development Exercises: MS Windows file management	1	They listen to a lecture and read literature. They learn about the basics of working in MS Windows Explorer on a computer	At the midterm exam or the written and oral exam, you can use MS Windows Explorer.	6 h		



4.	Information Society Exercises: MS Word basic introduction	2	They listen to a lecture and read literature. They work on a computer	At the colloquium or the written and oral exam they can use MS Word	6 h
5.	Computer networks and the Internet Exercises: MS Word work with text editing	2	They listen to a lecture and read literature. They work on a computer.	At the colloquium or the written and oral exam they can edit text using MS Word	6 h
6.	S planning and design Exercises: MS Word - creating a template	3	They listen to a lecture and read literature. They work on a computer	At the midterm exam or the written and oral exam they can create a template using MS Word	6 h
7.	Information systems and technologies Exercises: MS Word - an example of a seminar paper	3	They listen to a lecture and read literature. They work on a computer	At the midterm exam or the written and oral exam they can create a seminar paper using MS Word.	6 h
8.	Preparation for the colloquium Colloquium 1.	1, 2, 3,4	They listen to a lecture and read literature. They work on a computer	Colloquiums work on a computer and send the result via web-mail	36 h
9.	Von Neuman's computer model Exercises: MS Excel - spreadsheet design	4	They listen to a lecture and read literature. They work on a computer	MS Excel.	6 h
10.	IS security Exercises: MS Excel - application of basic formulas	4,5	They listen to a lecture and read literature. They work on a computer	exam or the written and oral exam.	6 h
11.	Exercises: MS Excel - Charts	4,5	They listen to a lecture and read literature. They work on a computer	in MS Excel at the midterm or the written and oral exam.	6 h
12.	MS Excel - Creating a Template	6	They listen to a lecture and read literature. They work on a computer	They can create a template in MS Excel at the midterm or the written and oral exam.	6 h



1										
		Power Point - Creatin	•		They listen to a			dterm or the written a		
	13.	presentation using con	mpleted	6	read literature.	They work		kam they can make a presentation		6 h
		forms			on a computer		•	completed forms.		
	Power Point - Create a presentation by editing the slid matrixConcluding Considerations / Concluding Considerations /		g the slide	6	They listen to a read literature. on a computer	They work	oral exa presentati slide matr	blloquium or the writt am they can ma ion by creating thei rix	ike a	6 h
					They listen to a			· · · · · ·		
	15.	Repetition and Prepar		4,5,6	prepare individ	•		oquium is done on a computer	-	40 h
		Colloquium and or Ex	kam	7- 7-	exam. They	take a	and the re	esult is sent via web-m	ail	
		Colloquium 2.			colloquium on a	_				
	□ seminars and workshops □ practical exercises			multimedia and network			2.7. Comments:			
7.6 Teaching methods							Exercises are performed independently on computers in			
				mentoring			an information cabinet, with instructions and assistance			
	□ mixed e-learning □ field teaching			other			from the exercisers, and using e-learning scripts.			cripts.
		nts who have achieved	during the cou	rse:						
		n 0 - 24.9% of ECTS cr	•		ccessful) and canr	ot earn ECT	S credits, an	nd must re-enroll in the	e next aca	demic year;
	• From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular									
	or extraordinary exam period;							-		
2.8. Students`	• More	e than 50% - students h	ave the right to	take the f	inal exam.					
oligations	Studer	nts can take the final ex	am in the cou	rse in two v	ways: a) during th	e course of te	eaching thro	ough continuous monit	oring of	students (active
	partici	pation in classes and t	wo exams); b)	during cla	ass (active particip	pation in clas	s and passi	ng exams (written and	i oral par	t of the exam).
	Studer	nts are required to carry	y a USB mem	ory stick a	nd their AAI @ E	duHr passwo	ord in class	and practice. The requ	uirement	for signing and
	passin	g the exam is for full-ti	me students th	e presence	of 70% in the clas	ses and 80%	in the exerc	ises. For an extraordin	ary 70%	on exercise. (or
	at leas	t one passing midterm	=> 50%)							
2.9. Monitoring student	Attend	lance 1		Writ	tten exam	3 (without		Project		
work (enter the share of	1 mon			,,,11	con onum	colloquia)	a)			



ECTS credits for each	Experimental work		Research		Practical work		
activity so that the total number of ECTS points corresponds to the	Essay		Report		Continuous examination		
credit score of the	Colloquium	3 (without writing)	Seminar paper		Other		
course)	Class activity		Oral exam	1	Other		
2.9. Student workload	Radno opterećenje stude Student workload on aŭ Obligation Hours (estin 1. Attendance 60 2. Preparation for the p	ll bases is 1 ECTS cred mate)	lit 30 semester hours				
2.10. Grading and evaluating students` work during classes and on the examStudents may choose to take the written (practical) exam by means of a midterm exam (2 midterm exams) or an exam. Each colloquium carries a max. 100 points. Students who score 50 or more in both exams will successfully pass the exam. Successfully passed both exams completely replace the practical part of the exam, and oral (theoretically) is compulsory for everyone. Once completed, the practical part of the exam is taken into account in the following deadlines.							

4. FORMATION OF ASSESSMENT

4.1. Assessment and evaluation of students' work during class and at the final exam	tudents may choose to take the written (practical) exam by means of a midterm exam (2 midterm exams) or an exam. Each colloquium arries a max. 100 points. Students who score 50 or more in both exams will pass the exam successfully. Successfully passed both exams ompletely replace the practical part of the exam, and oral (theoretically) is compulsory for everyone. Once completed, the practical part f the exam is taken into account in the following deadlines.							
4.2. Assessment of the midterm / written and oral exam	Badt responds by memory, without a deeperunderstanding. Does not know or applybasic terms and concepts. Does notknow how to apply or explain thecontents of the course with examples.	SatisfyingIt reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.	Above averageKnowledge is at the level of analysis, synthesis and evaluation. It observes the principles of law, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts it supports with examples. Finds					



							solutions that were not on notes correlations with r	0.0	
		Active attendance	70-74.9% attendance	75-79,9% attend	lance	80-89.9% attendar	ice 90-100	% attendance	
4.3. Forming the final grade			2 points	5 points		10 points	20) 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 points	40) points	
		Oral part of the	2	3		5		5	
		exam	25 points	30 points		35 points	40	0 points	
4.4. Formation of final grade based on absolute distribution		Percentage of acquired knowledge, skills and competences (teaching + final exam)				Number ratin	ECTS	grade	
		90 - 100%				5 (izvrstan)		A	
		80-89,9%				4 (vrlo dobar)]	3	
			65 - 79,9%			3 (dobar)	(C	
		60 - 64,9%				2 (dovoljan)]	D	
			50-59,9%			2 (dovoljan) E		E	
2.11. Compulsory		Title formation systems and technologies; Polytechnic of Šibenik, Jerko Acalin, 2017 - textbook th PP presentation sics of Informatics (Windows, Word, Excel, PoverPoint), University of Šibenik, Jerko alin, 2017 - script					Number of copies in the library	Availability via other media	
literature (available in the library and via other media)	with P Basics						5	e-learning	



2.12. Additional literature	EXCEL 2013 EXCELL 2010, Milan Korać						
(at the moment of changes and/or amended of study	Excel 2010 Data analiysis and Business Modeling, Wayne I. Winston	5 (2)					
programme)	Word 2010 Microsoft Press, A Division of Microsoft Corporation						
	Power Pivot for Excell 2010 Marko Russo i Alberto Ferari						
2.13. 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 acception.						
2.14 Informing about the course and contacting the teacher	Alumni association. It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes 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).						



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

1. GENERAL INFORMA	TION ABOUT THE SUBJECT			
1.1. Title	KNOWLEDGE OF GOODS	1.8. ISVU course code	187586	
1.2. Lecturer	Nikolina Gaćina	1.9. MOZVAG course code		
1.3. Assistants and/or		1.10. Forms of teaching (number of hours		
associates	None	Lecturing +Practical exercises + Seminars + e	(30+0+15+0)	
associates		learning)		
1.4. Study programme	Undergraduate Professional Study Trafic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd	1 st – materials available On-line,	
(specialist, undergraduate,	Undergraduate Professional Study Tranc	level), percentage of on line course performance		
graduate)		(max. 20%)	0%	
1.5. Course status	Obligatory	1.12. Number of course revisions	2.	
(obligatory, optional)	Congatory	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	Less than 20% X	
1.7. Credit score (EC15)		and/or supplements	More than 20 % \Box	

2. COURSE DESCRIPTIO	ON
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.
	LO 1: To apply and link professional terms from technologgy and organization of road traffic in written and oral communication with the professional puublic in croation and English.



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

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



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



					their choice. List and analyze the primary	
					functions of packaging material.	
					At the colloquium or the written and oral	
				They listen to a lecture,	exam they know: define and classify the	
	6.	Packaging features. Product	1, 2, 3,	present a seminar paper,	functions of packaging, evaluate the choice of	8 h
	0.	Graphic Labeling.	4, 5, 8	followed by a discussion,	packaging material with regard to its	0 11
				and read literature	function, define, describe and analyze the	
					graphic marking of products.	
					At the colloquium or the written and oral	
				They listen to a lecture,	exam they know: to define and describe the	
	7.	Specific features of product	1, 2, 3,	present a seminar paper,	types of warehouses, storage and transport	6 h
	7.	storage and transportation.	4, 5, 8	followed by a discussion,	conditions, and evaluate the appropriate type	0 11
				and read literature	of storage and transport depending on the	
					type of product.	
					At the colloquium or the written and oral	
		Perishable products. Declaring food.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture,	exam they know: to define and describe the	
	8.			present a seminar paper,	types of perishable products, their	6 h
	0.			followed by a discussion,	specificities and conditions of storage and	0 11
				and read literature	transport, to analyze the basic declaration of	
					food.	
					At the colloquium or the written and oral	
					exam they know: to define and describe the	
				They listen to a lecture,	types of physical methods of preservation, to	
	<u>_</u>	Physical methods of food	1, 2, 3,	present a seminar paper,	analyze the applicability depending on the	10.1
	9.	preservation.	4, 5, 6,	followed by a discussion,	type of food products in terms of better	10 h
		Preser autom	7, 8	and read literature	preservation of nutritional value and longer	
					shelf life, to analyze the advantages and	
					disadvantages of individual physical	
					methods.	



					And evaluate combining different canning	
					methods.	
					At the colloquium or the written and oral	
					exam they know: define and describe natural	
					and chemical preservatives, analyze	
		Food preservation with natural	1, 2, 3,	1 2 3 They listen to a lecture	applicability depending on the type of food	
	10.	and chemical preservatives.	4, 5, 6,	present a seminar paper,	products in terms of better preservation of	6 h
		Combining canning types.	7,8	followed by a discussion,	nutritional value and longer shelf life, analyze	
		6 6 71	- 7 -	and read literature	the advantages and disadvantages of	
					individual methods and evaluate the	
					combination of different preservation	
					methods.	
	11.			They listen to a lecture,	At the colloquium or the written and oral	
		Polymeric materials.	1, 2, 3, 4, 5, 6, 7	2, 3, present a seminar paper,	exam they know: to define, describe and	10 h
				followed by a discussion,	classify polymeric materials, describe their	
				and read literature	advantages and disadvantages and storage conditions.	
				They listen to a lecture,	At the colloquium or the written and oral	
		Hazardous Substances.	1, 2, 3, 4, 5, 6, 7, 8	present a seminar paper,	exam they know: to define and classify the	
	12.			followed by a discussion,	types of dangerous substances, to analyze the	6 h
				and read literature	possible danger of the same.	
					At the colloquium or the written and oral	
			1, 2, 3,	They listen to a lecture,	exam they know: to define and classify the	
	13.	Transport and disposal of	4, 5, 6,	present a seminar paper,	labeling of hazardous substances during	6 h
	15.	hazardous substances.	7, 8	followed by a discussion,	transport, to evaluate the disposal and	0 11
			7,0	and read literature	labeling of hazardous waste.	
				They listen to a lecture,		
			1, 2, 3,	present a seminar paper,	At the colloquium or the written and oral	
	14.	14. Strategic Goods.2. Colloquium.	5, 6, 7, 8	followed by a discussion,	exam they know: to define and categorize	4 h
			-, -, -, -, 0	and read literature	strategic goods, to explain their importance.	
	1	1	1	1		



	15.	Concluding Con Repetition and H	isiderations / Exam Preparation.	-	to a lecture and vidually for the		20 h
3. EVALUATION OF ST	UDENI	WORK					
3.1. Students` obligations	attenda semina • • Studer a) duri semina b) duri	ance. Part-time stu ar paper. Students From 0 – 24,9% year; From 25 – 49,99 a regular or extr More than 50% hts can pass the fir ng the course thro ar paper and proje	adents have the obligat who have during the c ECTS credits- is rated & ECTS credits - is rated aordinary exam period ECTS credits - studen hal exam in two ways: bugh continuous studen ct, passing two colloquive participation in the	tion to attend at least course achieved: F (unsuccessful) and ed FX (inadequate) and ; ts have the right to acc nt attendance (active p nia);	50% of lectures. All a cannot get ECTS created ad has to come out an creass the final exam of articipation in the les	valuation: for all regular student students must create, present an dits and must re-enrol the subjec ad pass the test (exam). A writte f the subject.	d positively colloquy t in the next academic n exam can be held in ng and presenting the
2.2 Manitaring student	Attend	lance	0,25	Written exam	2 (without colloquiums)	Project	
3.2. Monitoring student work (enter the share of	Experi	mental work		Research		Practical work	
ECTS credits for each activity so that the total	Essay			Report		Continuous examination	
number of ECTS points corresponds to the credit score of the course)	Colloq	Juium	3 (without the written and oral exams)	Seminar paper	0,75	Other (inscribe)	
	Class a	activities		Oral exam	1 (without colloquiums)	Other (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	1. Attending classes	45						
	2. Creating and Presenting seminar paper	10						
	3. Preparation for the Colloquium / exam through self-study	65						

4. GRADING

	Valuation Element	Poor		Satisfying		Above average
4.1. Seminar paper grading	Organization	The paper is not of logical order and i lacking.	-	The paper is well structured with a clear distinction between the introduction, the main part of the text and the conclusion.		The paper is well-structured with a clear distinction between the introduction, the main part of the text and the conclusions that are perfectly logically linked to one another
	Terminology, writing style	Words and phrases are low harmonized with official terminology. Writing style is not appropriate, sentences are too long, modest vocabulary, and frequent and repeated grammatical mistakes.		structure is clear, the vocabulary is		Words and phrases are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.
	Quoting and referencing	Sources are not spec references do not n and show a superfic the research topic.	natch the topic	Sources are listed, but incomplete and with errors. The references are appropriate for the subject and show a satisfactory research attitude.		Sources are accurate, complete and consistent. The references are appropriate, their list is "rich" and comprehensive and shows a robust research approach.
	Po	or		Satisfying		Above average
4.2. Colloquium / exam grading	Give answer by n understanding. Does n apply the basic terms a apply or explain the co	ot know and does not and concepts. Cannot	transfers new subject matter	w knowledge, understands and accuracy explains the terms and the accuracy		edge is at the level of analysis, synthesis evaluation. It observes legitimacy, tely and thoroughly explains the content subject, and logically links and explains



				Find	terms and concepts t solutions that are n re is a correlation with	ot originally given.	
	Active participation	70 of attendance	71-80% of attendance	81-90% of at	tendance	91-100%	
	in the lessons	2 points	3 points	4 poin	its	5 points	
	Research paper	2	3	4		5	
1.3. Creating a final grade	Research paper	8 points	10 points	12 poi	nts	15 points	
ccording to evaluation		2	3	4		5	
lements	Colloquium / written exam	50-64,9%	65-79,9%	80-89,9	9%	90-100%	
	exam	25 points	35 points	40 poi	nts	50 points	
	01	2	3	5		5	
	Oral exam	15 points	20 points	25 poi	nts	30 points	
	U U	ted knowledge, skills and eaching + final exam)	Numerous grade	ECTS grade		de	
.4. Creating a final grade	90	0 - 100%	5 (excellent)		А		
ccording to absolute	80	- 89,9%	4 (very good)	В			
llocation		- 79,9%	3 (good)	С			
		- 64,9%	2 (sufficient)			D	
	50	- 59,9%	2 (sufficient)		E		
5. ADDITIONAL INFOR	MATION ABOUT THI	E COURSE					
1 Compulsory literature		Title			Number of copies in the library	Availability via other media	
.1. Compulsory literature available in the library	1. Gacina, N. (20 Šibenik.	12). Knowledge of goods. I	nternal script of the Polytech	hnic of Šibenik,		e-learnigng VUŠ-	
and through other media)	2. Lazibat, T. (2004). Knowledge of goods and quality management. Synergy Publishing,				4		

Zagreb. (Chapters selected)

4



5.2. Additional literature	1. Andrijanić, I., Balen, M., Lazibat, T. (2001). Knowledge of merchandise in commerce.	1	
(at the moment of changes	Mikrorad, Zagreb. (Chapters selected)	4	
and/or amended of study	2. Štrumberger, N. (2000). Handling of materials in traffic. Faculty of Transportation	1	
programme)	Sciences, Zagreb. (Chapters selected)	4	
	The control of students' work quality and the acquisition of necessary knowledge and skills will be en	nsured through interact	ive work. By keeping
5.3. Quality assurance	track of attendance and student activity during classes and provided information on students` progress	ss through short colloqu	uiums and homework,
methods that ensure the	information for further guidance to students will be provided in order to increase the efficiency of	their work. Students w	vill be informed about
acquisition of knowledge,	their rights and obligations as well as the methods of work and the required literature. Indicators of	of quality assurance system	stem: Student survey,
skills and competences	monitoring of annual data from the Croatian employment service on the annual state of student	employment, surveys	from employers and
	Alumni association.		
	It is obligatory for every student to regularly inform about the course, teaching and teaching activ	ities. All information a	about teaching or any
5.4. information on the	delay in teaching will be published on the e-learning pages of the course and on the web pages of	of the Polytechnic. Stu	dents can contact the
course and contact with	teachers during the consultation term (at least one hour per week), while brief questions and explan	nations can be addresse	ed during classes. It is
the teacher	possible to ask questions by e-mail (from the official e-mail address from the domain @ vus.hr) the	at will be answered in	a short time (no later
	than five working days from the receipt of e-mail).		



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

1. GENERAL INFORM	IATION						
1.1. Course lecturer	Ivana Kardum Goleš	1.8. Course code in ISVU	129833				
1.2. Course title	ENGLISH LANGUAGE I	1.9. Course code in MOZVAG					
1.3. Assistants and/or associates	Assistant	1.10. Forms of teaching (number of hours Lecturing+Practical exercises + Seminars + e learning)	(30+15+0+0)				
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (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	Yes				
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%X□More than 20 %□				
2. COURSE DESCRIPTION	ON						
2.1. Course objectives The objectives 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	4 year secondary education completed; qua	ification level 4.2 according to the CROQF.					



2.3. Learning outcomes on the study programme level	profes	ssional public in Croatian and En	glish	technology and organization of road			n with the
	Lear	Learning outcomes accroding to the Bloom`s taxonomy: (up to two verbs per LO)					ing, ling, n,
	t	hem in written and oral commun	ication	n the professional terminology of Englis	sh road traffic and use	2, 3	
		o apply grammatical structures in		signments		3	
		to interpret and use tenses in real-				3, 4	
		to develop a shorter essay within	the topics of	the course		3	
		to reproduce an email in English				3	
			unicate in a foreign language within the subjects of the course, to express one own opinions 6				
		to compare and evaluate different				5	
		o analyse medium complex texts				4	
		to use part of the general languag structive allignement	e competency			6	
2.5. Course content	no	Thematic unit	LO of the course	Content/teaching methods	Evaluati	on	Time
according to detailed curriculum schedule	1.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h



1						
	2.	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 oral exams the applied grammatical structures on texts and tasks are evaluated, understand, apply and link terms from the professional terminology of English 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.	4 h
	3.	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
	4.	In The Train – Trouble With The Car (Izražavanje Sadašnjosti).	1,2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own	4 h



				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.	
5.	At The Airport And Air Pollution Problem (Present Tenses)	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 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
6.	Keeping Drunken Drivers Off The Road – Izražavanje Prošlosti (Past And Perfect Tenses)	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions	4 h



					· · · · · · ·
				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	
			Listen to lectures and read literature.	are interpreted in a real linguistic context,	
			During lectures individually	can communicate in foreign languages	
			research the content of this thematic	within the course topic, express their own	
7.	Types Of Drivers – Verb	1,2, 3, 5,	field by searching data bases,	opinions, present their own ideas related	6 h
<i>,</i> .	Tenses	6, 9	presentt acquired knowledge,	to the development of transport solutions	0 11
			express their own ideas and ways of	to develop a longer essay within course	
			problem solving. Brainstorming,	topics, comparing and evaluating	
			discussion. Solve exercises.	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,	
8.	Moving About Towns – Verb	1, 2, 3, 5,	Listen to lectures and take part in	can communicate in foreign languages	10 h
5.	Tenses I Kolokvij	6, 9	discussion. Write the colloquium.	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 compl	lex texts
and solve tasks, use part o	of other
language competences at B1 leve	<i>:</i> l.
In colloquium or written and ora	
the applied grammatical struct	ures on
texts and tasks are evaluated, ver	b tenses
are interpreted in a real linguistic	context,
can communicate in foreign la	nguages
Listen to lectures and read literature. within the course topic, express the	neir own
9. Fitness To Drive – Relative 1, 2, 3, 5, Solve exercises. opinions, present their own ideas	s related 6 h
Pronouns And Possessivess 6,9 to the development of transport s	olutions
to develop a longer essay within	n course
topics, comparing and ev	aluating
different solutions in the traffic	of other
countries, analyze medium compl	lex texts
and solve tasks, use part o	of other
language competences at B1 leve	: l.
In colloquium or written and ora	ıl exams
the applied grammatical struct	ures on
texts and tasks are evaluated, ver	b tenses
are interpreted in a real linguistic	context,
Travelling By Tube –	nguages
10. Personal And Reflexive 1, 2, 3, 5, Listen to lectures and read literature. within the course topic, express th	heir own 6 h
10.Personal And Kenexive Pronouns6,9Solve exercises. Discuss.opinions, present their own ideas	s related
to the development of transport s	olutions
to develop a longer essay within	n course
topics, comparing and ev	aluating
different solutions in the traffic	of other
countries, analyze medium compl	lex texts



1						
					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	
		The Engine Of A Car –		Listen to lectures and read literature.	within the course topic, express their own	
	11.	Future Tenses – Will And	1, 2, 3, 5,	Use multimedia and internet. Solve	opinions, present their own ideas related	10 h
	11.	Going To And Present	6, 9	exercises.	to the development of transport solutions	10 11
		Continuous			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	
			1,2, 3, 4,	Listen to lectures and read literature.	within the course topic, express their own	
	12.	About Cars In General –	1,2, 3, 4, 5, 6, 7, 8,	Use multimedia and internet. Solve	opinions, present their own ideas related	10 h
	12.	Future Perfect	3, 0, 7, 8, 9	exercises.	to the development of transport solutions	10 11
			7		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.	



	13.	A City At Sea- Living Under Cover – Future Tenses	1,2, 3, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
	14.	"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



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

3. EVALUATION OF STUDENTS` WORK

		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							
	3.1. Students` obligations	of at least 70% is required. Part-time students are required to attend classes at least 50%. The students` acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the written part of the final exam and is obliged to take the oral exam only. The final exam consists of a written and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform oneself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Polytechnic of Šibenik and the e-learning page of the course, where all the information on the							
	3.2. Monitoring student work (enter the share of ECTS credits for each	Attendance	teaching materials and 0,5	Written exam	1 (without colloquia)	Project			
		Experimental work		Research		Practical work			



activity so that the total number of ECTS points	Essay		Report		Continuou examinati		
corresponds to the credit score of the course)	Colloquium	l (without written exam)	Seminar paper		Other		
	Class activity 0),5	Oral exam	1	Other		
3.3. Student workload	1. Attending clas	sses and exercises 4	S credit is 30 hours in a s 45 hours ough individual work 4		imated as:		
4. GRADING SYSTEM							
4.1. Grading seminar papers	-						
	Unsatisfactory Satisfactory Above average				Above average		
4.2. Grading colloquia/ written and oral exam	Responds by memore deeper understanding know or apply base concepts. Does not apply or explain the course with examples	ng. Does not d sic terms and u know how to contents of the	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.		and , and ncepts re not
	Active course attenda		5% of attendance	76-86% of	attendance	87-100% of attendance	Maksi
4.3. Final grade according to evaluation elements			3 points	7 points		20 points	20
	Seminar paper						
			2		2	4	
	Colloquia/ Written exam	(am	2 50-64,9%	3 65-79,9%		80-89,9%	9
			25 points	30 points		35 points	40
	Oral exam		2			4	



	25 points	30 points	35 1	points	
	Percentage of acquired knowledge, skills and competences (teaching + final exam)	Numerical grade	ECTS grade		
4.2 Einel ande ecoending	90-100%	5 (excellent)		А	
4.3. Final grade according to absolute division	80 - 89,9%	4 (very good)	В		
	65 - 79,9%	3 (good)	С		
	60 - 64,9%	2 (satisfactory)	D		
	50 - 59,9%	2 (satisfactory)		E	
5. ADDITIONAL COURS	E INFORMATION				
5.1. Compulsory literature	Title	Number of copies in the library	Availability via other media		
(available in the library and via other media)	Katja Bošković Gazdović: "English textbook of Transp prometnih znanosti, Zagreb, 2002. (selected chapters)	10	Х		
5.2 Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Veleučilište u Rijeci, Prometni odjel, 2007.X (elearningAdrian Pilbeam and Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 201010X (elearningA.J. Thomson, A. V. Martinet: "A practical English Grammar ", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar exercises II", Oxford University10X (elearning				
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition track of attendance and student activity during classes ar information for further guidance to students will be pro their rights and obligations as well as the methods of w	nd provided information on students` provided in order to increase the efficience	ogress through short colly of their work. Student	loquiums and homework, as will be informed about	



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



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

1. GENERAL INFORMAT	TION			
1.1. Course title	MODERN TRAFFIC SYSTEMS	1.8. Course code at ISVU	129846	
1.2. Course lecturer	Martina Ljubić Hinić	1.9. Course code at MOZVAG		
1.3. Assistants and/or		1.10. Forms of teaching (number of hours Lecturing	(45L+15S)	
associates	-	+Practical exercises + Seminars + e learning)	(43L+135)	
1.4. Study programme		1.11. Level of e- learning application (1 st , 2 nd , 3 rd		
(specialist, undergraduate,	Undergraduate professional study of Transport	level), percentage of on line course performance (max.	1st	
graduate)		20%)		
1.5. Course status	Obligatory	1.12. Number of course revisions	3	
(obligatory, optional)	obligatory	1.12. Indiffect of course revisions	з.	
1.6. Year of study	1 st	1.13. Modernization	X Yes 🗆 No	
		1.14. Percentage estimate of course changes and/or	Less than 20% X	
1.7. Credit point (ECTS)	6	supplements	More than 20 %	

2. COURSE DESCRIPT	ION
	The aim is to provide students with theoretical knowledge and case studies:
	• define elements and branches of the transport system;
	• learn the elements of the transport system;
2.1. Course objectives	• understand the technical and technological characteristics of the traffic branches;
	• acquire knowledge about the organizational features of the traffic branches and the complexity of the transport system;
	• get to know the interdisciplinary approach to the transport system and transport processes;
	• apply the learned content of this course to practice.
2.2. Terms of course	
entry and required	Four-year secondary education completed; qualification level 4.2 according to the HKO.
competences	



	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.
2.3. Learning outcomes	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.
on the study programme	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.
level	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.
	LO7: Apply computer tools for data analysis and comparison, and propose an optimal solution in the traffic process.
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.
	LO13: Follow trends in technology, technology and traffic safety.
	Learning outcomes according to Bloom's taxonomy:
2.4. E	1. to enumerate and explain the elements and branches of the transport system 1, 2
2.4. Expected learning outcomes on the course	2. to demonstrate knowledge and understanding of course content by defining and describing an interdisciplinary approach to the transport system 1, 2
level	2 to describe some and relate the technical and technological shorestaristics of the branches of transment and medam transmentation
	3. to describe, compare and relate the technical and technological characteristics of the branches of transport and modern transportation technologies 2, 4
	technologies 2, 4

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



1		Ι			1	1
				introduced to the course content and documents on the e-learning page of the course.		
		Elements of the transport system. Historical development of traffic.	1, 2, 4	Listen to lectures and read literature.	In colloquium or the written and oral exam they define the system and elements of the transport system and explain the interdisciplinary nature of the transport system, and state the historical development of the elements and branches of the transport system.	3 h
	2.	Maritime transport.	1, 2, 3, 5	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or the written and oral exam they identify and explain the elements and technologies of maritime transport, and define and describe the role of technical and technological characteristics of maritime transport in the transport system.	4 h
	3.	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
	4.	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	4 h



8. Rail transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually content of this topic area by searching the database, and on the basis of in ansport system. Seminar work is a local transport. 8 h 7. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually content to a lecture and read literature. In the course of the seminar, they individually content to a lecture and read literature. In the course of the seminar, they individually content to a lecture and read literature. In the course of the seminar, they individually content to a lecture and read literature. In the course of the seminar, they individually content to a lecture and read literature. In the course of the seminar, they individually the content of this topic area by any or with side and describe the role of technical and technological characteristics of road transport. If the course of the seminar, they individually content and contal exams they specify and explain the elements and technological characteristics of road transport system. Seminar work is done in groups with discussion. 4 h 8. Rail transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and prepari In colloquium or written and oral exams they specify and explain the elements and technologies of road transport, and define and technologies of road transport, and define and technologies of road transport, and define and technologies of road transport, and tefine and technologies of road transport, and tefi	1						
5. Study trip (Rijeka port). 1, 2, 3, 4, 5, 6 They listen to a lecture. In colloquium or written and oral exams they identify and explain seaports, and 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 6. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of in 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 technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion. 4 h 7. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of in 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 technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion. 4 h 8. Rail transport. 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 technological characteristics of road transport in the transport system. 4 h						1	
5. Study trip (Rijeka port). 1. 2. 3. 4. 5. 6 They listen to a lecture. 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 6. Road transport. 1. 2. 3. 4. 5. 6 They listen to a lecture and read literature. In the course of the seminar, they individually for the collequium. In colloquium or written and oral exams they specify and explain the elements and technological characteristics of road transport, and define and describe the role of technical and technological characteristics of road transport. 4 h 7. Road transport. 1. 2. 3. 4. 5. 6 They listen to a lecture and read literature. In the course of the seminar, they individually for the collequium. In colloquium or written and oral exams they specify and explain the elements and technological characteristics of road transport, and define and describe the role of technical and technological characteristics or road transport, and define and describe the role of technical and technological characteristics or road transport, and define and explain the elements and technological characteristics or road transport, and define and explain the elements and technological characteristics or road transport, and define and explain the elements and technological characteristics or road transport, and define and explain the elements and technological characteristics or road transport, and technological characteristics or road transport, is done in groups with discussion. 4 h 8. Rail transport. 1. 2. 3. 4. 5. 6 They listen						done in groups with discussion.	
5. Study trip (Rijeka port). 1, 2, 3, 4, 5, 6 They listen to a lecture. 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 6. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature. 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. 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. 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 technological characteristics of road transport, and define and describe the role of technical 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 technological characteristics of road transport system. Seminar work is done in groups with discussion. 4 h 8. Rail transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and prepare individually explore the colloquium. In colloquium or written and area exams they specify and explain the elements and technological characteristics of road transport						In colloquium or written and oral exams	
3. Study inpacting integration of the section in t						they identify and explain seaports, and	
8. Rail 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 in 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 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 the 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 in 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 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 technologies of road transport, and define and technologies of road transport, and define and technologies of road transport, and to 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 railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the ro		5	Study trip (Rijeka port)	1, 2, 3,	They listen to a lecture	-	8 h
aaaabtransport of different branches of traffic.6.Road transport.1, 2, 3, 4, 5, 6They 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 technological characteristics 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 th7.Road transport.1, 2, 3, 4, 5, 6They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by explore the content of this topic area by with idecursion or written and oral exams they specify and explain the elements and technological characteristics of road transport, and define and describe the role of technical and technological characteristics 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 th8.Rail transport.1, 2, 3, individually for the colloquium.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 technological characteristics of road transport, and define and technological characteristics of road transport, and define and technological characteristics of road transport system.4 th8.Rail transport.1, 2, 3, individually for the colloquium.1. 2, 3, individually for the colloqui		5.	Study up (Rijeka port).	4, 5, 6	They listen to a feeture.	collection points into which traffic flows	0 11
6. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems. In colloquium or written and oral exams they specify and explain the elements and technological characteristics of road transport, and define 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 technological characteristics of road transport is done in groups with discussion. 4 h 7. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems. In colloquium or written and oral exams they specify and explain the elements and technological characteristics of road transport, in the transport system. Seminar work is done in groups with discussion. 4 h 8. Rail transport. 1, 2, 3, 15, 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 technological characteristics of railway transport system.						from all traffic routes and means of	
6. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually earching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems. they specify and explain the elements and technologies of road transport, and define and describe the role of technical and technologies of road transport in the transport system. Seminar work is done in groups with discussion. 4 h 7. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems. In colloquium or written and oral exams they specify and explain the elements and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologi						transport of different branches of traffic.	
6. Road transport. 1, 2, 3, 4, 5, 6 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. 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. 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. 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 technological characteristics of road transport, and define and describe the role of technical and technological characteristics 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 8. Rail transport. 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 technological characteristics of railway transport, and to define and describe the role of technical and technological characteristics of railway transport, and to define and describe the role of technical and technological characteristics of railway transport in the transport system. 42 h 8. Rail t					They listen to a lecture and read literature. In	In colloquium or written and oral exams	
6. Road transport. 1, 2, 3, 4, 5, 6 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. 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 7. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems. In colloquium or written and oral exams they specify and explain the elements and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of road transport, and define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport in the transport system. 42 h					•	they specify and explain the elements and	
6. Road transport. 4, 5, 6 searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems. 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 7. Road transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and read literature. In the course of the context 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 technological characteristics of road transport, and define 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 technological characteristics of road transport, and technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion. 4 h 8. Rail transport. 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 technological characteristics of road transport, and to define and describe the role of technical and technological characteristics of railway transport, and to define and describe the role of technical and technological characteristics of railway transport in the transport system. 4 h 8. Rail transport. 1, 2, 3, 4, 5, 6 They listen to a lecture and prepare individuall				1 2 3		technologies of road transport, and define	
7.Road transport.1, 2, 3, 4, 5, 6They listen to a lecture and 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 technologieal characteristics of road transport in the transport system. Seminar work is done in groups with discussion.4 h7.Road transport.1, 2, 3, 4, 5, 6They 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 technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion.4 h8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They 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.42 h		6.	Road transport.			and describe the role of technical and	4 h
7.Road transport.1, 2, 3, 4, 5, 6They 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 technologies of road transport, specify and explain the elements and technologies of road transport, specify and explain the elements and technologies of road transport, and to technologies of road transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport in the transport system. Seminar work in groups is prepared with42 h				4, 3, 0	e ·	technological characteristics of road	
7.Road transport.1, 2, 3, 4, 5, 6They listen to a lecture and read literature, low ideas, 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 technologies of road transport, and to define and oral exams they specify and explain the elements and technologies of road transport, and to define and describe the role of technical 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 to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and describe the role of technical and technologies of railway transport in the transport system.42 h						transport in the transport system. Seminar	
7.Road transport.1, 2, 3, 4, 5, 6They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.they specify and explain the elements and technologies of road transport, and define and describe the role of technical and technologies of road transport system. Seminar work is done in groups with discussion.4 h8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They 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 technologies of railway transport, and to define and describe the role of technical and technologies of railway transport in the transport system.4 h					own ideas, and ways to solve problems.	work is done in groups with discussion.	
7.Road transport.1, 2, 3, 4, 5, 6the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.they specify and explain the elements and technologies of 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 h8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They 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 technologies of railway transport, and to define and describe the role of technical and technologies of railway transport, and to define and technological characteristics of railway transport in the transport system. Seminar work in groups is prepared with42 h			Road fransport	1 2 3	They listen to a lecture and read literature. In	-	
7.Road transport.1, 2, 3, 4, 5, 6explore 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.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 h8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They listen to a lecture and prepare individually for the colloquium.In colloquium or written and oral exams they specify and explain the elements and technological characteristics of railway transport in the transport system. Seminar work in groups is prepared with42 h					-		
7.Road transport.4, 5, 6searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.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 h8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They listen to a lecture and prepare individually for the colloquium.In colloquium or written and oral exams they specify and explain the elements and technological characteristics of railway transport in the transport system.42 h							
8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They listen to a lecture and prepare individually for the colloquium.In colloquium or written and oral exams they specify and explain the elements and technological characteristics of railway transport in the transport system.42 h		7.					4 h
8. Rail transport. 1st Colloquium 1, 2, 3, 4, 5, 6 They listen to a lecture and prepare individually for the colloquium. In colloquium or written and oral exams they specify and explain the elements and technologies of railway transport, and to define and describe the role of technical and technological characteristics of railway transport in the transport system. 42 h				1, 5, 0		C C	
8. Rail transport. 1st Colloquium 1, 2, 3, 4, 5, 6 They listen to a lecture and prepare individually for the colloquium. In colloquium or written and oral exams they specify and explain the elements and technologies of railway transport, 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 42 h							
8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They listen to a lecture and prepare individually for the colloquium.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 with42 h					own racus, and ways to sorre problems.		
8.Rail transport. 1st Colloquium1, 2, 3, 4, 5, 6They listen to a lecture and prepare individually for the colloquium.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 with42 h						-	
8. Rail transport. 1st Colloquium 1, 2, 3, 4, 5, 6 They listen to a lecture and prepare individually for the colloquium. define and describe the role of technical and technological characteristics of railway transport in the transport system. Seminar work in groups is prepared with 42 h							
8. 1st Colloquium 4, 5, 6 individually for the colloquium. and technological characteristics of railway transport in the transport system. Seminar work in groups is prepared with	:						
1st Colloquium 4, 5, 6 individually for the colloquium. and technological characteristics of railway transport in the transport system. Seminar work in groups is prepared with Seminar work in groups is prepared with		8.	^				42 h
Seminar work in groups is prepared with		5.	1st Colloquium	4, 5, 6	individually for the colloquium.	c	42 11
discussion.							
						discussion.	



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



		1	1			
					traffic in the transport system. Seminar	
					work is done in groups with discussion.	
					In colloquium or written and oral exams	
				They listen to a lecture and read literature. In	they specify and explain the elements and	
				the course of the seminar, they individually	technologies of pipeline and cableway	
	13.	Pipeline transport.	1, 2, 3,	explore the content of this topic area by	traffic, and define and describe the role of	4 h
	15.	Cable car transport.	4, 5, 6	searching the database, and on the basis of it	technical and technological	4 11
				and the read literature, come up with their	characteristics of pipeline and cableway	
				own ideas, and ways to solve problems.	traffic in the transport system. Seminar	
					work is done in groups with discussion.	
					In colloquium or written and oral exams	
	14.	City traffic. Taxi traffic. 2nd Colloquium.	1, 2, 3,4, 5, 6	They listen to a lecture and prepare	they identify and explain the elements	
				individually for the colloquium.	and technologies of urban transport, and	42 h
					define and describe the role of urban	
					transport in the transport system.	
		Concluding considerations.		They listen to a lecture and prepare		
	15.	Repeating and preparing for	6, 7	individually for the exam.	-	44 h
		the exam.				
3. EVALUATION OF ST	ГUDE	NT WORK				
	In ac	cordance with the Rulebook or	n Study a	nd the Rulebook on Student Assessment and E	valuation: for all full-time students attendar	nce of at
	least	70%. Part-time students are re-	equired to	attend a class of at least 50%. All students m	nust create, present and positively colloquy	seminar
	pape	r. Students who have achieved	during th	e course:		
3.1. Students`		• From 0 - 24.9% of ECTS of	credits - th	ey are rated F (unsuccessful) and cannot earn E	ECTS credits and must re-enroll in the next a	cademic
obligations		year;				
		• From 25-49.9% - are asse	ssed by F	X (insufficient) and must pass and pass the wr	itten exam (test). Written exam (test) can be	e held in
		regular or extraordinary exa	um 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 ex-	ams (written and oral	part of the exam).						
3.2. Monitoring student	Attendance	1	Written exam	1 (without colloquia)	Project				
work (enter the share of	Experimental work		Research		Practical work				
ECTS credits for each	Essay		Report		Continuous	1			
activity so that the total	LSSdy	Report			examination	1			
number of ECTS points	Colloquium	1 (without written	Seminar paper	1	Other				
corresponds to the credit	conoquium	exam)	Seminar paper	-					
score of the course)	Class activity	1	Oral exam	1	Other				
	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as:								
3.3. Student workload	1. Attendance 45 h								
5.5. Student WOLKIOAd	2. Design of seminar w	ork and presentation 1	l5 h						
	3. Preparation for the n	nid-term / midterm exa	am 120 h						

4. FORMATION OF GRADES

	Element of evaluation	Bad	Satisfying	Above average
			The paper is well structured with a	The paper is well structured with a clear
	Organization	The paper is not organized in a logical	clear distinction between the	distinction between the introduction, the
	organization	order and lacks structure.	introduction, the main body of the	main body of the text and the conclusion,
4.1. Grading of seminar			text and the conclusion.	which are logically interconnected.
work		Words and expressions low in line	Words and expressions are in line	Words and expressions are aligned with
	l	with official terminology. The	with official terminology. The	official terminology and show an
	Terminology,	writing style is not appropriate, the	writing style is appropriate, the	understanding of their meaning. The
	writing style	sentences are too long, of a modest	sentence structure is clear, the	writing style is excellent, the sentences
		vocabulary and with frequent and	vocabulary is appropriate and there	are clear and concise, the vocabulary is
		repeated grammatical errors.	are few grammatical errors.	rich and there are no grammatical errors.



	Citing and referencing references	The sources are not list references do not fit t show a cursory approach the topic.	he topic and	The sources a incomplete and w references are rele and show a satis attitude.	evant to the to	The and consi	es are accurately, completely stently listed. The references priate, their list is "rich" and nsive and shows a detailed pproach.
		Bad		Satisfying			Above average
4.2. Grading of the colloguium / written and oral exam	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course		It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		Knowledge is at the level of 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	76-86% of	the presence	87-100% o	f the presence	Case studies resolved
		0 points	0 p	0 points 0 j		ooints	0 points
		2		3		4	5
4.3. Forming the final grade according to the	Seminar paper	Made and handed over	Made and	Made and handed over Made and		handed over	Made and handed over
evaluation elements	Examination /	2		3		4	5
	Written	50-64%	65-	-80%	81	-90%	91-100%
	examination	25-32 points	33-40) points	41-4	5 points	46-50 points
	Oral part of the	2		3		5	5
	exam	25-32 points) points	41-4	5 points	46-50 points
4.4. Formation of final	e .	red knowledge, skills and eaching + final exam)	competences	Numbe	er rating		ECTS grade
grade based on absolute distribution		90-100%		5 (exc	cellent)		А
		80-89,9%		4 (very	y good)		В



	65 - 79,9%	3 (good)	(C				
	60 - 64,9%	2 (sufficient)	I)				
	50 - 59,9%	2 (sufficient)	H	Ξ				
5. ADDITIONAL INF	ORMATION ON THE SUBJECT							
5.1. Required literature (available in	Title		Number of copies in the library	Availability via other media				
the library and through other media)	 Cerovac, V.: Tehnika i sigurnost prometa; FPZ, Zagreb, Božičević, D., Kovačević, D.: Suvremene transportne tel 		3	No				
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	3. Zelenika, R.: Multimodalni prometni sustavi, Ekonomsk	 Lectures Zelenika, R.: Prometni sustavi, Ekonomski fakultet u Rijeci, Rijeka, 2001. Zelenika, R.: Multimodalni prometni sustavi, Ekonomski fakultet u Rijeci, Rijeka, 2006. Sussman, J. : Introduction to Transportation Systems, Artech House, United Kingdom, 						
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	of students' attendance and activity in the classroom and information needed for further guidance to students in order to	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	is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes r 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 an contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted uring class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible no later than five working days after receiving the e-mail).							



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

1.1. Course lecturer	Danijel Mileta	1.8. Course code in ISVU	187598
1.2. Course title	BASICS OF ELECTRICAL ENGINEERING AND	1.9. Course code in MOZVAG	
	ELECTRONICS		
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing +	(30 + 30 + 0 + 0)
associates		Practical exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd	1 st , course materials are
(specialist, undergraduate,		level), percentage of on line course performance (max.	on-line, 0%
graduate)		20%)	
1.5. Course status	Obligatory	1.12. Number of course revisions	3
(obligatory, optional)			
1.6. Year of study	1 st	1.13. Modernization	Yes
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or	Less than 20% X
		supplements	More than 20 %
2. COURSE DESCRIP	TION		
2.1. Course objectives	The main objective of the course is to familiarize students	with basic knowledge in the field of electrical engineerin	ng and electronics.
2.2. Terms of course entry	Four-year secondary education completed; Possession of	Lovel 4.2 qualification according to the CROOE	
and required competences	Four-year secondary education completed, Possession of	a Level 4.2 quantication according to the CKOQF.	
2.3. Learning outcomes	IU4: Apply knowledge of natural and technical sciences to	o road transport problems.	
on the study programme	IU8: Solve traffic problems using analytical and / or graph	nical methods.	
level			
	Learning outcomes by Bloom: (maximum 2 werbs for L	0)	Level of LO:
2.4. Expected learning			1 - memory,
outcomes on the course			2 - understanding,
level (4-10 learning			3 - application,
outcomes)			4 - analysis,
			5 - evaluation,



					6-synthesis.	
	1. Se	t and calculate basic equations o	f simple c	ircuits and magnetic circuits.	3	
	2. Dr	aw or sketch schematics of basic	electrica	1 devices	4, 3	
	3. Ide	entify and compare electrical and	l magnetio	c phenomena.	2,4	
	4. De	escribe electronic components an	d basic el	ectrical devices.	1	
	5. So	lve simple tasks in the field of el	ectrostati	cs and electromagnetism.	3	
2.5. Course content according to detailed curriculum schedule	Cons	structive allignement				
	No	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time
	1.	Introduction to the course and detailed curriculum.	-	Students listen to a lecture. On the computer, they are introduced to the course content and documents on the e-learning course page.	-	2 h
	2.	Basics of electricity	3, 5	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium, written and oral exam they can define and describe basic concepts and identify causes and phenomena of electricity, draw or sketch the same, and solve or calculate simple tasks in the field of electricity.	6 h
	3.	Electric current and associated phenomena	1, 3, 5	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium, written and oral exam they can define and describe basic concepts, identify the basic phenomena of direct current and related phenomena, draw or sketch them, and solve simple tasks in the field of direct current.	4 h



4.	Simple DC circuits I	1, 2, 3, 5	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium, written and oral exam they can define and describe the basic concepts, the behavior of electrons in simple DC circuits, draw or sketch the same, and set and solve or calculate tasks on the topic of simple DC circuits.	4 h
5.	Simple DC circuits II	1, 2, 3, 5	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium, written and oral exam they can define and describe the basic concepts, the behavior of electrons in simple DC circuits, draw or sketch the same, and set and solve or calculate tasks on the topic of simple DC circuits.	4 h
6.	Capacitor joints	1, 2, 3, 4, 5	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium, written and oral exam they can define and describe basic terms and related phenomena in capacitors and capacitor joints, draw or sketch the same, and solve or calculate simple tasks of capacitor joints	4 h
7.	Energy, work, power	1, 2, 3, 4, 5	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium, written and oral exam they can define and describe the basic terms and related phenomena related to energy work and power of electricity, draw or sketch the same, and solve or calculate simple tasks in the specified field.	4 h
8.	Lighting	3	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the oral exam, they can define, describe, enumerate and distinguish	1 h



				basic concepts from the domain of	
				luminaries.	
9.	Repetition / Colloquium		Students listen to a lecture and read	It is necessary to recognize, set and	
		1 2 2	literature. The exercises demonstrate how	solve simple tasks from thematic units	
		1, 2, 3,	to solve tasks. Independent task solving.	2-7. At the midterm, written and oral	4 h
		4, 5		exam they can define and describe the	
				basic concepts of electromagnetism.	
10.	Electromagnetism		Students listen to a lecture and read	At the colloquium, written and oral	
			literature. The exercises demonstrate how	exam they can define and describe the	
		1, 2, 3,	to solve tasks. Independent task solving.	basic concepts of electromagnetism,	
		4, 5		identify related phenomena, draw and	9 h
				sketch them, and solve or calculate	
				simple tasks in the field.	
11.	Transformer		Students listen to a lecture and read	At the colloquium, written and oral	
			literature. The exercises demonstrate how	exam they can define, describe, draw or	
		1, 2, 3,	to solve tasks. Independent task solving.	sketch the mode of operation of the	4 h
		4, 5		transformer and the phenomena that	
				occur in it and to solve or calculate	
				simple tasks in the field.	
12.	AC generator		Students listen to a lecture and read	At the colloquium, written and oral	
		1 2 2	literature. The exercises demonstrate how	exam they can define, describe, draw or	4 h
		1, 2, 3,	to solve tasks. Independent task solving.	sketch the principle of operation of the	
		4, 5		generator and solve or calculate simple	
				tasks in the field.	
13.	Electromotor		Students listen to a lecture and read	At the midterm, written and oral exam	
		1.0.0	literature. The exercises demonstrate how	they can define, describe, draw and	
		1, 2, 3,	to solve tasks. Independent task solving.	sketch the principle of operation of	4 h
		4, 5		electric motors and solve or calculate	
				simple tasks in the field.	
	1	1	1	Å	



	14. 15.	Basic electronic el		2, 4 1, 2, 3, 4, 5	literature to solve t Students literature	listen to a lecture The exercises demo asks. Independent tas listen to a lecture The exercises demo asks. Independent tas	nstrate how k solving. e and read nstrate how	and d element It is ne	oral exam, they are a lescribe the basic ats. cessary to identify, s tasks from thematic	e electronic set and solve	2 h 4 h
4. EVALUATION O	F STU	UDENT WORK		L		1	0				
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%. Students who have achieved during the course: from 0 - 24,9% ECTS credits- are rated F (unsuccessful) and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (written and oral part of the exam).										
3.2. Student work	A	ttending classes	,	1		Written exam	1		Project		
monitoring (enter the	Ex	perimental work				Research		P	Practical work		
share of ECTS credits for		Esaay				Report		Co	ontinuous check		
each activity so that the		Colloquiums		1		Seminar paper			(other)		
total number of ECTS credits corresponds to the	Те	aching activities			Tł	e oral part of exam	1		(other)		
course credit value)						F	_		()		
3.3. Student work-load	-										
4. FORMATION OF STU	DEN'	Г GRADE									
4.1. Evaluation of seminar		Elements of		Bad		Satis	fying		Abov	e average	
paper		evaluation									
		Organization	The paper i	U	nized in a	* *			The paper is well		
			e	rder an	d lacks			,	distinction between		-
			structure.			the main body of	f the text a	nd the	main body of the to		
						conclusion.			which are logically	merconnecte	eu.



	Terminology, writing style Citing and referencing references	Words and expressions are not 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. The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	Words and expressions official terminology. T is appropriate, the sent clear, the vocabulary is there are few grammati The sources are listed and with errors. The relevant to the topic satisfactory research at	The writing style ence structure is appropriate and ical errors. but incomplete references are c and show a	official terminol understanding of writing style is e are clear and con rich and there are The sources are and consistently are appropriate, t	ssions are aligned with logy and show an their meaning. The xcellent, the sentences cise, the vocabulary is no grammatical errors. accurately, completely listed. The references heir list is "rich" and nd shows a detailed
					research approach.	
4.2. Gradeing of the colloquium/written and	course with examples.		Satisfying		Abov	re average
oral exam			It reproduces the basi without difficulty knowledge, understand explains the terms and supports with examples	imparts new ds the material, concepts that it	synthesis, and eva legality, accurat explains the conte logically connects and concepts the examples. Finds s	the level of analysis, luation. It observes the ely and thoroughly ent of the material, and and explains the terms nat it supports with solutions that were not It notes correlations ial.
4.3. Forming the final	Active attendance on	0-69,9% attendance	70-79,9% attendance	80-89,9%	attendance	90-100% attendance
grade according to the	class	0 points	5 points	7 p	oints	10 points
evaluation elements	Colloquiums x2	2	3		4	5
	Colloquiums x2	16 points	20 points	26 p	points	30 points
	Written part of exam	2	3		4	5



		50 - 64,9%	65 - 79,9%	80	- 89,9%	90 - 100%
		15 points	20 points	25	points	30 points
		2	3		4	5
	Oral part of exam	15 points	20 points	25	points	30 points
4.4. Formation of the final grade based on the	U 1	uired knowledge, skills and (teaching + final exam)	Numerical g	rade	EC	TS grade
absolute distribution		90 - 100%	5 (exceller	nt)		А
	3	80 - 89,9%	4 (very goo	od)		В
	6	55 - 79,9%	3 (good))		С
	6	50 - 64,9%	2 (sufficien	nt)		D
	50 - 59,9%		2 (sufficien	nt)		Е
5. ADDITIONAL INFOR	MATION ABOUT CO	URSE				
5.1. Compulsory literature (available in the library		Title			nber of copies in the library	Availability via other media
and via other media)	Stanić, E. : "Osnove elektrotehnike", Školska knjiga, Zagreb				3	
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Kulišić,P. : "Fizika 2", s Pinter,V. : "Osnove elel	Školska knjiga, Zagreb ktrotehnike 1 i 2", Tehnička knjiga	a, Zagreb			
5.3. Quality assurance	The control of students'	work quality and the acquisition of	f necessary knowledge and	l skills will be e	nsured through intera	active work. By keeping
methods that ensure the acquisition of knowledge, skills and competences	information for further their rights and obligati	student activity during classes and guidance to students will be provid ons as well as the methods of wor lata from the Croatian employmen	ded in order to increase th k and the required literatu	e efficiency of are. Indicators of	their work. Students f quality assurance	will be informed about system: Student survey,
5.4. Informing about the		f each student to be regularly infor		-		
course and contacting the course lecturer	× v	t will be published in a timely man ring the consultation period (at leas	•			•



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).



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

1. GENERAL INFORM	ATION		
1.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	140773
1.2. Course title	TRAFFIC LOGISTIC	1.9. Course code in MOZVAG	
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing +	(30 + 0 + 30 + 0)
associates		Practical exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd	1 st , course materials are
(specialist, undergraduate,		level), percentage of on line course performance (max.	on-line, 0%
graduate)		20%)	
1.5. Course status	Optional	1.12. Number of course revisions	4
(obligatory, optional)			
1.6. Year of study	1 st , 2 nd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or	Less than 20% X
		supplements	More than 20 %
2. COURSE DESCRIP	TION		
2.1. Course objectives	The goal is to get students on the basis of theoretical kno	wledge and case studies:	
	 learn about the elements of the logistics system, 		
	 identify and overcome logistical processes and a 	ctivities that are related to storage, transportation, and traff	ic,
	 mastering the modern logistics concepts and stra 	tegies.	
2.2. Terms of course entry	Enrolled 2 nd academic year, 4 year secondary education of	completed; qualification level 4.2 according to the CROQF	
and required competences			
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic techn	ology and organization in written and oral communication	with the professional public
on the study programme	in Croatian and English.		
level	LO2: Organize and conduct teamwork, and critically eva	luate the opinions and attitudes of team stakeholders.	
	LO3: Independently and responsibly search, interpret and	l integrate relevant literature for decision making.	
	LO6: Analyze and present relevant facts from the traffic	area required to reach conclusions.	
	IU9: Evaluate and organize processes in the field of road	transport and/or transport logistics.	
	IU11: Identity, anticipate and propose solution technolog	ies and techniques of road transport.	
	LO12: Design a smaller transport process and critically e	valuate it.	



	Learn	ing outcomes by Bloom: (maximum	n 2 werbs	for LO)		Level of LO:	
2.4. Expected learning						1 - memory,	
outcomes on the course						2 - understanding,	
level (4-10 learning						3 - application,	
outcomes)						4 - analysis,	
						5 - evaluation,	
						6 – synthesis.	
	1. Defi	ne and differentiate basic terms and	l division i	n logistics, warehousing, and freight forwardin	ng.	1, 2	
	2. Ana	lyze and extract information and co	mmunicat	ion technologies in transport logistics.		4, 2	
	3. Sele	ct, evaluate and categorize services	in the war	ehouse business.		3, 5	
			ation of p	oducts, organization of distribution and perfor	mance of city	4,6	
	logistic						
	^	pose ways of doing urban logistics, l	6				
		materials and tools to search the sci	3				
	langua	~					
A F G		1 0 1	problems,	and solutions independently and in a team.		6	
2.5. Course content	Consti	ructive allignement					
according to detailed							
curriculum schedule	N				Б	1	—
	No	Thematic unit	LO of	Content/teaching methods	Ev	aluation	Time
			the				
	1.	Introductory procentation	course	Listening to the lecture. In the course of			
	1.	Introductory presentation (introducing students to the		0			
		C C		seminars, they are introduced to the course content and documents on the e-learning			2 h
		course content and obligations)	-	e		-	2 n
		The terms of logistics (terms		independently on a computer.	A 4 4 h a a a 11	-income the second to -	
	2.	The term of logistics (term,	1, 6, 7	They listen to a lecture and read literature.	-	nium or the written	4 h
		developmental factors, elements		At the seminar class, they individually	and oral exam,	students know how	



of the logistics system, logistics system division) of the logistics system, logistics system division) of the logistics system, logistics system division) of the logistics system, logistics searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method	
it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the computer programs).	
paper that presents the acquired knowledge development. Seminar paper and presents their own ideas, and ways to solve problems. In group work at the computer programs).	
and presents their own ideas, and ways to created and presented (by solve problems. In group work at the computer programs).	
solve problems. In group work at the computer programs).	
seminar class, the brainstorming method	
	ļ ļ
and the discussion method on the topic are	
applied.	
3. Human resources in logistics They listen to a lecture and read literature. At the colloquium or the written	
(management, freight At the seminar class, they individually and oral exam, students know how	
forwarders, FIATA documents, explore the content of this topic area by to define and distinguish the basic	
customs officers). searching the database, and on the basis of concepts in freight forwarding.	
it and reading the literature, create a seminar Enumerate all freight forwarding	
1, 6, 7 paper that presents the acquired knowledge jobs, distinguish between customs	6 h
and presents their own ideas, and ways to documents, human resources	
solve problems. In group work at the working in logistics. Seminar	
seminar class, the brainstorming method paper created and presented (by	
and the discussion method on the topic are computer programs).	
applied.	
4. Warehouses and storage They listen to a lecture and read literature. At the colloquium or the written	
(concept, types and division, the At the seminar class, they individually and oral exam students know how	
factors for determining the explore the content of this topic area by to define and differentiate the	
location, equipment and searching the database, and on the basis of basic concepts of storage.	
furnishing warehouses, methods 1, 3, 6 , it and reading the literature, create a seminar Distinguish, describe and present	6 h
of storage operations) 7 paper that presents the acquired knowledge warehouse equipment. Analyze	011
and presents their own ideas, and ways to and evaluate factors for	1
solve problems. In group work at the determining location. Select,	1
seminar class, the brainstorming method evaluate and categorize services in	1
the warehouse business. List the	



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



1						
	8	computer programs, warehouse management system)		database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	in logistics, warehouse management system, Bar code technology, and RFID identification. Identify the abbreviations of information and communication technologies. Establish the difference, strengths and the weakness of using it. Seminar paper created and presented (by computer programs).	6 h
	8.	Information and communication system in the function of logistics (video films)	2, 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. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or written and oral exam, students know how to define and describe the Bar code technology, RFID identification, voice technology, and technology Pick to light. Establish the difference, strengths and the weakness of using it. Seminar paper created and presented (by computer programs).	6 h
	9.	Inventory management and manipulation with products (inventory planning and control, supply chain, packaging of goods, palletization and containerization)	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. In group work at the	At the colloquium or the written and oral exam, students can propose ways of manipulating with products (packaging, palletizing) and reducing the cost of supplies (supply chain). Define and describe Supply Chain and Just in time procurement. Identify	6 h



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



1						
		system, distribution networks, costs in distribution, term of the order, processes in ordering)		content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar	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.	
				class, the brainstorming method and the discussion method on the topic are applied.	Identify distribution costs. Seminar paper created and presented (by computer programs).	
	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. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam, students 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).	6 h
	14.	Study trip to LIDL Logistics- distribution center (located in 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	8 h



	15.	and preparing for	ations/Repeating r the exam.	-	They listen to a course le individuals for the exam.	ecture and prepare		ion with the	40 h
3. EVALUATION OF S									
3.1. Student obligations	least 70 papers. and mu (test). V Studen	0%. Part-time stud Students who hav ast re-enroll in the Written exam (test ts can take the fir	dents are required we achieved during e next academic y) can be held in a nal exam from the	to attend a g the cours year; from regular or e course in	ulebook on Student Assess a class of at least 50%. Al e: from 0 - 24,9% ECTS c 25 - 49,9% - are assessed extraordinary exam period a two ways: a) during the as); b) passing the exam (w	l students must crea redits- are rated F (by FX (insufficien ; more than 50% - s course of teaching	ate, present and positive unsuccessful) and cannot t) and must pass and p tudents have the right through continuous m	vely colloquy so not earn ECTS of pass the writter to take the final	eminar credits, n exam exam.
3.2. Student work monitoring (enter the	Atte	nding classes	1		Written exam	1 (without colloqiums)	Project		
share of ECTS credits for	Expe	rimental work			Research		Practical work		
each activity so that the		Esaay			Report		Continuous check		
total number of ECTS credits corresponds to the	С	olloquiums	1 (without writte exam)	•	Seminar paper	0,5	(other)		
course credit value)	Teac	hing activities	1		The oral part of exam	0,5	(other)		
3.3. Student work-load4. FORMATION OF STU	present	ation (16 hours), j) semester hours and is asso exam through self-study (4		(60 hours), preparation	n of seminar wo	ork and
4.1. Evaluation of seminar paper	E	lements of evaluation	Ba	d	Satis	fying	Above	e average	



1						
	Organization	The paper is not organized in a	The paper is well struct	ured with a clear	The paper is well	structured with a clear
		logical order and lacks	distinction between the	he introduction,	distinction betwee	en the introduction, the
		structure.	the main body of th	he text and the	main body of the	text and the conclusion,
			conclusion.		which are logicall	y interconnected.
	Terminolog, writing	Words and expressions are not	Words and expressions	s are in line with	Words and expres	ssions are aligned with
	style	in line with official	official terminology. T	The writing style	official termino	logy and show an
		terminology. The writing style	is appropriate, the sent	ence structure is	understanding of	their meaning. The
		is not appropriate, the	clear, the vocabulary is	appropriate and	writing style is e	xcellent, the sentences
		sentences are too long, of a	there are few grammati	ical errors.	are clear and con	cise, the vocabulary is
		modest vocabulary and with			rich and there are	no grammatical errors.
		frequent and repeated				
		grammatical errors.				
	Citing and referencing	The sources are not listed at all.	The sources are listed	but incomplete	The sources are	accurately, completely
	references	The references do not fit the	and with errors. The	references are	and consistently	listed. The references
		topic and show a cursory	relevant to the topic	c and show a	are appropriate,	their list is "rich" and
		approach to exploring the topic.	satisfactory research at	titude.	comprehensive a	nd shows a detailed
					research approach	l.
4.2. Gradeing of the		Bad	Satisfyir	ng	Abov	ve average
colloquium/written and						
oral exam	1 5 5	without a deeper understanding.	It reproduces the basis		U	the level of analysis,
		bly basic terms and concepts. It	-	imparts new	•	luation. It observes the
	•	ply or explain the contents of the	knowledge, understand		e .	ely and thoroughly
	course with examples.		explains the terms and	•	•	ent of the material, and
			supports with examples	S.	logically connects	and explains the terms
					^	nat it supports with
					examples. Finds	solutions that were not
						It notes correlations
					with related mater	
	Active attendance on	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created,
	class	70-7570 attendance	70-0070 ancidance	07-10070	attendance	Case studies resolved



4.3. Forming the final		2 points	4 points	7 points	3 points
grade according to the	g :	2	3	4	5
evaluation elements	Seminar paper	5 points 7 points		8 points	10 points
		2	3	4	5
	Colloquiums/	50 - 64,9%	65 - 79,9%	80 - 89,9%	90 - 100%
	Written part of exam	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	U 1	ired knowledge, skills and (teaching + final exam)	Numerical grade	ECT	ГS grade
absolute distribution	9	0 - 100%	5 (excellent)		А
	80	0-89,9%	4 (very good)		В
	65	5 - 79,9%	3 (good)		С
	6	0-64,9%	2 (sufficient)		D
	50	0-59,9%	2 (sufficient)		Е
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE			
5.1. Compulsory literature (available in the library		Title		Number of copies in the library	Availability via other media
and via other media)		R., Šafran M.: Freight Forwarding n Sciences, University of Zagreb.	-	City of Sibenik library	
	Mlinarić Josip T.: Freigh University of Zagreb, 20	nt-transport Centers, Faculty of T	-	PDF (Internet website)	
		ystems, University of Rijeka, Fac	2	website)	
	(selected chapters)	ystems, Omversity of Kijeka, Pae	2		
	1,	, MATE, Zagreb School of Econ	-	City of Sibenik library	



5.2. Additional literature	Teaching materials from lectures and seminars on the e-Learning system of the	e-learning system
(at the moment of changes	Polytechnic of Sibenik for the mentioned course.	City of Sibenik
and/or amended of study	Zelenika R.: Transport Systems, University of Rijeka, Faculty of Economics, Rijeka,	library
programme)	2001.	
	Zelenika R.: Transport and freight forwarding business, University of Rijeka, Faculty of	City of Sibenik
	Economics, Rijeka, 2001.	library
	Logistics <u>www.logistika.com.hr</u>	Internet website
5.3. Quality assurance	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through i	nteractive work. By keeping
methods that ensure the	track of attendance and student activity during classes and provided information on students` progress through short of	colloquiums and homework,
acquisition of knowledge,	information for further guidance to students will be provided in order to increase the efficiency of their work. Stud	lents will be informed about
skills and competences	their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurate	nce system: Student survey,
	monitoring of annual data from the Croatian employment service on the annual state of student employment, su	urveys from employers and
	Alumni association.	
5.4. Informing about the	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom acti	ivities. All notices of classes
course and contacting the	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
course lecturer	can contact teachers during the consultation period (at least one hour per week), while for short questions and explan	ations 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).	



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

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



2.3. Learning outcomes on the study programme level	profes	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with professional public in Croatian and English 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)					ng, ling, ı,		
				rofessional terminology of English	road traffic in English	2, 3			
		o apply grammatical structures in t		gnments		3			
		o interpret and use tenses in real-lif				3, 4			
		o develop an essay within the topic				5,6			
		o present own ideas for developme				3			
			•	e subjects of the course, to express of	one own opinions	6			
		o compare and evaluate different tr				5			
		o analyse medium complex texts and o use part of the general language of the g				4 6			
			competency a			0			
	Cons	structive allignement							
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluatio	n	Time		
2.5. Course content according to detailed curriculum schedule	o detailed 1. Intr	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h		
	2.	CARS` ANATOMY - Adjectives and their formation	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written the applied grammatical s and tasks are evaluated, u	tructures on texts	4 h		



					and link terms from the professional	
					terminology of English 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	
		MANAGEMENT IN	1, 2, 3, 4,	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	the course topic, express their own	4 h
	3.	TRAFFIC - Adverbs and their formation			opinions, present their own ideas related to	
	5.				the development of transport solutions to	
		Tormation			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	
				Listen to lectures and read	interpreted in a real linguistic context, can	
	4	In the typin overcosing present	1220	literature. Use multimedia and	communicate in foreign languages within	4 h
	4.	In the train – expressing present	1,2, 3, 9		the course topic, express their own	4 N
			internet. Solve exercises.	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.	
5.	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 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
6.	RAIL TRAFFIC IN EUROPE – Expressing habit	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve	4 h



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



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



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



13.	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
14.	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



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

3. EVALUATION OF STUDENTS` WORK

		of at least 70% is rec course classes. Speci	quired. Part-time studer al consideration is give	nts are required to attend n to the student's evalua	d classes at least 50%.T tion during the course of	The students` acquired k of the teaching process,	l full-time students attendance mowledge is tested during the with particular attention being
3.1	1. Students` obligations	Of particular importa both exams, he / she written and an oral p	ince for the final evaluation is exempted from the volume that ways to check learned to the second s	tion are the two written written part of the final rning outcomes are: ess	tests that students take exam and is obliged to says, objective type assi	during the semester. If t take the oral exam only ignments, discussion, re	ident produces for homework. he student successfully passes y. The final exam consists of a pleplay, presentation creation, e or eventual postponement of
		- ·		of the Polytechnic of Šil I the list of literature are		g page of the course, wh	nere all the information on the
	2. Monitoring student ork (enter the share of	Attendance	0,5	Written exam	1 (without colloquia)	Project	
	CTS credits for each	Experimental work		Research		Practical work	



activity so that the total number of ECTS points	Essay		Report		Continuou examinati			
corresponds to the credit score of the course)	Colloquium	(without written exam)	Seminar paper		Other			
	Class activity 0),5	Oral exam	1	Other			
3.3. Student workload	1. Attending clas	ses and exercises 4	S credit is 30 hours in a s 45 hours ough individual work 4		imated as:	I		
4. GRADING SYSTEM								
4.1. Grading seminar papers	-							
	Unsatisfac	tory	Satisfacto	ory		Above average		
4.2. Grading colloquia/ written and oral exam	4.2. Grading colloquia/ Responds by memory, we deeper understanding. It know or apply basis to		Does not terms and w how to Reproduces the basic con difficulty imparts n understands the materia		evaluation. Obs thoroughly expl logically connec supported with e	t the level of analysis, synthesis erves the principles, accurately ains the content of the material ts and explains the terms and cor examples. Finds solutions that we Notes correlations with related ma	and , and ncepts re not	
	Active course attenda		5% of attendance	76-86% of	attendance	87-100% of attendance		Maksin
			3 points	7 pc	oints	20 points		20
4.3. Final grade according	Seminar paper							
to evaluation elements			2		3	4		
	Colloquia/ Written ex	kam	50-64,9%	65-79	9,9%	80-89,9%		90
			25 points	30 p	oints	35 points		40
	Oral exam		2		3	4		



	25 points	30 points	35 g	points
	Percentage of acquired knowledge, skills and competences (teaching + final exam)	Numerical grade		grade
4.2 Einstein teinen time	90-100%	5 (excellent)	A	A B C D E es in Availability via other media X X X (elearning, handouts)
4.3. Final grade according to absolute division	80-89,9%	4 (very good)	E	3
	65 - 79,9%	3 (good)	(2
	Control Percentage of acquired knowledge, skills and competences (teaching + final exam) Numerical grade ECTS grade)		
	50-59,9%	2 (satisfactory)	E	2
5. ADDITIONAL COURS	E INFORMATION			
5.1. Compulsory literature	Title		-	•
(available in the library and via other media)		10	Х	
5.2 Additional literature (at the moment of changes and/or amended of study programme)	and Postal Services with Grammar and Exercises for 1st Ye Prometni odjel, 2007. Adrian Pilbeam and Nina O'Driscoll: "Logistics Manag Longman, 2010 A.J. Thomson, A. V. Martinet:"A practical English Gramma A.J. Thomson, A.V. Martinet:"A Practical English Gramma	ear Students", Veleučilište u Rijeci, gement", Market Leader, Pearson ar", Oxford University ar Exercises", Oxford University		
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	track of attendance and student activity during classes and p information for further guidance to students will be provid	rovided information on students` proed in order to increase the efficience	ogress through short coll by of their work. Student	oquiums and homework, s will be informed about



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



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

1. GENERAL INFORM	Luka Olivari	1.8. Course code in ISVU	187600
1.1. Course recturer			187000
1.2 Course title	TECHNICAL MECHANICS	1.9. Course code in MOZVAG	
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(45+45+0+0)
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4
1.6. Year of study	1 st	1.13. Modernization	Yes
1.7. Credit score (ECTS)	8	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20%
2. COURSE DESCRIP	TION		
2.1. Course objectives	 master the application of the acquired know 	eoretical knowledge and practical examples: tific content of technical mechanics (statics, kinematics and dynamics yledge for solving practical tasks in the field of transport; s of mechanics for the application in practice.	\$);
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification	ation level 4.2 according to the CROQF.	
2.3. Learning outcomes on the study programme level	LO4: To apply knowledge from the field of natural LO8: To solve problems in traffic by using analytic	*	
	Learning outcomes by Bloom: (maximum 2 werbs	s for LO)	Level of LO: 1 - memory,



2.4. Expected learning						2 - understan	ıding,
outcomes on the course						3 - applicatio	on,
level (4-10 learning						4 - analysis,	
outcomes)						5 - evaluation	n,
						6 – synthesis.	
	1	. Define and explain basic concept	ts in techni	cal mechanics.		1, 2	
	2	. Explain and analyze the axioms of	of solid stat	te statics and physical laws and phenomena in the	e field of mechanics.	2, 4	
	3	. Apply and analyze equilibrium e	equations for	or a rigid body.		3, 4	
	4	. Evaluate the consequences of the analytical methods.	he action of	of a system of forces and / or static moment u	using graphical and	5	
	5	. Sketch the diagrams of internal f	forces and 1	moments for straight solid beam		4	
	6. Identify the type of motion of a particle or solid and solve numerical problems in the field of kinematics.					4,4	
	7. Analyze and sketch kinematic diagrams of the motion of a particle or solid.					4,4	
	8	. Select physical laws and princip dynamics of particles and solids.		scribe the problem, and use them to solve numer	ical problems in the	5, 4	
2.5. Course content according to detailed curriculum schedule	Cons	structive allignement					
			LO of				
	No	Thematic unit	the course	Content/teaching methods	Evaluati	on	Time
	1.	Introductory presentation (introducing students to the content and obligations of the course). Field of study and division of technical mechanics. Basic concepts, physical quantities and units of technical mechanics.	1	Listen to a lecture. By working independently on a computer, they are introduced to the course content, writing a seminar paper and documents on the e-learning page of the course. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium of and oral exam the explain the basic te quantities and measurement.	y define and	6 h



		-			
	Laws and axioms of statics. A		Listen to a lecture and read literature. The	At the colloquium or the written	
	system of forces, coupling		exercises demonstrate how to solve tasks.	and oral exam they know: to	
	forces and torques.		Independent task solving.	define, explain and analyze the	
				axioms of solid state statics and	
				physical laws in the field of	
2.		1, 2, 4		mechanics; solve numerical tasks	6 h
				from the specified area; evaluate	
				the consequences of the action of	
				a system of forces and / or static	
				moment using graphical and	
				analytical methods.	
	Equilibrium and equilibrium	1, 3, 4	Listen to a lecture and read literature. The	Apply and analyze equilibrium	
	conditions. Graphic equilibrium		exercises demonstrate how to solve tasks.	equations for a rigorous or	
	conditions.		Independent task solving.	written and oral exam, evaluate	
				the consequences of the action of	
3.				a system of forces and / or static	6 h
				moment using graphical and	
				analytical methods, solve	
				numerical problems in the	
				specified field.	
	The center of gravity of a rigid		Listen to a lecture and read literature. The	At the colloquium or the written	
	body. Friction		exercises demonstrate how to solve tasks.	and oral exam they know how to	
			Independent task solving.	define, explain the center of	
				gravity and calculate the	
4.		1, 3		coordinates of the center of	6 h
7.		1, 5		gravity of the rigid body; define	0 11
				and explain friction, analyze the	
				impact of friction; solve	
				numerical tasks from the	
				specified area.	



1					
5		3, 4, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	They can apply and analyze the equations of equilibrium for a straight full carrier, evaluate the consequences of the action of a force system, sketch diagrams of internal forces and moments at a colloquium or a written and oral exam.	6 h
6		1, 6, 7	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or written and oral exam they can define and explain the basic concepts in kinematics, identify the type of motion of a particle or solid, solve numerical problems in the field of kinematics.	6 h
7	Straight motion, kinematic diagrams	1, 6, 7	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or written and oral exam they can define and explain the basic concepts in kinematics, identify the type of motion of a particle or solid, solve numerical problems in the field of kinematics.	6 h
8	Variable linear motion, harmonic motion	1, 6, 7	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they can define and explain the basic concepts in kinematics, identify the type of motion of a particle or solid, solve numerical problems in the field of kinematics.	6 h



	Curvilinear movement, circular		Listen to a lecture and read literature. The	At the colloquium or the written	
	motion.		exercises demonstrate how to solve tasks.	and oral exam they can define	
			Independent task solving. Individual	and explain the basic concepts in	
9.		1, 6, 7	preparation for colloquiums.	kinematics, identify the type of	6 h
				motion of a particle or solid,	
				solve numerical problems in the	
				field of kinematics.	
	An introduction to particle and		Listen to a lecture and read literature. The	At the colloquium or written and	
	solid body dynamics.		exercises demonstrate how to solve tasks.	oral exam they can define and	
			Independent task solving.	explain basic concepts in	
				dynamics, explain and analyze	
				physical laws in the field of	
		1, 2, 4,		mechanics, evaluate the	
10.		1, 2, 4 , 6, 8		consequences of the action of	6 h
		0,0		forces and moments, identify the	
				type of motion of a particle or	
				solid, select physical laws and	
				principles, and use them solve	
				numerical tasks in the field of	
				dynamics.	
	D'Alembert principle,		Listen to a lecture and read literature. The	At the colloquium or written and	
	mechanical work and power		exercises demonstrate how to solve tasks.	oral exam they can define and	
			Independent task solving.	explain basic concepts in	
				dynamics, explain and analyze	
11.		1, 2, 4,		physical laws in the field of	6 h
11.		6, 8		mechanics, evaluate the	0 H
				consequences of the action of	
				forces and moments, identify the	
				type of motion of a particle or	
				solid, select physical laws and	



1						1
					principles, and use them solve	
					numerical tasks in the field of	
					dynamics.	
		Mechanical energy, the law of		Listen to a lecture and read literature. The	At the colloquium or written and	
		conservation of mechanical		exercises demonstrate how to solve tasks.	oral exam they can define and	
		energy		Independent task solving.	explain basic concepts in	
					dynamics, explain and analyze	
					physical laws in the field of	
			1		mechanics, evaluate the	
	12.		1, 2, 4,		consequences of the action of	6 h
			6, 8		forces and moments, identify the	
					type of motion of a particle or	
					solid, select physical laws and	
					principles, and use them solve	
					numerical tasks in the field of	
					dynamics.	
F		Force impulse, quantity of		Listen to a lecture and read literature. The	At the colloquium or written and	
		motion, law of quantity of		exercises demonstrate how to solve tasks.	oral exam they can define and	
		motion, law of conservation of		Independent task solving.	explain basic concepts in	
		quantity of motion, collisions			dynamics, explain and analyze	
		1 5			physical laws in the field of	
					mechanics, evaluate the	
	13.		1, 2, 4,		consequences of the action of	6 h
			6, 8		forces and moments, identify the	
					type of motion of a particle or	
					solid, select physical laws and	
					principles, and use them solve	
					numerical tasks in the field of	
					dynamics.	



•	r				T • , 1	1 1 1'	A1 11 .	• •	
		Dynamic moment of	inertia,			e and read literature. The	1		
		rigid body rotation				rate how to solve tasks	2		
					Independent tas	U	*	·	
					preparation for coll	oquiums.	dynamics, explain	and analyze	
							physical laws in	the field of	
				1 2 4			mechanics, eva	aluate the	
	14.			1, 2, 4,			consequences of	the action of	6 h
				6, 8			forces and moment	s, identify the	
							type of motion of	•	
							solid, select physi	•	
							principles, and us		
							numerical tasks in		
							dynamics.	i une mena or	
					Listen to a lecture :	and read literature. Prepare			
	15.	Final consideration			individually for the				6 h
3. EVALUATION OF			labook on Stu	udy and the	Pulabook on Assas	sment and Evaluation of S	tudant Parformanca:	Full time stude	ate ara
				•		obtaining the lecturer's s			
3.1. Student obligations	-				-	o earn a minimum of 25%	-	-	
5.1. Student obligations			•	•		am in the course in two	1 1	-	
			-				ways: a) during the c	ourse, by taking	, three
		quiums and oral part of) passing tr			Ductorst		
3.2. Student work		nding classes	3		Written exam	3 (without colloquiums)	\$		
monitoring (enter the	Expe	rimental work			Research		Practical work		
•	-				Report		Continuous		
share of ECTS credits for	Essay	ý			Report		001111100405		
share of ECTS credits for each activity so that the	Essay	ý			Report		check		
each activity so that the		y oquiums	3 (without w	vritten	Seminar paper				
each activity so that the total number of ECTS			3 (without w exam)	ritten	-		check		
each activity so that the	Collo			ritten	-	2	check Field works or		



	Student workload on all bases is 1 ECTS credit for 30 hours of work per semester and is estimated as going to fieldwork or study trips (3						
	hours), preparation of seminar work and presentation (30 hours).						
	Obligation	Hours (estimated)					
5.5. Student work-toad	1. Attending classes	90					
	2. Colloquiums and written exam individual preparation	90					
	3. Oral exam individual preparation	60					
	3.3. Student work-load	3.3. Student work-load hours), preparation of seminar work and presentation (30 hours). Obligation 1. Attending classes 2. Colloquiums and written exam individual preparation					

4. FORMATION OF STUDENT GRADE

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



			a :						
		apply or explain the contents of the supports them with examples. Kno				-	ontent of the material,		
		course with examples.	course with examples.		the expert terminology.		and logically connects and explains		
						the terms and	concepts and supports		
						them with exa	mples. Finds solutions		
						that were not	t originally given. It		
						notes correla	ations with related		
						material. Flu	ent in professional		
						terminology.	_		
·									
1.2 Forming the final	Colloquiums/	2		3	4		5		
4.3. Forming the final grade according to the	Written exam	50-64,9%		65-79,9%	80-89	,9%	90-100%		
evaluation elements		50-64,9 bodova 65		5-79,9 bodova	80-89,9	bodova	90-100 bodova		
	The oral part of exem	2		3	4		5		
		50-64,9 bodova 6		5-79,9 bodova	80-89,9 bodova		90-100 bodova		
	Percentage of acquired knowledge, skills and			Numerical grad	Numerical grade ECTS grade		'S grade		
	competencies (teaching + final exam)			5 (excellent)			•		
4.4. Formation of the final	90 - 100%			, ,		A			
grade based on the	80-89,9%			4 (very good)		В			
absolute distribution	65 – 7	79,9%		3 (good)		С			
	60 - 6	54,9%	2 (sufficient)			D			
	50 - 5	59,9%		2 (sufficient)		E			
5. ADDITIONAL INFORM	MATION ABOUT COUI	RSE							
5.1. Compulsory literature (available in the library and via other media)	Title					Number of copies in the library	Availability via other media		
	mr.sc. Srećko Đuranović,	, dipl. ing: Udžbenik iz Tehničko	e meha	nike, izdanje VUŠ,	Šibenik 2015.	-	on-line (e-learning)		
	-				. 8,				



	1. Teaching materials from the lectures and exercises on the e-learning system of the							
5.2. Additional literature	Polytechnic for the course Technical Mechanics.		on ling (a lagraing)					
	2. Jurum Kipke, J.: Mehanika u prometnom inženjerstvu, Fakultet prometnih znanosti, Zagreb,	-	on-line (e-learning)					
(at the moment of changes	2001.	-	-					
and/or amended of study	3. Jurum Kipke, J., Wolf, H., Muftić O.: Mehanika u prometu, Udžbenik Sveučilišta u	3	-					
programme)	Zagrebu, Fakultet prometnih znanosti, Zagreb, 2009.	2	-					
	4. Jecić S., Mehanika (kinematika i dinamika), Tehnička knjiga, Zagreb, 1989.							
	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured	sured through interact	ive work. By keeping					
5.3. Quality assurance	track of attendance and student activity during classes and provided information on students` progress	through short colloqu	iums and homework,					
methods that ensure the	information for further guidance to students will be provided in order to increase the efficiency of the	eir work. Students w	ill be informed about					
acquisition of knowledge,	their rights and obligations as well as the methods of work and the required literature. Indicators of	quality assurance sys	stem: Student survey,					
skills and competences	monitoring of annual data from the Croatian employment service on the annual state of student e	mployment, 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					
5.4. Informing about the	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					
course and contacting the	can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted							
course lecturer	during class. It is also possible to ask questions by e-mail (from the official e-mail address name@w	vus.hr), which will be	answered as soon as					
	possible (no later than five working days after receiving the e-mail).							



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

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

2. COURSE DESCRIPTIO	ON
2.1. Course objectives	 The aim is that student, based on theoretical knowledge and case studies, be able to: Define basic ecological and environmental concepts; Understand problems in their own environment (in traffic and / or in the work environment) to independently manage the environment in a way that minimally affects the state and components of the environment in terms of sustainable development; Learn to identify the damage that traffic or traffic system participants can cause to natural ecosystems; Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year high school education completed; having a qualification at level 4.2
	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.							
2.3. Learning outcomes	LO4. To apply knowledge from the field of natural and technical sciences to problems in road traffic.							
on the study programme	LO6. To analyze and present relevant facts from the field of traffic needed to reach conclusions.							
level	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)							
2.4. Expected learning	1. to demonstrate knowledge and understanding of the content of the course by defining and describing the basic concepts in ecology and environmental protection,	1, 1						
outcomes on the course level	2. to analyze and compare the relationship between man and his environment in the historical and contemporary context of traffic and traffic techniques development,	4, 2						
	3. It will also provide an example of road traffic impacts on natural ecosystems and parts of the environment (air, water and sea, soil, flora and fauna) and	2, 3						
	4. Give an example of measures how to reduce negative impacts of traffic on the environment,	3						
	5. Discuss and critically evaluate on the activity of traffic participants as well as traffic experts in accordance with the principles of sustainability and accountability,	4, 5						
	6. Use materials and tools to search scientific and professional literature in Croatian and in English,	3						
	7. Present accepted knowledge, ideas, problems and solutions independently and in the team.	6						

2.5. Course content		Cons	tructive alignment				
	according to detailed	No:	Thematic ensemble / Lecture	Course	Content / Teaching Method	Evaluation	Time
	curriculum schedule No:	140.	Торіс	LO	Content / Teaching Methou	Evaluation	needed



1						
		Introduction to the course and a detailed performance plan	-	Listen to the lecture. On seminary teaching, by independent work on the computer students get acquainted with course content and documents on the e- learning course page.	-	2 h
	1.	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
	2.	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
	3.	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	4 h



1						
					members of the nutrition chain, and distinguish organisms with regard to the trophy.	
	4.	Pollution and degradation of the environment. Traffic caused Environmental Degradation.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually, in pairs or Socrates threes made mental map and solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In a colloquy or written and oral exam students can define what environmental degradation is and how it comes to it, give an example of environmental degradation, analyse and conclude how environmental degradation occurs and compare how traffic causes degradation of the environment. Created mental map. Solved case study.	10 h
	5.	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	10 h



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



			the literature. At the seminar student	choose and comment on the most	
			individually explore the content of this	environmentally acceptable	
			topic area by searching the database and	solution. Created and Presented	
			based on it and read literature students	seminar paper (by independent use	
			write seminar paper thus presenting the	of computer programs).	
			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	
	Road traffic and energy consumption. Ecological efficiency in Traffic.		Listen to the lecture and read the	exam students can define and	
		1, 2, 3,	literature. Listen to the lecture and read	describe ecological efficiency, to	
			the literature. At the seminar student	analyse and compare energy	
			individually explore the content of this	consumption in traffic in the	
			topic area by searching the database and	historical and contemporary	
9.		4, 5, 6,	based on it and read literature students	context, to propose and use	6 h
		4, 3, 0, 7	write seminar paper thus presenting the	measures to reduce energy	0 11
	enterency in Tranie.	,	acquired knowledge and making their	consumption in road traffic and	
			own ideas, and ways to solve problems.	increase energy efficiency, critically	
			Methods of brain storm and discussion	evaluate the most appropriate	
			on the exposed topic is applied in the	solution. Created and Presented	
			whole group.	seminar paper (by independent use	
				of computer programs).	
				In a colloquy or written and oral	
	Pollution and degradation of	1, 2, 3,	Listen to the lecture and read the	exam students can define and	
10.	water in road traffic. View of	1, 2, 3, 4, 5, 6,	literature. At the seminar, students solve	describe the basic concepts of	8 h
10.	mitigation and / or rehabilitation	4, <i>3</i> , 0, 7	the case study.	pollution and degradation of water,	0 11
	measures.	,	the cuse study.	to enumerate and distinguish natural	
				and anthropogenic sources of water	



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



			1			
					of it. Created and Presented seminar paper (by independent use of	
					computer programs).	
	13.	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
	14.	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
	15.	Concluding Considerations / Repeating and Preparing for Exam.		Listen to the lecture and individual preparation for the exam.	-	20 h
3. EVALUATION OF ST	UDEN	IT 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 F (unsuccessful) and cannot get ECTS credits and must re-enrol the subject in the next academic year; From 25 – 49,9% ECTS credits - is rated FX (inadequate) and has to come out and pass the test (exam). A written exam can be held in a regular or extraordinary exam period; More than 50% ECTS credits - students have the right to access the final exam of the subject. 							
3.2. Monitoring student	creating mental map, se	olving case studies, mak	ing and presenting the	seminar paper and pas	ssing two colloquia); b) du the seminar paper) and pa Project	uring the course (active		
work (enter the share of	Experimental work		Research		Practical work			
ECTS credits for each activity so that the total number of ECTS points	Essay		Report		Continuous examination			
corresponds to the credit score of the course)	Colloquium	3 (by submitting both colloquiums the student is relieved of a written and oral examination)	Seminar paper	0,5	Other (inscribe)			
	Class activities	0,5	Oral exam	1 (by submitting both colloquiums	Other (inscribe)			



						-					
					the student is						
					relieved of an oral						
					examination)						
	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	1. Attending class	ses		45							
	2. Creating and P	resenting seminar pape	er		10						
	3. Preparation for	the Colloquium / example the Colloquium (the Colloquium / example the Colloquium (the Colloqu	m through self-s	tudy	65						
4. GRADING	_										
	Valuation Element	Poor			Satisfying		Abov	e average			
	Organization	The paper is not o logical order and i lacking.	•	The paper is well structured with a clear distinction between the introduction, the main part of the text and the conclusion.		clear distinction distincti distinction distinction distinction distinction distinction di	main part of the te ons that are perfect	the ext			
4.1. Seminar paper grading	Terminology, writing style	Words and phras harmonized wit terminology. Writin appropriate, sentence modest vocabulary, and repeated gramma	th official g style is not es are too long, and frequent	officia style structu approj	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.		official termino understanding of writing style is ex are clear and cond	ses are aligned wi logy and show their meaning. T acellent, the sentence cise, the vocabulary are no grammatic	an The ces y is		
	Quoting and referencing	Sources are not speci references do not m and show a superfici the research topic.	natch the topic	Sources are listed, but incomplete and with errors. The references are appropriate for the subject and show a satisfactory research attitude.		consistent. Th appropriate, thei	r list is "rich" a and shows a robu	are ind			
4.2. Colloquium / exam grading	Poo	Dr		Satis	ying		Above av	erage			



	understanding. Does not know and does not t apply the basic terms and concepts. Cannot s			ces basic terms, without new knowledge, un natter, explains the terms hat substantiate by examp	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 lessons	70-75% of attendance	ce	76-86% of attendance	87-100%	6 of attendance		ted mental map. ved case study.	
	In the lessons	2 points		4 points	,	7 points		3 points	
	a :	2		3		4		5	
4.3. Creating a final grade	Seminar paper	5 points		7 points	8 points		10 points		
according to evaluation		2		3		4		5	
elements	Colloquium / written exam	50-64,9%		65-79,9%	8	0-89,9%		90-100%	
		25 points		30 points	3	5 points		40 points	
	0.1	2		3		5		5	
	Oral exam	25 points		30 points 3		35 points		40 points	
	e e	dopted knowledge, skills s (teaching + final exam		Numerous g	Numerous grade		ECTS grade		
4.4. Creating a final grade		90 - 100%		5 (exceller	nt)		А		
according to absolute		80-89,9%		4 (very goo			В		
allocation		65 – 79,9%		3 (good)			С		
		60-64,9%		2 (sufficien	,		D		
		50 - 59,9%		2 (sufficien	nt)		E		
5. ADDITIONAL INFOR	MATION ABOUT TH	E COURSE							
		Title Number of copies in the library Availability via other media							



5.1. Compulsory literature (available in the library and through 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) 144final, 2011 Golubić, J., Promet i okoliš, FPZ, Zagreb, 1999. 	5	Available On-line Available On-line					
5.2. Additional literature (at the moment of changes and/or amended of study programme)	 Contere, e., Frencer energy, Fr2, Eugree, F9991 Radić Lakoš, T., Upravljanje okolišem, VUŠ, Šibenik, 2018. (selected chapters) Glavač, V., Uvod u globalnu ekologiju, Hrvatska sveučilišna naklada, Zagreb, 2001. Udovičić, B., Čovjek i okoliš, Kigen, Zagreb, 2009. 	5 2	Available On-line					
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	track of attendance and student activity during classes and provided information on students` progress information for further guidance to students will be provided in order to increase the efficiency of their rights and obligations as well as the methods of work and the required literature. Indicators of	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping rack of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, nformation for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about heir rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, nonitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumpi association						
5.4. information on the course and contact with the teacher	It is obligatory for every student to regularly inform about the course, teaching and teaching active delay in teaching will be published on the e-learning pages of the course and on the web pages of teachers during the consultation term (at least one hour per week), while brief questions and explan possible to ask questions by e-mail (from the official e-mail address from the domain @ vus.hr) th than five working days from the receipt of e-mail).	of the Polytechnic. So attions can be addres	sudents can contact the sed during classes. It is					



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

1. GENERAL INFORM	IATION		
1.1. Course lecturer	Srećko Đuranović, Ernest Bazijanac	1.8. Course code in ISVU	187601
1.2 Course title	INTRODUCTION TO MECHANICAL ENGINEERING	1.9. Course code in MOZVAG	
1.3. Assistants and/or associates	Luka Olivari	Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(45+45+0+0)
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4
1.6. Year of study	2 nd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	6	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □
2. COURSE DESCRIP	TION		
2.1. Course objectives			
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualified	cation level 4.2 according to the CROQF.	
2.3. Learning outcomes on the study programme level		complex written and oral communication in Croatian and foreign lang al and technical sciences to problems in road traffic ical and / or graphical methods	uages
	Learning outcomes by Bloom: (maximum 2 wer	bs for LO)	Level of LO:



2.4. Expected learning						1 - memory,		
outcomes on the course						2 - understand	ing,	
level (4-10 learning						3 - application	,	
outcomes)						4 - analysis,		
						5 - evaluation,		
						6-synthesis.		
	1	. Define and explain basic conce	pts in mech	hanical engineering.		1, 2		
	2	. Analyze and calculate heat con	duction and	d thermal expansion of the material.		4,4		
	3	. Explain and comment on mater	ial characte	eristics and properties, and procedures for test	ing material properties.	2,4		
	 Distinguish between basic machine elements, coupling elements, and power and motion transmission elements. 							
	5	5. Analyze and evaluate the stress of the material and the deformation due to load on the example.						
	6	6. Sizing machine elements based on sizing criteria.						
	7. Calculate gear ratio and power losses for complex power and motion transmitters.							
	8. Formulate expressions for determining traction and vehicle resistance.					6		
2.5. Course content according to detailed curriculum schedule	Cons	structive allignement						
			LO of					
	No	Thematic unit	the	Content/teaching methods	Evaluatio	on	Time	
			course					
		Introductory presentation	1	Listen to a lecture. By working			6 h	
		(introducing students to the		independently on a computer they are	and arom that define	and availain the		
		(introducing students to the		independently on a computer, they are	oral exam they define	-		
		content and obligations of the		introduced to the course content, writing a	basic concepts from	the basics of		
	1.	content and obligations of the course). Introduction to		introduced to the course content, writing a seminar paper and documents on the e-	•	the basics of		
	1.	content and obligations of the course). Introduction to mechanical engineering,		introduced to the course content, writing a seminar paper and documents on the e- learning page of the course. The exercises	basic concepts from	the basics of		
	1.	content and obligations of the course). Introduction to mechanical engineering, determining the shape and		introduced to the course content, writing a seminar paper and documents on the e- learning page of the course. The exercises demonstrate how to solve tasks.	basic concepts from	the basics of		
	1.	content and obligations of the course). Introduction to mechanical engineering,		introduced to the course content, writing a seminar paper and documents on the e- learning page of the course. The exercises	basic concepts from	the basics of		



	Material structure, Properties		Listen to a lecture and read literature. The	At the colloquium or the written and	
	of metals and alloys		exercises demonstrate how to solve tasks.	oral exam they know: to explain and	
			Independent task solving.	comment on the characteristics and	
				properties of the material, as well as	
2		1.2		the procedures for examining the	6 h
2.		1, 3		material; solve numerical tasks from	оп
				the specified area.the action of a	
				system of forces and / or static	
				moment using graphical and	
				analytical methods.	
	Chemical properties of		Listen to a lecture and read literature. The	At the colloquium or the written and	
	materials, Thermal properties		exercises demonstrate how to solve tasks.	oral exam they know: to analyze and	
	of materials, Mechanical		Independent task solving.	calculate the heat conduction and	
	properties of materials			thermal stretching of the material;	
3.		1, 2, 3		explain and comment on material	6 h
				characteristics and properties, and	
				material testing procedures; solve	
				numerical tasks from the specified	
				area.	
	Types of load and strain.		Listen to a lecture and read literature. The	At the colloquium or the written and	
			exercises demonstrate how to solve tasks.	oral exam they know: to explain and	
			Independent task solving.	comment on the characteristics and	
				properties of the material, as well as	
				the procedures for examining the	
4.		1, 3, 5		material; analyze and evaluate the	6 h
				stress of the material and the	
				deformation due to loading; solve	
				numerical tasks from the specified	
				area.	
	l	1	1		



1						
	5.	Fundamentals of testing the mechanical properties of materials, Diagram σ-ε, Permissible stress and safety factor	1, 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 they know: to explain and comment on the characteristics and properties of the material, as well as the procedures for examining the material; analyze and evaluate the stress of the material and the deformation due to loading; to dimension machine elements based on sizing criteria; solve numerical tasks from the specified area.	6 h
	6.	Stress Concentration, Torque Moments, Hardness and Hardness Testing	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they know: to explain and comment on the characteristics and properties of the material, as well as the procedures for examining the material; analyze and evaluate the stress of the material and the deformation due to loading; solve numerical tasks from the specified area.	6 h
	7.	Creep and creep test, Toughness and toughness test.	1, 3, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam, they are able to: explain and comment on the characteristics and properties of the material and the procedures for examining the material; analyze and evaluate the stress of the material and the deformation due to loading; solve	6 h



1						
					numerical tasks from the specified	
	8.	Machine elements: rivets, welds	1, 4, 5, 6	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they know: to distinguish between the basic elements of machines, the elements for coupling, and the elements for the transmission of power and motion; analyze and evaluate the stress of the material and the deformation due to loading; solve numerical tasks from the specified area.	6 h
	9.	Machine Elements: Solder Joints, Screw Joints, Clamp Joints	1, 4, 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 they know: to distinguish between the basic elements of machines, the elements for coupling, and the elements for the transmission of power and motion; analyze and evaluate the stress of the material and the deformation due to loading; solve numerical tasks from the specified area.	6 h
	10.	Machine Elements: Pins, Bolts, Springs.	1, 4, 5, 6	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the written and oral exam they know: to distinguish between the basic elements of machines, the elements for coupling, and the elements for the transmission of power and motion; analyze and evaluate the stress of the material and the deformation due to loading; solve	6 h



	1				
				numerical tasks from the specified	
				area.	
	Machine Elements: Shafts and		They listen to a lecture and read literature.	At the colloquium or the written and	
	Shafts, Bearings, Couplings		The exercises demonstrate how to solve	oral exam they know: to distinguish	
			tasks. Independent task solving.	between the basic elements of	
				machines, the elements for coupling,	
				and the elements for the transmission	
11		1, 4, 5,		of power and motion; analyze and	
11.		6,7		evaluate the stress of the material and	6 h
				the deformation due to loading;	
				calculate the transmission ratio and	
				power losses of complex power and	
				motion transmitters; solve numerical	
				tasks from the specified area.	
	Machine Elements: Power		They listen to a lecture and read literature.	At the colloquium or the written and	
	Transmissions, Gears		The exercises demonstrate how to solve	oral exam they know: to distinguish	
			tasks. Independent task solving.	between the basic elements of	
				machines, the elements for coupling,	
				and the elements for the transmission	
10		1, 4, 5,		of power and motion; analyze and	
12.		6,7		evaluate the stress of the material and	6 h
				the deformation due to loading;	
				calculate the transmission ratio and	
				power losses of complex power and	
				motion transmitters; solve numerical	
				tasks from the specified area.	
	Machine Elements: Belt drive,		They listen to a lecture and read literature.	At the colloquium or the written and	
10	Friction drive, Chain drive.	1, 4, 5,	The exercises demonstrate how to solve	oral exam they know: to distinguish	
13.		6,7	tasks. Independent task solving.	between the basic elements of	6 h
		-		machines, the elements for coupling,	
			1		



					and the elements for the transmission of power and motion; analyze and evaluate the stress of the material and the deformation due to loading; calculate the transmission ratio and power losses of complex power and motion transmitters; solve numerical tasks from the specified area.	
	14.	Vehicle movement equation, Vehicle movement resistance force, traction force	1, 8	They 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 they can: define and explain the basic concepts from the basics of mechanical engineering; formulate terms to determine the traction force and the resistance of the vehicle; solve numerical tasks from the specified area.	6 h
-	15.	Final consideration	-	Listen to a lecture and read literature. Prepare individually for the exam.	-	6 h
3. EVALUATION OF S	In ac	cordance with the Rulebook on S	•	he Rulebook on Assessment and Evaluation		

	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. Full-time students are required to attend a minimum of 70% of classes by the day of the colloquium, and to earn a minimum of 25% of the points at the previous colloquiums in								
3.1. Student obligations									
	order to qualify for the next colloquium. Students can take the final exam in the course in two ways: a) during the course, by taking the								
	colloquiums and oral part of the exam; b) passing the written and oral part of the exam.								
3.2. Student work	Attending classes	3	Written exam	2 (without	Project				
monitoring (enter the				colloquiums)					
share of ECTS credits for	Experimental work		Research		Practical work				
each activity so that the	Essay		Report		Continuous check				



total number of ECTS	Colloquiums	2 (without written	(without written Seminar paper				Field v	vorks or		
credits corresponds to the		exam)					Study trips			
course credit value)	Teaching activities		The oral part of		1		(other)			
	-		exam							
	Student workload on all bases is 1 ECTS credit for 30 hours of work per semester and is estimated as going to fieldwork or study trips (30									
	hours), preparation of seminar work and presentation (30 hours).									
3.3. Student work-load	Obligation				Hours (estimated)					
5.5. Student work-toad	1. Attending classes			90	0					
	^	written exam individua	al preparation	60						
	3. Oral exam individ	3. Oral exam individual preparation								
4. FORMATION OF STU	DENT GRADE									
	Elements of evaluation	Bad			Satisfying	g		Abo	ove average	2
	Physical quantities and	Nonstandard physica	al units have	Nonsta	indard units	have	been	Nonstandard	units ha	ave been
	their units of measurement	not been converted to basic or have		conver	converted to basic units with minor		converted to base units without			
		υ			errors in calculation.			error.		
	Structure, traceability,				The task is satisfactorily structured,			The task is clearly structured,		
	legibility and orderliness				traceable and readable. The diagrams			complete, very neat and legible. The		
	of the procedure, diagrams	C			and sketches are meaningful, neat with minor errors.					
4.1. Evaluation of written	and sketches	are non-existent, inaccurate, w messy, unclear and ambiguous.			inor errors.			clear and very	neat.	
exam	Application of appropriate	Uses expressions	-	LIGAG 4	avprassions that	describ	o tha	Lises expressi	one that de	scribe the
	equation (formulas) and	describe the problem	Uses expressions that describe the problem in question, accurately			Uses expressions that describe the problem in question, accurately				
	the final result.	· ·			derives physical quantities from the			derives physical quantities from		
		unit from the express	expression, incorporates numerical			expressions, lists units of measure				
		values are not incl			into the exp			without errors		
					smaller numbers, the final result has					
		incorrect.		smaller	r deviations fro	om the	exact			
				result.						



	V 1 1	IT. 11	•.1 .	T. 1 .1	1	1 77 1 1	· (1 1 1 C		
	Knowledge and	1 ,		•	e basic concepts and	C C			
4.2. Evaluation of oral	expression.	deeper understanding.			ilty imparts new		analysis, synthesis and evaluation.		
		know or apply basic		Ũ	erstands the material		Observes the principles of physical		
		concepts. Does not kr		-	erms and concept		laws, accurately and thoroughly		
		apply or explain the con	ntents of the	**	ith examples. Know	*	explains the content of the material,		
		course with examples.	the expert terminology.		ology.	and logically connects and explains			
exam							d concepts and supports		
							amples. Finds solutions		
							that were not originally given. It		
							elations with related		
						material. Fluent in professional			
						terminology.			
	Colloquiums/	2		3	4		5		
4.3. Forming the final grade according to the	Written exam	50-64,9%		65-79,9%	80-89,9%		90-100%		
evaluation elements		50-64,9 bodova		5-79,9 bodova	80-89,9 bodova		90-100 bodova		
	The oral part of exem	2		3	4		5		
		50-64,9 bodova	65	5-79,9 bodova	odova 80-89,9 boo		90-100 bodova		
	Percentage of acquired l competencies (teach	Numerical grade			ECTS grade				
4.4. Formation of the final	90 - 10	00%	5 (excellent)			А			
grade based on the	80 - 89	,9%	4 (very good)			В			
absolute distribution	65 - 79	3 (good)			С				
	60-64	2 (sufficient)			D				
	50 - 59	,9%	2 (sufficient)			Е			
5. ADDITIONAL INFOR	MATION ABOUT COUR	SE			I				



5.1. Compulsory literature (available in the library and via other media)	Title	Number of copies in the library	Availability via other media			
	mr.sc. Srećko Đuranović, dipl. ing: udžbenik iz Osnova strojarstva, izdanje VUS, Šibenik 2016.	-	on-line (e-learning)			
5.2. Additional literature (at the moment of changes and/or amended of study programme)	 Teaching materials from the lectures and exercises on the e-learning system of the Polytechnic for the course Introduction to Mechanical Engineering. Vrhovski,D., Nikšić.M.: Strojarstvo. Zbirka riješenih zadataka, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2005. Perše, S., Višnjić.V.: Strojarstvo u prometu, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2005. 	- 5 2	on-line (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 course lecturer	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).					



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

1. GENERAL INFORMA	TION		
1.1. Course title	TRANSSHIPMENT RESOURCES I	1.8. Course code at ISVU	187602
1.2. Course lecturer	Ana-Mari Poljičak	1.9. Course code at MOZVAG	
1.3. Assistants and/or		1.10. Forms of teaching (number of hours Lecturing	(30+30+30+0)
associates	-	+Practical exercises + Seminars + e learning)	(30+30+30+0)
1.4. Study programme		1.11. Level of e- learning application (1 st , 2 nd , 3 rd	1 st
(specialist, undergraduate,	Undergraduate professional study of Traffic	level), percentage of on line course performance	0%
graduate)		(max. 20%)	070
1.5. Course status	Obligatory	1.12. Number of course revisions	4.
(obligatory, optional)	Congatory	1.12. Number of course revisions	·
1.6. Year of study	2 nd	1.13. Modernization	X Yes 🗆 No
		1.14. Percentage estimate of course changes and/or	Less than 20% X
1.7. Credit point (ECTS)	5	supplements	More than 20 % \Box

2. COURSE DESCRIPTION	ON
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.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the HKO.
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public in Croatian and English.
on the study programme level	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.
Stranica 1 od 11	



	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.							
	Learning outcomes according to Bloom's taxonomy:	Level of LO: 1 - memory, 2 - understanding, 3 - application,						
2.4. Expected learning outcomes on the course		 4 - analysis, 5 - evaluation, 6 - synthesis. 						
level	1. state the division of goods according to the technical suitability for transport and transhipment and list the physical and technical characteristics of the goods,	1						
	2. to sketch and comment on continuous operation transhipments,	3, 4						
	3. calculate the productivity of individual continuous-action transhipment means,	4						
	4. recommend loading and unloading means depending on the type of goods and productivity.	5						

	Constructive allignement								
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time			
2.5. Course content according to detailed curriculum schedule	1.	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	Listen to lectures and read literature. In seminar classes, they are introduced to the methodology of writing seminar papers.	oral exam they indicate the types of	7 h			



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



1						
			2, 3, 4	They listen to a lecture and read literature At		
				the seminar teaching, they individually	At the colloquium or written and oral	
				explore the content of this thematic area by	examination know state, outline and	
				searching the database, and on the basis of it	explain the role of loading-unloading	
		Devices for loading and		and the read literature, create a seminar	device. Seminar paper created	0.1
	4.	unloading.		paper that presents the acquired knowledge.	(presented by computer programs).	9 h
		C		The brainstorming method and the method	They know how to calculate the	
				of discussing the topic discussed are applied	required belt width for a belt conveyor.	
				in the seminar teaching. In the exercise	They know how to calculate the	
				classes, they calculate the productivity of the	productivity of belt conveyors.	
i i i i i i i i i i i i i i i i i i i			0.0.1	conveyor by analytical methods.		
			2, 3, 4	They listen to a lecture. At the seminar		
				teaching, they individually explore the		
				content of this thematic area by searching the	At the colloquium or written and oral	
				database, and on the basis of it and the read	exam knows outline and explain the	
	~	G		literature, create a seminar paper that	role of screw conveyors, and state its	0.1
	5.	Screw conveyors.		presents the acquired knowledge. The	advantages and disadvantages. Give an	8 h
				brainstorming method and the method of	example application. They know how	
				discussing the topic discussed are applied in	to calculate the productivity of belt	
				the seminar teaching. In the exercise classes,	conveyors	
				they calculate the productivity of the		
			224	conveyor by analytical methods. They listen to a lecture and read literature.	At the colloquium or written and oral	
			2, 3, 4	At the seminar teaching, they individually	examination know enumerate and	
				explore the content of this thematic area by	outline the forms of screw transporters	
				searching the database, and on the basis of it	and specify for which type of materials	
	6.	Screw conveyors.		and the read literature, create a seminar	are used. Sketch and explain the	7 h
				paper that presents the acquired knowledge.	principle of operation of the worm	
				The brainstorming method and the method	conveyor for piece goods. Seminar	
				of discussing the topic discussed are applied	paper created (presented by computer	
				of discussing the topic discussed are applied	paper created (presented by computer	



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



1					
			paper that presents the acquired knowledge. The brainstorming method and the method	Seminar paper created (presented by computer programs). They know how	
			C C		
			of discussing the topic discussed are applied	to calculate the productivity of sectional	
			in the seminar teaching. In the exercise	conveyors.	
			classes, they calculate the productivity of the		
			conveyor by analytical methods.		
		2, 3, 4	They listen to a lecture and read literature.		
			At the seminar teaching, they individually	At the colloquium or the written and	
			explore the content of this thematic area by	oral exam they can state the	
			searching the database, and on the basis of it	characteristics of oscillatory conveyors,	
	× 7*1		and the read literature, create a seminar	explain their working principle and	0.1
10.	Vibrating conveyors.		paper that presents the acquired knowledge.	sketch them. Seminar paper created	9 h
			The brainstorming method and the method	(presented by computer programs).	
			of discussing the topic discussed are applied	They know how to calculate the	
			in the seminar teaching. In the exercise	productivity of vibrating conveyors.	
		classes, they calculate the productivity of the			
			conveyor by analytical methods.		
		2, 3, 4	They listen to a lecture and read literature.		
			At the seminar teaching, they individually	The colloquium or written and oral	
			explore the content of this thematic area by	exam knows specify characteristics of	
			searching the database, and on the basis of it	vibratory conveyors, to explain their	
			and the read literature, create a seminar	working principle and sketch them.	
11.	Vibrating conveyors.		paper that presents the acquired knowledge.		9 h
			The brainstorming method and the method	Seminar paper created (presented by	
			of discussing the topic discussed are applied	computer programs). They know how	
			in the seminar teaching. In the exercise	to calculate the productivity of	
			classes, they calculate the productivity of the	vibrating conveyors.	
			conveyor by analytical methods.		
12	Gravity convoyors	2, 3, 4	They listen to a lecture and read literature.	At the colloquium or the written and	8 h
12.	Gravity conveyors.		At the seminar teaching, they individually	oral exam they can define gravity	0 11



			explore the content of this thematic area by	conveyors, explain the principle of	
			searching the database, and on the basis of it	operation and state their advantages and	
			and the read literature, create a seminar	disadvantages. Explain the principle of	
			paper that presents the acquired knowledge.	operation of a straight gravity slide and	
			The brainstorming method and the method	sketch it. Seminar paper created	
			of discussing the topic discussed are applied	(presented by computer programs).	
			in the seminar teaching. In the exercise	They know how to calculate the	
			classes, they calculate the productivity of the	productivity of gravity conveyors.	
			conveyor by analytical methods.		
		2, 3, 4	They listen to a lecture and read literature.		
			At the seminar teaching, they individually	At the colloquium or the written and	
			explore the content of this thematic area by	oral exam they can explain the principle	
			searching the database, and on the basis of it	of work of the gravity slider, indicate	
			and the read literature, create a seminar	the performances and sketch them.	
13.	Gravity conveyors.		paper that presents the acquired knowledge.	Indicate the types of gravity rollers and	8 h
			The brainstorming method and the method	explain their working principle. Give an	
			of discussing the topic discussed are applied	example application. Seminar paper	
			in the seminar teaching. In the exercise	created (presented by computer	
			classes, they calculate the productivity of the	programs). They know how to calculate	
			conveyor by analytical methods.	the productivity of gravity conveyors.	
		2, 3, 4	They listen to a lecture and read literature.		
		2, 3, 4	At the seminar teaching, they individually	The colloquium or written and oral	
			explore the content of this thematic area by		
			· ·	examination know explain the working	
14	Conveyors scrapers.		searching the database, and on the basis of it	principle and sketch conveyor scraper.	0.1
14.	Colloquium II.		and the read literature, create a seminar	Give an example application. Explain	8 h
			paper that presents the acquired knowledge.	what redlers are. They know how to	
			The brainstorming method and the method	calculate the productivity of a scraper	
			of discussing the topic discussed are applied	conveyor.	
			in the seminar teaching. In the exercise		



1		I			T		
			classes, they calcul conveyor by analy	late the productivity of the tical methods.			
		ding considerations. ing and preparing for m.	They listen to individually for the	a lecture and prepare exam.	-		32 h
3. EVALUATION OF ST	UDENT WOR	K					
3.1. Students` obligations	least 70%. Pa paper. Studer • From year; • From regul • Most Writing a ser course of tea	e with the Rulebook on Stud rt-time students are required ts who have achieved durin n 0 - 24.9% of ECTS credits m 25-49.9% - are assessed b ar or extraordinary exam per re than 50% - students have hinar paper is a prerequisite ching through continuous r in class and passing exams (d to attend a class of at le g the course: - they are rated F (unsucc by FX (insufficient) and m riod; the right to take the final for obtaining a signature nonitoring of students (au	east 50%. All students mus essful) and cannot earn EC nust pass and pass the writt exam. c. Students can take the fin ctive participation in class	t create, present and TS credits and must re en exam (test). Writte al exam in the course	positively colloquy se e-enroll in the next aca en exam (test) can be h e in two ways: a) durin	eminar demic held in ng the
3.2. Monitoring student	Attendance		Written exam	3 (without colloquia)	Project		
work (enter the share of ECTS credits for each	Experimental work		Research		Practical work		
activity so that the total number of ECTS points	Essay		Report		Continuous examination	1	
corresponds to the credit	Colloquium	3 (without written exam	n) Seminar paper	0,5	Other		
score of the course)	Class activity	0,5	Oral exam	1(without colloquia)	Other		
	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as:					1	
	Student work	Ioau oli ali bases is 1 ECTS	credit 50 semester nours	and is estimated as.			
3.3. Student workload	Obl	<i>igation</i> ve class attendance	creat 50 senester nours	Hours (estimated) 90			



2. Preparing colloquia or exams through individual work 60 4. FORMATION OF GRADES **Element of** Satisfying Bad Above average evaluation The paper is well structured with a The paper is well structured with a clear distinction between the The paper is not organized in a clear distinction between the introduction, the main body of the Organization logical order and lacks structure. introduction, the main body of the text and the conclusion, which are text and the conclusion. logically interconnected. Words and expressions are aligned Words and expressions low in line Words and expressions are in line with official terminology and show with official terminology. The with official terminology. The an understanding of their meaning. 4.1. Grading of seminar writing style is not appropriate, the writing style is appropriate, the Terminology, writing The writing style is excellent, the work sentences are too long, of a modest sentence structure is clear, the style sentences are clear and concise, the vocabulary and with frequent and vocabulary is appropriate and there vocabulary is rich and there are no repeated grammatical errors. are few grammatical errors. grammatical errors. The accurately, sources are The sources are not listed at all. The The sources are listed but incomplete completely and consistently listed. and with errors. The references are Citing and referencing references do not fit the topic and The references are appropriate, their relevant to the topic and show a show a cursory approach to references list is "rich" and comprehensive and exploring the topic. satisfactory research attitude. shows a detailed research approach. 4.2. Grading of the colloguium / written and Bad Satisfying Above average oral exam



	It responds by memor understanding. Does not terms and concepts. Do apply or explain the co with examples.	t know or apply basic bes not know how to	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		without le wledge, th ne terms co amples. th so	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	76-	86% of the presence	87-100%	of the presence	Case studies resolved
		2 points		4 points		7 points	10 points
4.3. Forming the final	Seminar paper	2	3			4	5
grade according to the	Seminar paper	5 points	7 points		8 points		10 points
evaluation elements	Examination / Written examination	2	3		4		5
e variation ciefficities		50-64,9%	65-79,9%		8	0-89,9%	90-100%
		25 points	30 points		35 points		40 points
	Oral part of the exam	2	3			4	5
	Oral part of the exam	25 points		30 points	3	5 points	40 points
	competences	uired knowledge, skills (teaching + final exam		and Number rating		ECTS grade	
4.4. Formation of final	9	90 - 100%		5 (excellent)		А	
grade based on absolute	8	0-89,9%		4 (very good))	В	
distribution		5-79,9%		3 (good)			С
	6	0-64,9%		2 (sufficient))		D
	5	0-59,9%		2 (sufficient))		E
5. ADDITIONAL INFOR	RMATION ON THE SUB	JECT					
	Title Number of copies in the library Availability via other media						•



5.1. Required literature	1. Mavrin I. : Transporteri, Fpz, Zagreb, 1999.	-				
(available in the library	2. Bognolo, D., Kršulja, M.: Prekrcajna sredstva, Zbirka riješenih zadataka, Veleučilište u	2				
and through other media)	Rijeci, Rijeka 2017. (selected chapters)	3				
5.2. Supplementary						
literature (at the time of	1. Ljubetić J.: Prekrcajna sredstva s neprekidnim djelovanjem – Zbirka slika i tablica,					
the submission of changes	Rijeka, 2002.	-				
and / or additions to the	2. Šćap D.: Prenosila i dizala, FSB, Zagreb, 2004.	-	Available online			
study program)						
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be records of students' attendance and activity in the classroom and information obtained about stude the information needed for further guidance to students in order to increase their work efficiency. obligations as well as working methods and required literature. Quality assurance system indicator data on annual employment status of students, employer survey and Alumni Association.	nt progress through the Students will be instruc	midterm will provide ted in their rights and			
	It is the responsibility of each student to be regularly informed about the course, the coursework					
5.4. Informing about the	classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic.					
course and contacting the	Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can					
teacher	be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail a	ddress at @ vus.hr), wh	nich will be answered			
	as soon as possible (no later than five working days after receiving the e-mail).					



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

1. GENERAL INFORMA	1. GENERAL INFORMATION								
1.1. Course title	INTERNAL TRANSPORT AND STORAGE	1.8. Course code at ISVU	140768						
1.2. Course lecturer	Ana-Mari Poljičak	1.9. Course code at MOZVAG	-						
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+30+0+0)						
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of Traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st - some of the material available Online, 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 DESCRIPTIO	ON
	The goal is to provide students with theoretical knowledge and case studies: • Define the basic concepts of internal transport and storage;
2.1. Course objectives	• Understand the characteristics of internal transport and storage;
	• Apply the learned content of this course in the storage and production system.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the HKO.
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public
on the study programme	in Croatian and English.
level	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.



		Level of LO:	
		1 - memory,	
	Learning outcomes according to Bloom's taxonomy:	2 - understanding,	
	(maximum 2 werbs for LO)	3 - application,	
	(maximum 2 werbs for EO)	4 - analysis,	
		5 - evaluation,	
2 4 E		6 – synthesis.	
2.4. Expected learning	1. demonstrate knowledge and understanding of the content of the course by defining and describing the basic	1, 1	
outcomes on the course	concepts in the internal transport and storage,	1, 1	
level	2. distinguish and choose types of warehouses, equipment and means of internal transport and storage according to	2, 5	
	the type of goods,	2, 5	
	3. comment on goods flows and processes in the internal transport and storage,	4	
	4. examine the storage capacity and utilization,	4	
	5. distinguish between business benchmarks and uts costs,	4	
	6. use materials and tools to search scientific and professional literature in their native and English languages,	3	
	7. present the acquired knowledge independently and in a team.	6	

	Cons	structive allignement				
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time
2.5. Course content according to detailed curriculum schedule	1.	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
		The term, goal, structure and function of internal transport.	1,6	They listen to a lecture and read literature. In the exercise classes, they	At the colloquium or written and oral exam define basic terms in the internal transport and storage.	7 h



1						
				explain and comment on the necessary		
				expressions for the calculations.		
	2.	Roads and material flows in internal transport and storage.	1, 3, 4	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At the colloquium or the written and oral exam they can explain the traffic junctions and internal roads and explain the flow of materials in production and public warehouses. They know how to define and describe the basic concepts for calculating storage capacity and utilization of storage space. Calculate the usable storage area.	7 h
	3.	Types, designs and purposes of the warehouse.	2, 4, 6	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At the colloquium or the written and oral exam they can list and describe the types of warehouses and choose the type of warehouse according to the type of goods. Calculate storage capacity.	10 h
	4.	Types, designs and purposes of the warehouse.	2, 4, 6	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At the colloquium or the written and oral exam they can list and describe the types of warehouses and choose the type of warehouse according to the type of goods. They know how to calculate the area and volume of a ground floor warehouse, as well as the area and free height of a storey floor at a storey warehouse.	10 h
	5.	Storage equipment.	1, 2, 4	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At the colloquium or the written and oral exam they can define what the warehouse equipment is, what it is used for and list the technical and technological	8 h



1						
					equipment of the warehouse. Calculate	
					the degree of free storage area.	
	6.	Field teaching PORT OF ŠIBENIK	3, 6, 7	They listen to a lecture. (Tour of warehouses and docks, transhipment machinery, monitoring of storage and transhipment processes from railway wagons, trucks and ships). The experiential and self-discovery methods are applied. In the practice classes, they create a project assignment that presents the acquired knowledge during professional visits. Brainstorming and discussion of technological processes and transshipment mechanization in the the internal transport and storage are used in the teaching of exercises, for example by expert visits.	At the colloquium or the written and oral exam they can describe and explain the inland transport and storage, as well as the equipment for transhipment and cargo control. Created and presented project assignment (using computer programs independently).	7 h
	7.	Field teaching Impol-TLM Šibenik	3, 6, 7	They listen to a lecture. (Tour of the factory and handling equipment. Introduction to technological process of production, storage and storage of finished products and equipment). The experiential and self-discovery methods are applied. In the practice classes, they create a project assignment that presents the acquired knowledge during professional visits. Brainstorming and discussion of technological processes and	At the colloquium or the written and oral exam they know how to describe and explain the internal transport and storage in production and the equipment and the way of controlling the quantity of goods. Created and presented project assignment (using computer programs independently).	7 h



			transshipment mechanization in the		
			internal transport and storage are used		
			in the teaching of exercises, for		
			example by expert visits.		
8.	Economics of internal transport and storage. Colloquium I.	1, 4, 5	They listen to a lecture and read literature.	At the colloquium or the written and oral exam they know how to define the basic concepts for measuring and monitoring the performance of the internal transport and storage business and the cost of internal transport and storage by origin.	9 h
9.	Field teaching VINARIJA ŠIBENIK	3, 6, 7	They listen to a lecture. (Tour of the winery and warehouse. Monitoring of the wine production process and the transshipment machinery used in this process. Depalletizers in the production process. Monitoring of the process of preparing the goods for storage (palletizers) and the way the goods are stored in the warehouse). The experiential and self-discovery methods are applied. In the exercise classes, they create a project assignment. Brainstorming and discussion of technological processes and transshipment mechanization in the the internal transport and storage are used in the teaching of exercises, for example by expert visits.	At the colloquium or the written and oral exam they can explain the technological processes and equipment in production and storage. Created and presented project assignment (using computer programs independently).	7 h



1						
	10.	Information and communication system of the internal transport and storage. Designing the performance, location and reconstruction of the warehouse. Technical process of storage.	1, 3, 4	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At colloquium or the written and oral exam they can define the information and communication system in internal transport and storage and specify its elements. State the positive effects of electronic communication in the internal transport and storage and explain the role of the information system in business decisions. They know how to define the concept of warehouse design and enumerate the key elements for designing the construction or renovation of a warehouse. State the principles of storage operations and storage procedures. They know how to calculate the capacity of one-time accommodation and the total storage area.	8 h
	11.	Means and tools for internal transport and storage.	1, 2, 4	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At the colloquium or the written and oral exam they know how to define, describe and differentiate the means of gripping, lifting, transferring, lowering and depositing loads. They know how to calculate the intensity of storage operations and the throughput of storage.	10 h
	12.	Means and tools for internal transport and storage.	1, 2, 4	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At the colloquium or written and oral exam knows define, describe and differentiate the means for internal carriage of goods and means of packing, unpacking and load control. They know	10 h



1			1	1				
					how to calculate the number of forklifts			
					required.			
				They listen to a lecture. (Introduction to automation of technological processes.				
	13.	Field teaching "MLINAR" factory in Šibenik	3, 6, 7	Storage of raw materials and storage of finished products). The experiential and self-discovery methods are applied. In the practice classes, they create a project assignment that presents the acquired knowledge during professional visits. Brainstorming and discussion of technological processes	At the colloquium or the written and oral exam they know how to describe and explain internal transport and storage and the automation of production. Created and presented project assignment (using computer programs independently).	7 h		
				and transshipment mechanization in the internal transport and storage are used in the teaching of exercises, for example by expert visits.				
	14.	Design of internal transport and storage. Colloquium II.	2, 3, 4	They listen to a lecture and read literature. In the teaching of exercises, the analytical method solves the tasks.	At colloquium or the written and oral exam they can enumerate and describe the activities in the design of uts in production and public warehouses, as well as enumerate methods of placing goods in the warehouse.	7 h		
	15.	Concluding considerations. Repeating and preparing for the exam.		They listen to a lecture and prepare individually for the exam.	-	35 h		
3. EVALUATION OF ST								
3.1. Students` obligations	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course:							



	 From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next year; From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can 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 studen participation in classes and preparation and presentation of project assignment and two colloquiums); b) during class (active participation class and preparation and presentation of project assignment) and passing exams (written and oral part of the exam).								
3.2. Monitoring student	Attendance		Written exam	3	(without colloquia)	Project			
work (enter the share of	Experimental work		Research			Practical work			
ECTS credits for each activity so that the total	Essay		Report			Continuous examination			
number of ECTS points corresponds to the credit	Colloguium	3 (without written seminar paper seminar paper				Project assignment	0,5		
score of the course)	Class activity (),5	Oral exam	ll exam 1		Other			
	Student workload on all	l bases is 1 ECTS cred	it 30 semester ho	ours and is	estimated as:				
	Obligation				Hours (estimated)				
3.3. Student workload	1. Active class a				60				
	0 0 1	roject assignment and	-						
		oquia or exams throug	h individual wor	k	70				
4. FORMATION OF GRA	ADES								
	Element of evaluation	Bad			Satisfying	Abo	ove average		
4.1. Evaluation of a project assignment	Organization	The paper is not logical order and lac	•	clear d introduct	er is well structured w istinction between ion, the main body o the conclusion.	the clear distinct	well structured with a structure wit		



				1		1		
						and the or intercon	conclusion, which are logically	
	Terminology, writin style	Words and expression with official terming writing style is not ap sentences are too long vocabulary and with repeated grammatical	nology. The propriate, the g, of a modest frequent and	Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors. The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.		ine Words with off understa writing s are clear	and expressions are aligned icial terminology and show an anding of their meaning. The style is excellent, the sentences and concise, the vocabulary is d there are no grammatical	
	Citing and referencing references	The sources are not lis references do not fit show a cursory exploring the topic.	the topic and			Theand compositionpicare apprrchcomprehender	and consistently listed. The references are appropriate, their list is "rich" and	
		Bad		Satisfying			Above average	
4.2. Grading of the colloguium / written and oral exam	understanding. Doe terms and concepts	emory, without a deeper as not know or apply basic a. Does not know how to be contents of the course	difficulty understands t	the basic concepts imparts new he material, expla that it supports wi	s and without 1 knowledge, t ins the terms c th examples. t	synthesis and egality, accur he content o connects and e hat it supp solutions that	s at the level of analysis, evaluation. It observes the ately and thoroughly explains f the material, and logically explains the terms and concepts orts with examples. Finds were not originally given. It ons with related material.	
	Active attendance	70-75% of the presence	76-86% 0	f the presence	87-100% of t	he presence	Case studies resolved	
4.3. Forming the final	Active attenuance	2 points	4	points	7 poi	nts	10 points	
grade according to the	Project assignment	2		3	4		5	
evaluation elements	rojeet ussignillent	5 points	7	points	8 poi		10 points	
		2		3	4		5	
		50-64,9%	65	-79,9%	80-89	,9%	90-100%	



	Examination / Written examination	25 points	30 points	35 points	4	0 points		
	Oral part of the	2	3	4		5		
	exam	25 points	30 points	35 points	4	0 points		
		f acquired knowledge, skills an nces (teaching + final exam)	nd Number rating		ECTS grade			
4.4. Formation of final	1	90-100%	5 (excellent)		А			
grade based on absolute		80-89,9%	4 (very good)		В			
distribution		65 - 79,9%	3 (good)		С			
		60-64,9%	2 (sufficient)		D			
		50-59,9%	2 (sufficient)		Е			
5. ADDITIONAL INFOR	MATION ON THE	SUBJECT						
5.1. Required literature		Tit	le		Number of copies in the library	Availability via other media		
(available in the library and through other media)	1. Dundović Č 2007.	C., Hess S.: Unutarnji transport	3					
	2. Miloš I.: Ur	nutarnji transport i skladištenje	1					
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	1. Prikril B., Božičević D.: Mehanizacija pretovara i skladištenja, FPZ, Zagreb, 1987. 6							
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	records of students' the information nee obligations as well a	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping ecords of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide ne information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and bligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual ata on annual employment status of students, employer survey and Alumni Association.						



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



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

1. GENERAL INFORM	1. GENERAL INFORMATION								
1.1. Course lecturer	Ivana Beljo	1.8. Course code in ISVU	140769						
1.2. Course title	OPERATIONAL RESEARCH IN TRAFFIC	1.9. Course code in MOZVAG							
1.3. Assistants and/or associates	Želimir Mikulić	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30+15+0+0)						
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of traffic	 1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%) 	1 st , course materials are on-line, 0%						
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	2						
1.6. Year of study	2 nd	1.13. Modernization	Yes						
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%X□More than 20 %□						
2. COURSE DESCRIPTIO	ON								
2.1. Course objectives	way of thinking, and the logical way of con	of problems that arise in business decision making. Adopt acluding and interpreting the results in further education. ' rder to solve certain problems in business decision making	The aim of the course is to familiarize and						
2.2. Terms of course entry and required competences	4 year secondary education completed; qual	ification level 4.2 according to the CROQF.							
2.3. Learning outcomes on the study programme level	professional public in Croatian and English, LO 4: To apply knowledge from the field of	ns from technology and organization of road traffic in f natural and technical sciences to problems in road traffic and comparison of data, and suggest an optimal solution i	,						



1							
	LO 8:	To solve problems in traffic by usin	ng analytica	al and / or graphical methods.			
2.4. Expected learning outcomes on the course level	1. t 2. t 3. t 4. t	Learning outcomes accroding to the Bloom`s taxonomy: (up to two verbs per LO) Image: Learning outcomes accroding to the Bloom`s taxonomy: (up to two verbs per LO) 1. to formulate the problem from practice as a suitable mathematical model Image: Learning outcomes accroding to the Bloom`s taxonomy: (up to two verbs per LO) 1. to formulate the problem from practice as a suitable mathematical model Image: Learning outcomes accroding to the Bloom`s taxonomy: (up to two verbs per LO) 1. to formulate the problem from practice as a suitable mathematical model Image: Learning outcomes accroding to the Bloom`s taxonomy: (up to two verbs per LO) 2. to solve optimization problem with graphical method Image: Learning outcomes accroding to the Bloom`s taxonomy: (up to two verbs per LO) 3. to apply computer tools for solving linear programming problem and to recommend optimal solution, Image: Learning outcomes, for the Bloom`s taxonomy: (up to two verbs per LO) 4. to choose the appropriate algorithm and to solve network problems, Image: Learning outcomes, for the Bloom`s, for the project management. 5. to apply critical path method in the project management. Image: Learning outcomes, for the Bloom`s, for the Bl					
	Con	structive allignement Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time
2.5. Course content according to detailed	1.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h
curriculum schedule	2.	Linear Programming Problems	1,3	Listen to lectures and read literature. Work independently on a computer solve tasks. The exercises demonstrate how to solve tasks. Solve exercises.	ly students know how to model the problem ne linear programming and to solve the proble		4 h
	3.	Linear Programming Problems. Graphical solution	1, 2	Listen to lectures and read literature. The exercises	In colloquium or written a students know how to n		3 h



			demonstrate how to solve tasks. Solve exercises.	programming problem and sketch a graph and solve an optimization problem.	
4.	Simplex Method. Sensitivity Analysis, Postoptimality Analysis, Shadow prices. Modeling Integers	1, 2, 3	Listen to lectures and read literature. Work independently on a computer solve tasks. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to model the linear programming problem and solve the problem with the simplex method.	3 h
5.	The Transportation Problem.	1, 2, 3	Listen to lectures and read literature. Work independently on a computer solve tasks. The exercises demonstrate how to solve tasks. Solve exercises.	In colloquium or written and oral exams students know how to define and describe the transport problem, distinguish between open and closed transport problem., and set the model.	3 h
6.	Northwest corner rule, Minimum prices method, Vogel's approximation method, Russel's approximation method	1, 2	Write the colloquium.	In colloquium or written and oral exams students know how to solve the transportation problem using the northwest corner rule, minimum prices method, and Vogel's and Russel's approximation methods.	3 h
7.	Method for the Transportation Problem, The Assignment Problem.	1, 2, 3	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	Na kolokviju ili pismenom i usmenom ispitu znaju riješiti transportni problem i problem asignacije. In colloquium or written and oral exams students know how to solve the transport problem and the assignment problem.	3 h
8.	Revision for colloquium. Colloquium. Network.	1, 2, 3, 4	Listen to lectures and read literature. The exercises demonstrate how to solve tasks. Solve exercises.	-	20 h
9.	Network and Graph, NetworkoptimizationModels.Shortest-PathProblem,	4	Listen to lectures and read literature. The exercises	In colloquium or written and oral exams students know how to define and describe networks, graphs, and network resolution	4 h



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



3. EVALUATION OF ST	UDENTS` WORK							
3.1. Students` obligations	of at least 70%. Par Students who have of from 0 - 24, from 25 - 49 extraordinar more than 5 Students can take the	 from 25 - 49,9% - are assessed by FX (insufficient) and must pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; 						
3.2. Monitoring student	Attendance	0,5	Written exam	2 (without colloquia)	Project			
work (enter the share of	Experimental work		Research		Practical work			
ECTS credits for each activity so that the total	Essay		Report		Continuous examination	0,5		
number of ECTS points corresponds to the credit score of the course)	Colloquium	2 (without written exam)	Seminar paper		Other			
score of the course)	Class activity	0,5	Oral exam	0,5	Other			
3.3. Student workload	1. Attending c	Student workload on all bases for 1 ECTS credit is 30 hours in a semester and is estimated as: 1. Attending classes and exercises 45 hours 2. Preparing colloquia or exams through individual work 65 hours						
4. GRADING SYSTEM								
4.1. Grading seminar papers								
4.2. Grading colloquia/ written and oral exam	Unsati	sfactory	Satisfa	ctory	Above average			



	understanding. Does not know or apply diffic			uces the basic concepts and without ty imparts new knowledge, ands the material, explains the and concepts supported with supported with examples.			s at the level of analysis, synthesis and Observes the principles, accurately and xplains the content of the material, and nects and explains the terms and concepts ith examples. Finds solutions that were y given. Notes correlations with related
	Active course	70-74,9% of attendance		75-79,9% of attendance		9,9% of adance	90-100% of attendance
	attendance	2 points		5 points		points	20 points
4.3. Final grade according	Colloquia/ Written exam Oral exam	2		3		4	5
to evaluation elements		50-64,9%		65-79,9%	80-8	39,9%	90-100%
		25 points		30 points	35 1	points	40 points
		2		3		5	5
		25 points		30 points	35 ₁	points	40 points
	Percentage of acquired knowledge, skills competences (teaching + final exam)			and Numerical grade			ECTS grade
4.3. Final grade according		100%		5 (excellent)		А	
to absolute division		89,9%		4 (very g			B
		79,9%		3 (goo	-		С
		60-64,9%		2 (satisfactory)			D E
		59,9%		2 (satisfa	ctory)		E
5. ADDITIONAL COURS	E INFORMATION						

5.1. Compulsory literature (available in the library	Title	Number of copies in the library	Availability via other media
and via other media)	Pašagić, H., Ivanković, B., Kapetanović, N., Matematičke metode u prometu, Zagreb, 2004. (selected chapters)	3	



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



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

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

2. COURSE DESCRIPTION	ON					
2.1. Course objectives	The main objective of the course is to provide students with the skills and abilities to understand main economic relatio	The main objective of the course is to provide students with the skills and abilities to understand main economic relationships and processes in				
2.1. Course objectives	the transport system.					
2.2. Terms of course entry						
and required competences	our-year secondary education completed; qualification level 4.2 according to the CROQF.					
2.3. Learning outcomes	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.					
on the study programme	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.					
level	LO5: To apply basic legal and economic principles in organization with socially responsible management in technical-t	echnological subjects.				
2.4. Expected learning		LO Level:				
outcomes on the course	Learning outcomes towards Bloom's taxonomy:	1. Recapture,				
level	(up to two verbs per LO)	2. Understanding,				
		3. Application,				



		 To explain the basic features of transport economics and the transport market from a macro point of view To explain the basic features of transport economics and the transport market from a micro point of view To relate the incurrence of transport costs, prices of transport services and performance indicators of transport companies To develop a seminar paper in which the business operations of the transport industry are elaborated 						
	no.	Thematic ensemble / Lecture Topic	Course LO	Content / Teaching Method	Evaluation		Time needed	
2.5. Course content according to detailed curriculum schedule	content 1. Characteristics of transport		-	Listen to the lecture. By independent work on the computer students get acquainted with course content and documents on the e-learning course page.	-		1 h	
		1, 2	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and students can: define and descri concepts of transport econom the characteristics of the transp differentiate transport need fro service; give examples of comp and competitiveness of the branches.	be the basic ics; explain port market; m transport plementarity	2 h		
	2.	Economic sense and practical importance of transport division	1,2	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of	In colloquium or written and students can enumerate the m and criteria for the division of They can explain how transp division of labor and specializ	nain factors of transport. port affects	4 h	



	nking to explain the
	ssibility of transport
ideas, discuss issues. services.	
Listen to the lecture and read the	
literature. Discuss issues. At the In colloquium or wi	ritten and oral exams
The role and impact of seminar student individually or in students can explain the role and impact of	the role of transport in
3. transport on economic 1,2 pairs solve case studies thus the circulation in m	acroeconomics. They 4 h
development development fi,2 presenting the appropriateness of can explain how traffic	ffic affects production 4 II
previously acquired knowledge and and how it function	nally links factors of
presenting adopted knowledge and production.	
ideas, discuss issues.	
Listen to the lecture and read the	
literature. Discuss issues. At the In colloquium or wi	ritten and oral exams
Creating revenues from seminar student individually or in students can explain	the value structure of
4. transport services and the 1,5 pairs solve case studies thus the transportation ser	rvice. They know how 4 h
^{4.} impact of prices on the ^{1, 5} presenting the appropriateness of to analyze the price	e / demand ratio for
demand for transport services previously acquired knowledge and transportation. They	know how to sketch
presenting adopted knowledge and and explain the curve	e of total income.
ideas, discuss issues.	
Listen to the lecture and read the	
literature. Discuss issues. At the In colloquium or wi	ritten and oral exams
seminar student individually or in they can explain mai	in trasport costs. They
5. Transport cost analysis. 2,3,4 pairs solve case studies thus differentiate costs with the studies of the stu	ith respect to capacity 4 h
5. Transport cost analysis. 2,5,4 presenting the appropriateness of utilization. They know	w how to calculate the
previously acquired knowledge and selling price of a tran	isport service.
presenting adopted knowledge and	
ideas, discuss issues.	
	ritten and oral exams
6. costs. 2,3 literature. Discuss issues. At the they are able to define	e the characteristics of 4 h
seminar student individually or in transport infrastructu	re. They know how to



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



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



				pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	competition. They are able to distinguish between perfect and monopolistic competition.		
	14.	Economic policy and the market.	2,5,6	Listen to the lecture and read the literature. Discuss issues. At the seminar student individually or in pairs solve case studies thus presenting the appropriateness of previously acquired knowledge and presenting adopted knowledge and ideas, discuss issues.	In colloquium or written and oral exams they can state and explain the most common measures of transport regulation.	3 h	
	15.	Concluding Considerations / Repeating and Preparing for Exam.		Concluding Considerations / Repeating and Preparing for Exam.		30 h	
3. EVALUATION OF ST	In ac atten semi	 cordance with the Book of Rule dance. Part-time students have the nar paper. Students who have du From 0 – 24,9% ECTS credit year; From 25 – 49,9% ECTS credit a regular or extraordinary examples. More than 50% ECTS credits ents can pass the final exam in the ng case studies, making and press 	ne obligatio uring the co- s- is rated F lits - is rated am period; s - students wo ways: a esenting the	on to attend at least 50% of lectures. All urse achieved: F (unsuccessful) and cannot get ECTS cr d FX (inadequate) and has to come out have the right to access the final exam d during the course through continuous e seminar paper and passing two collo	s student attendance (active participation in the oquia); b) during the course (active participat	olloquium academic be held in he lessons,	
		solving case studies, making and presenting the seminar paper and passing two colloquia); b) during the course (active participation in the lessons, solving case studies, creating and presenting the seminar paper) and passing the exam (written and oral exam).					



						-	
3. Preparation for the Colloquium / exam through self-study					35		
2. Creating and Presenting seminar paper					10		
1. Attending classes					45		
Commitment							
The student's workload							
Class activities	s activities 0,5		c is	colloquiums the student is relieved of an oral			
	examination)		1	l (by s	y submitting both		
Colloquium	student is relieved of a written and oral	Seminar paper	Seminar paper 0				
	2 (by submitting					examination	
Essay		Report				Continuous	
Experimental work		Research				Practical work	
Attendance		Written exam	c is	colloqu s reliev	iums the student ved of an written	Project	
	Experimental work Essay Colloquium Class activities The student's workload Commitment 1. Attending cla 2. Creating and	Experimental work Essay Essay 2 (by submitting both colloquiums the student is relieved of a written and oral examination) Colloquium 3 written and oral examination) Class activities 0,5 The student's workload on all bases amounts to the student is relieved of a written and oral examination) The student's workload on all bases amounts to the student is relieved of a written and oral examination) Image: Commitment of the student is workload on all bases amounts to the student is relieved on all bases amounts to the student is relieved on all bases amounts to the student is workload on all bases amounts to the student is relieved on all base	Experimental workResearchEssayImage: Comparison of the student is relieved of a written and oral examination)ReportColloquium0,5Oral examClass activities0,5Oral examThe student's workload on all bases amounts to 1 ECTS point of the student is relieved of a written and oral examination)The student's workload on all bases amounts to 1 ECTS point of the student's workload on all bases amounts to 1 ECTS p	AttendanceWritten examAttendanceExperimental workResearchImage: state stat	AttendanceWritten examcolloquis relieve is relieve examinedExperimental workResearchImage: Image: Im	Experimental work Research is relieved of an written examination) Experimental work Research	AttendanceWritten exam $collouiums the student is relieved of an written examination)ProjectExperimental workResearchPractical workEssayReportContinuous examinationEssay2 (by submitting both colloquiums the student is relieved of a written and oral examination)0,5Continuous examinationColloquium2 (by submitting both colloquiums the student is relieved of a written and oral examination)0,50,5Continuous examinationClass activities0,50,50,51 (by submitting both colloquiums the student is relieved of a oral examination)1 (by submitting both colloquiums the student is relieved of an oral examination)The student's workloar on all bases amounts to 1 ECTS point for 30 bork per semester at is estimated as:1 (by submitting both colloquiums the student is relieved of an oral examination)The student's workloar on all bases amounts to 1 ECTS point for 30 bork per semester at is estimated as:1 (Attending classes452. Creating and Presenting seminar paper101010$

lacking.

introduction, the main part of the

text and the conclusion.

and the conclusions that are perfectly

logically linked to one another



	Terminology, writing style	harmonized with terminology. Writin appropriate, sentence modest vocabulary,	with official official terminology. The writi ogy. Writing style is not ate, sentences are too long, structure is clear, the vocabulary			e writing sentence bulary is	official understat writing s are clear	and phrases are aligned with terminology and show an nding of their meaning. The tyle is excellent, the sentences and concise, the vocabulary is there are no grammatical
	Quoting and referencing	Sources are not speci- references do not m and show a superfic- the research topic.	atch the topic and with errors. The references are appropriate for the subject and show a satisfactory research attitude			consister appropria compreh	are accurate, complete and nt. The references are ate, their list is "rich" and ensive and shows a robust approach.	
4.2. Colloquium / exam grading	Give answer by memory understanding. Does not apply the basic terms a apply or explain the co	ry, no deeper ot know and does not nd concepts. Cannot		Satisfying basic terms, nsfers new knubject matter, exp notions that substa		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.		bserves legitimacy, oughly explains the content logically links and explains epts that it encapsulates. Find ot originally given. There is a
	Active participation in the lessons	attendance		76-86% of attendance 87-10 4 points		87-100% of attendance		Solved case study. 3 points
4.3. Creating a final grade according to evaluation		2 points 2	4	3		7 points 4		5
elements	Seminar paper	5 points	5 points 7			8 points		10 points
	Colloquium / written	2		3		4		5
	exam	50-64,9%	65	-79,9%		80-89,9%		90-100%



		25 points	30 points	35 point	ts	40 points
	Oral exam	2	3	5		5
	Of al exam	25 points	30 points	35 point	nts 40 points	
	e .	oted knowledge, skills and eaching + final exam)	Numerous g	rade	ECTS grade	
4.4. Creating a final grade	9	0-100%	5 (exceller	nt)	А	
according to absolute	80) – 89,9%	4 (very goo	od)	В	
allocation	65	5 – 79,9%	3 (good)		С	1
) – 64,9%	2 (sufficient	,	D	
	50) – 59,9%	2 (sufficient	nt)	E	, ,
5. ADDITIONAL INFOR	MATION ABOUT TH	E COURSE				
5.1. Compulsory literature		Title			Number of copies in the library	Availability via other media
(available in the library and through other media)	prometnih znar 2. Perić T., Radač	ušić M., Radačić Ž., Jurčevi nosti Sveučilišta u Zagrebu, Z ić Ž., Šimulčik D. (2000). "J lišta u Zagrebu, Zagreb. (sel	4 2			
5.2. Additional literature (at the moment of changes and/or amended of study programme)	1. Baričević, H. (2003). "Promet i turizam." V	24			
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	track of attendance and information for further their rights and obligat	student activity during classe guidance to students will be ons as well as the methods of	tion of necessary knowledge es and provided information of provided in order to increase of work and the required lite oyment service on the annu	n students` progres e the efficiency of t rature. Indicators o	s through short colloque their work. Students we f quality assurance systems	uiums and homework, vill be informed about stem: Student survey,



	It is obligatory for every student to regularly inform about the course, teaching and teaching activities. All information about teaching or any
5.4. Information on the	delay in teaching will be published on the e-learning pages of the course and on the web pages of the Polytechnic. Students can contact the
course and contact with	teachers during the consultation term (at least one hour per week), while brief questions and explanations can be addressed during classes. It is
the teacher	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).



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

1. GENERAL INFORM	ATION		
1.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	140773
1.2. Course title	TRAFFIC LOGISTIC	1.9. Course code in MOZVAG	
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing +	(30 + 0 + 30 + 0)
associates		Practical exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd	1 st , course materials are
(specialist, undergraduate,		level), percentage of on line course performance (max.	on-line, 0%
graduate)		20%)	
1.5. Course status	Optional	1.12. Number of course revisions	4
(obligatory, optional)			
1.6. Year of study	1 st , 2 nd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or	Less than 20% X
		supplements	More than 20 %
2. COURSE DESCRIP	TION		
2.1. Course objectives	The goal is to get students on the basis of theoretical kno	wledge and case studies:	
	 learn about the elements of the logistics system, 		
	 identify and overcome logistical processes and a 	ctivities that are related to storage, transportation, and traff	ic,
	 mastering the modern logistics concepts and stra 	tegies.	
2.2. Terms of course entry	Enrolled 2 nd academic year, 4 year secondary education of	completed; qualification level 4.2 according to the CROQF	
and required competences			
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic techn	ology and organization in written and oral communication	with the professional public
on the study programme	in Croatian and English.		
level	LO2: Organize and conduct teamwork, and critically eva	luate the opinions and attitudes of team stakeholders.	
	LO3: Independently and responsibly search, interpret and	l integrate relevant literature for decision making.	
	LO6: Analyze and present relevant facts from the traffic	area required to reach conclusions.	
	IU9: Evaluate and organize processes in the field of road	transport and/or transport logistics.	
	IU11: Identity, anticipate and propose solution technolog	ies and techniques of road transport.	
	LO12: Design a smaller transport process and critically e	valuate it.	



	Learn	ing outcomes by Bloom: (maximum	n 2 werbs	for LO)		Level of LO:	
2.4. Expected learning		. .				1 - memory,	
outcomes on the course						2 - understanding,	
level (4-10 learning						3 - application,	
outcomes)						4 - analysis,	
						5 - evaluation,	
						6 – synthesis.	
	1. Defi	ne and differentiate basic terms and	l division i	n logistics, warehousing, and freight forwardin	ng.	1, 2	
	2. Ana	lyze and extract information and co	mmunicat	ion technologies in transport logistics.		4, 2	
	3. Sele	ct, evaluate and categorize services	in the war	ehouse business.		3, 5	
			ation of p	oducts, organization of distribution and perfor	mance of city	4,6	
	logistic			f products and reduction of inventory costs.			
	^	6					
	6. Use	3					
	langua	~	11				
A F G		1 0 1	problems,	and solutions independently and in a team.		6	
2.5. Course content	Consti	ructive allignement					
according to detailed							
curriculum schedule	N				Б	1	—
	No	Thematic unit	LO of	Content/teaching methods	Ev	aluation	Time
			the				
	1.	Introductory procentation	course	Listening to the lecture. In the course of			
	1.	Introductory presentation		0			
	(introducing students to the course content and obligations)seminars, they are introduced to the course content and documents on the e-learning						
		course content and obligations)	-	e		-	2 h
		The terms of logistics (terms		independently on a computer.	A 4 4 h a a a 11	-inne on the multi-	
	2.	The term of logistics (term,	1, 6, 7	They listen to a lecture and read literature.	-	nium or the written	4 h
		developmental factors, elements		At the seminar class, they individually	and oral exam,	m, students know how	



of the logistics system, logistics system division) of the logistics system, logistics system division) of the logistics system, logistics system division) of the logistics system, logistics searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method	
it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the computer programs).	
paper that presents the acquired knowledge development. Seminar paper and presents their own ideas, and ways to solve problems. In group work at the computer programs).	
and presents their own ideas, and ways to created and presented (by solve problems. In group work at the computer programs).	
solve problems. In group work at the computer programs).	
seminar class, the brainstorming method	
	ļ ļ
and the discussion method on the topic are	
applied.	
3. Human resources in logistics They listen to a lecture and read literature. At the colloquium or the written	
(management, freight At the seminar class, they individually and oral exam, students know how	
forwarders, FIATA documents, explore the content of this topic area by to define and distinguish the basic	
customs officers). searching the database, and on the basis of concepts in freight forwarding.	
it and reading the literature, create a seminar Enumerate all freight forwarding	
1, 6, 7 paper that presents the acquired knowledge jobs, distinguish between customs	6 h
and presents their own ideas, and ways to documents, human resources	
solve problems. In group work at the working in logistics. Seminar	
seminar class, the brainstorming method paper created and presented (by	
and the discussion method on the topic are computer programs).	
applied.	
4. Warehouses and storage They listen to a lecture and read literature. At the colloquium or the written	
(concept, types and division, the At the seminar class, they individually and oral exam students know how	
factors for determining the explore the content of this topic area by to define and differentiate the	
location, equipment and searching the database, and on the basis of basic concepts of storage.	
furnishing warehouses, methods 1, 3, 6 , it and reading the literature, create a seminar Distinguish, describe and present	6 h
of storage operations) 7 paper that presents the acquired knowledge warehouse equipment. Analyze	011
and presents their own ideas, and ways to and evaluate factors for	1
solve problems. In group work at the determining location. Select,	1
seminar class, the brainstorming method evaluate and categorize services in	1
the warehouse business. List the	



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



1						
	8	computer programs, warehouse management system)		database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	in logistics, warehouse management system, Bar code technology, and RFID identification. Identify the abbreviations of information and communication technologies. Establish the difference, strengths and the weakness of using it. Seminar paper created and presented (by computer programs).	6 h
	8.	Information and communication system in the function of logistics (video films)	2, 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. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or written and oral exam, students know how to define and describe the Bar code technology, RFID identification, voice technology, and technology Pick to light. Establish the difference, strengths and the weakness of using it. Seminar paper created and presented (by computer programs).	6 h
	9.	Inventory management and manipulation with products (inventory planning and control, supply chain, packaging of goods, palletization and containerization)	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. In group work at the	At the colloquium or the written and oral exam, students can propose ways of manipulating with products (packaging, palletizing) and reducing the cost of supplies (supply chain). Define and describe Supply Chain and Just in time procurement. Identify	6 h



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



1						
		system, distribution networks, costs in distribution, term of the order, processes in ordering)		content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar	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.	
				class, the brainstorming method and the discussion method on the topic are applied.	Identify distribution costs. Seminar paper created and presented (by computer programs).	
	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. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam, students 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).	6 h
	14.	Study trip to LIDL Logistics- distribution center (located in 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	8 h



	15.	and preparing for	ations/Repeating r the exam.	-	They listen to a course le individuals for the exam.	ecture and prepare		ion with the	40 h
3. EVALUATION OF S									
3.1. Student obligations	least 70 papers. and mu (test). V Studen	0%. Part-time stud Students who hav ast re-enroll in the Written exam (test ts can take the fir	dents are required we achieved during e next academic y) can be held in a nal exam from the	to attend a g the cours year; from regular or e course in	ulebook on Student Assess a class of at least 50%. Al e: from 0 - 24,9% ECTS c 25 - 49,9% - are assessed extraordinary exam period a two ways: a) during the as); b) passing the exam (w	l students must crea redits- are rated F (by FX (insufficien ; more than 50% - s course of teaching	ate, present and positive unsuccessful) and cannot t) and must pass and p tudents have the right through continuous m	vely colloquy so not earn ECTS of pass the writter to take the final	eminar credits, n exam exam.
3.2. Student work monitoring (enter the	Atte	nding classes	1		Written exam	1 (without colloqiums)	Project		
share of ECTS credits for	Expe	rimental work			Research		Practical work		
each activity so that the		Esaay			Report		Continuous check		
total number of ECTS credits corresponds to the	С	olloquiums	1 (without writte exam)	•	Seminar paper	0,5	(other)		
course credit value)	Teac	hing activities	1		The oral part of exam	0,5	(other)		
3.3. Student work-load4. FORMATION OF STU	present	ation (16 hours), j) semester hours and is asso exam through self-study (4		(60 hours), preparation	n of seminar wo	ork and
4.1. Evaluation of seminar paper	E	lements of evaluation	Ba	d	Satis	fying	Above	e average	



1							
	Organization	The paper is not organized in a	The paper is well struct	ured with a clear	The paper is well	structured with a clear	
		logical order and lacks	distinction between the	he introduction,	distinction betwee	en the introduction, the	
		structure.	the main body of th	he text and the	main body of the	text and the conclusion,	
			conclusion.		which are logicall	y interconnected.	
	Terminolog, writing	Words and expressions are not	Words and expressions	s are in line with	Words and expres	ssions are aligned with	
	style	in line with official	official terminology. T	The writing style	official termino	logy and show an	
		terminology. The writing style	is appropriate, the sent	ence structure is	understanding of	their meaning. The	
		is not appropriate, the	clear, the vocabulary is	appropriate and	writing style is e	xcellent, the sentences	
		sentences are too long, of a	there are few grammati	ical errors.	are clear and con	cise, the vocabulary is	
		modest vocabulary and with			rich and there are	no grammatical errors.	
		frequent and repeated					
		grammatical errors.					
	Citing and referencing The sources are not listed at all.		The sources are listed	but incomplete	The sources are accurately, completely		
	references	references The references do not fit the		and with errors. The references are		and consistently listed. The references	
		topic and show a cursory	relevant to the topic and show a		are appropriate, their list is "rich" and		
		approach to exploring the topic.	satisfactory research at	titude.	comprehensive a	nd shows a detailed	
					research approach	l.	
4.2. Gradeing of the		Bad	Satisfyir	ng	Abov	ve average	
colloquium/written and							
oral exam	1 5 5	without a deeper understanding.	It reproduces the basis		U	the level of analysis,	
		bly basic terms and concepts. It	-	imparts new	•	luation. It observes the	
	•	ply or explain the contents of the	knowledge, understand		e .	ely and thoroughly	
	course with examples.		explains the terms and	•	•	ent of the material, and	
			supports with examples	S.	logically connects	and explains the terms	
					^	nat it supports with	
					examples. Finds	solutions that were not	
						It notes correlations	
					with related mater		
	Active attendance on	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created,	
	class	70-7570 attendance	70-0070 ancidance	07-10070	attendance	Case studies resolved	



4.3. Forming the final		2 points	4 points	7 points	3 points	
grade according to the	g :	2	3	4	5	
evaluation elements	Seminar paper	5 points	7 points	8 points	10 points	
		2	3	4	5	
	Colloquiums/	50 - 64,9%	65 - 79,9%	80 - 89,9%	90 - 100%	
	Written part of exam	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	U 1	ired knowledge, skills and (teaching + final exam)	Numerical grade	ECT	5 10 points 5 90 - 100% 40 points 5 40 points grade A 3 C D E Availability via other media City of Sibenik library PDF (Internet website)	
absolute distribution	9	0 - 100%	5 (excellent)		А	
	80	0-89,9%	4 (very good)		В	
	65	5 - 79,9%	3 (good)		С	
	6	0-64,9%	2 (sufficient)		D	
	50	0-59,9%		E		
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE				
5.1. Compulsory literature (available in the library		Title		Number of copies in the library	•	
and via other media)		R., Šafran M.: Freight Forwarding n Sciences, University of Zagreb.	-	•		
	Mlinarić Josip T.: Freigh University of Zagreb, 20	nt-transport Centers, Faculty of T	-			
		ystems, University of Rijeka, Fac	2	website)		
	(selected chapters)	ystems, Omversity of Kijeka, Pae	2			
	1,		omics and Management, Zagreb,	-	City of Sibenik library	



5.2. Additional literature	Teaching materials from lectures and seminars on the e-Learning system of the	e-learning system					
(at the moment of changes	Polytechnic of Sibenik for the mentioned course.	City of Sibenik					
and/or amended of study	Zelenika R.: Transport Systems, University of Rijeka, Faculty of Economics, Rijeka, li						
programme)	2001.						
	Zelenika R.: Transport and freight forwarding business, University of Rijeka, Faculty of	City of Sibenik					
	Economics, Rijeka, 2001.	library					
	Logistics <u>www.logistika.com.hr</u>	Internet website					
5.3. Quality assurance	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through i	nteractive work. By keeping					
methods that ensure the	track of attendance and student activity during classes and provided information on students` progress through short of	colloquiums and homework,					
acquisition of knowledge,	information for further guidance to students will be provided in order to increase the efficiency of their work. Stud	lents will be informed about					
skills and competences	their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurate	nce system: Student survey,					
	monitoring of annual data from the Croatian employment service on the annual state of student employment, su	urveys from employers and					
	Alumni association.						
5.4. Informing about the	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom acti	ivities. All notices of classes					
course and contacting the	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					
course lecturer	can contact teachers during the consultation period (at least one hour per week), while for short questions and explan	ations 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).						



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

1. GENERAL INFORM	1. GENERAL INFORMATION							
1.1. Course lecturer	Ivana Kardum Goleš	1.8. Course code in ISVU	140775					
1.2. Course title	ENGLISH LANGUAGE III	1.9. Course code in MOZVAG						
1.3. Assistants and/or associates		1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(15+30+0+0)					
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	2					
1.6. Year of study	2 nd	1.13. Modernization	Yes					
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%X□More than 20 %□					
2. COURSE DESCRIPTIO	ON							
2.1. Course objectives The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the 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	Completed course English language II							



2.3. Learning outcomes	LO1: '	O1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the							
on the study programme	^	sional public in Croatian and E	•						
level	LO3: 7	Γο individually and responsibly	v search, in	nterpret and integrate the relevant lite	rature needed to make decisions				
						Level of LO:			
						 1- remembering, 2- understanding, 3- application, 			
	Lear	ning outcomes accroding to th							
						4-analysis,			
			5-evaluation,						
		6-synthesis							
		o understand, apply and link ter	2, 3						
		vritten and oral communication		1		2			
		o apply grammatical structures		-		3			
		o interpret and use tenses in rea				3,4			
		o develop a longer essay within o present own ideas for develop	-			5,6			
		1 1		hin the subjects of the course, to expr	ass one own opinions	3 6			
		o compare and evaluate different		•		5			
		o analyse complex texts and sol		olutions		4			
		o use part of the general langua		tency at levels B1/B2		6			
			ge compe			0			
	Cons	structive allignement							
			LO of						
2.5. Course content	no	Thematic unit	the	Content/teaching methods	Evaluation		Time		
according to detailed			course						
curriculum schedule				Listen to lectures. Work					
	1.	Introduction into the course	-	independently on computer, get to	-		2 h		
		and detailed plan.		know course content and elearning					
				documents.			L		



1						
	2.	Britains Earliest Roads – Tenses	1, 2, 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, understand, apply and link terms from the professional terminology of English 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.	4 h
	3.	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.	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
	4.	Roads And The Church - The Passive Voice, Sadašnja Vremena	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	4 h



					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			
		Early Carriages - The			in a real linguistic context, can communicate			
				Listen to lectures and read literature. Use multimedia and	in foreign languages within the course topic,			
			1, 2,3,		express their own opinions, present their own			
	5.	Passive Voice, Prošla	1, 2,3, 6, 9	internet. Solve exercises.	ideas related to the development of transport	4 h		
		Vremena	0, 9		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			
				Listen to lectures and read	in foreign languages within the course topic,			
		Trade And Transport In The	1 2 2	literature. Use multimedia and	express their own opinions, present their own			
	6.	Turnpike Era - The Passive	1, 2, 3,	internet. Solve exercises.	ideas related to the development of transport	4 h		
		Voice, Buduća Vremena	5, 6, 9	Internet. Solve exercises.	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.			
			L					



1						
	7.	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
	8.	The World Of Transport - I Kolokvij	1, 2, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing 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
_	9.	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	6 h



				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.	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
11.	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	10 h



_					
				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.	
12.	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
13.	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 and	4 h



1						
					solve tasks, use part of other language competences at B1 level.	
	14.	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.	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
	15.	Revision – II Kolokvij	1, 2, 3, 4,5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
. EVALUATION OF STU	JDENI	rs` work				

3.



		-				l full-time students attendance			
		•	•		•	mowledge 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								
	• •	•		•		-			
3.1. Students` obligations	^	•				g the semester. If the student			
	• •		<u> </u>	•	•	the oral exam only. The final			
		•	•	•	• • • • •	nments, discussion, roleplay,			
	•	U U		•••		notices about maintenance or			
	· ·	•	•	•		ning page of the course, where			
	all the information o	n the course as well a	as the teaching materials a		ture are also available.				
3.2. Monitoring student	Attendance	0,5	Written exam	1 (without colloquia)	Project				
work (enter the share of ECTS credits for each	Experimental work		Research		Practical work				
activity so that the total	Essay		Report		Continuous				
number of ECTS points	1 55 u y				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				
	Student workload or	all bases for 1 ECT	S credit is 30 hours in a se	mester and is estin	nated as:				
3.3. Student workload	Ũ	1. Attending classes and exercises 45 hours							
	2. Preparing co	olloquia or exams thr	ough individual work 45	hours					
4. GRADING SYSTEM									
4.1. Grading seminar									
papers	-								
4.2. Grading colloquia/	Unsatisf	•	Satisfactor			average			
written and oral exam	Responds by mer	•	Reproduces the basic cond	•	e e	el of analysis, synthesis and			
	deeper understand	ding. Does not d	lifficulty imparts ne	w knowledge,	evaluation. Observes the	principles, accurately and			



	know or apply basic ter concepts. Does not know apply or explain the conter course with examples.	w how to and concepts s		, explains the terms with examples.	mples. logically connects an supported with examples and supported with examples.		ains the content of the material, and as and explains the terms and concepts examples. Finds solutions that were ven. Notes correlations with related	
	Active course attendance	70-75% of attendan	nce	76-86% of at	ttendance	87-100%	of attendance	Maks
	Active course attendance	3 points		7 poir	nts	20	points	2
	Seminar paper							
4.3. Final grade according to evaluation elements		2		3		4		
to evaluation elements	Colloquia/ Written exam	50-64,9%		65-79,	9%	80	-89,9%	(
		25 points		30 poi	nts	35 points		4
	Oral anom	2		3			4	
	Oral exam	25 points		30 poi	nts	35 points		4
	• •	d knowledge, skills and ching + final exam)		Numerical grade		ECTS grade		
4.3. Final grade according	90 - 1	100%		5 (excellent)		А		
to absolute division	80 - 8	<i>.</i>		4 (very good)		В		
	65 - 7	<i>·</i>		3 (good)		С		
	60-6	<i>·</i>		2 (satisfactory)		D		
	50-5	59,9%		2 (satisfactory)		E		
5. ADDITIONAL COURS	E INFORMATION							
		Title			N	umber of copies in the library	Availability via other media	



5.1. Compulsory literature (available in the library and via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2002. (selected chapters)	10	Х			
5.2 Additional literature (at the moment of changes and/or amended of study programme)	 Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Veleučilište u Rijeci, Prometni odjel, 2007. Adrian Pilbeam and Nina O`Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet:"A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar exercises II", Oxford University 	10	X (elearning, handouts)			
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.					
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the 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).					



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

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

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



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

	Constructive allignement								
2.5. Course content according to detailed curriculum schedule	no	no Thematic unit		Content/teaching methods	Evaluation	Time			
		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			
	1.	Crane operating class.	2, 3	They listen to a lecture and read literature. In the exercise classes, they are introduced to the calculation of the productivity of transshipment mechanization with periodically action and to calculate the productivity by the analytical method.	oral they can state and explain the crane	2 h			
	2.	Crane elements.	1, 2, 3	They listen to a lecture and read literature. In the exercise classes, they solve numerical	At the colloquium or written and oral examination knows enumerate,	3 h			



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



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



			-					
	Universal manipulative 12. vehicles. Forklifts, loaders and small towing vehicles.		4	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks with the use of containers by analytical method.	The colloquium or written and oral exam knows specify and define universal manipulative vehicles. Give the forklift division and give an example from practice. Explain loaders, enumerate and describe small towing vehicles and give practical examples. Calculate the number of containers required.	3 h		
	13.	Pallets and containers.	4	They listen to a lecture and read literature. In the teaching of exercises, they solve numerical tasks with the use of containers by analytical method.	At the colloquium or the written and oral exam they can define and list the types of pallets and containers and give practical examples. Calculate container control number.	3 h		
	14.	Repetition and preparation for the colloquium. Colloquium II.	1, 2, 3, 4	They listen to a lecture and read literature. They prepare individually for the colloquium.	-	22 h		
	15.	Concluding considerations. Repeating and preparing for the exam.		They listen to a lecture and prepare individually for the exam.	-	35 h		
3. EVALUATION OF STU	UDEN	T WORK						
3.1. Students` obligations	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: • From 0 - 24.9% of ECTS credits - they are rated E (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic							



	Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two colloquium); b) during class (active participation in class and passing exams (written and oral part of the exam).						
	Attendance		Written exam	3 (without colloquia)	Project		
3.2. Monitoring student work (enter the share of	Experimental work		Research		Practical work		
ECTS credits for each activity so that the total	Essay		Report		Continuous examination		
number of ECTS points corresponds to the credit	Colloquium	3 (without written exam)	Seminar paper		Other		
score of the course)	Class activity	0,5	Oral exam	0,5 (without colloquia)	Other		
		Ill bases is 1 ECTS credit	30 semester hours and	1			
3.3. Student workload	Obligation			Hours (estimated)			
	1. Active class	attendance lloquia or exams through	individual work	45 75			
4. FORMATION OF GRA	ADES						
4.1. Grading of seminar work	-						
	I	Bad	Sat	isfying	Above a	iverage	
4.2. Grading of the colloguium / written and oral exam	understanding. Does terms and concepts.	nory, without a deeper not know or apply basic Does not know how to contents of the course	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		, the content of the material, and logically		



	Active attendance	70-75% of the presence	76	-86% of the presence	87-100%	of the presence	Ca	se studies resolved
		2 points		4 points	7	7 points		10 points
4.3. Forming the final	Examination / Written	2		3		4		5
grade according to the evaluation elements	examination / written	50-64,9%		65-79,9%	8	0-89,9%		90-100%
evaluation elements	examination	25 points		30 points	3	5 points		40 points
	Oral part of the exam	2		3		4		5
	Oral part of the exam	25 points		30 points	3	5 points		40 points
		Percentage of acquired knowledge, skills and competences (teaching + final exam) Number rating				EC	CTS gr	ade
4.4. Formation of final	9	0-100%		5 (excellent)			А	
grade based on absolute	8	0-89,9%		4 (very good)		В		
distribution	6	- 79,9% 3 (good)		С				
	60-64,9%			2 (sufficient)		D		
	5	50 – 59,9% 2 (sufficient)				E		
5. ADDITIONAL INFOR	MATION ON THE SUB	JECT						
5.1. Required literature		r	Fitle			Number of cop in the librar	•	Availability via other media
(available in the library	1. Šćap D.: Prenos	la i dizala, FSB, Zagre	eb, 2004. (selected chapters)		-		Available online
and through other media)	 Boris Ribarić: Primjeri riješenih zadataka iz predmeta pretovarna mehanizacija, Fakultet prometnih znanosti, Zagreb, 1994. (selected chapters) 					-		
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the	1. Serdar J.: Prenosila i dizala, Leksikografski zavod "M. Krleža", Zagreb, 1995. 5							Available online
study program)								



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



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

1. GENERAL INFORM	IATION					
1.1. Course lecturer	Luka Olivari	1.8. Course code in ISVU	187606			
1.2. Course title	THEORY OF VEHICLE MOVEMENT	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(specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory 1.12. Number of course revisions 4		4			
1.6. Year of study	2 nd	2 nd 1.13. Modernization				
1.7. Credit score (ECTS)	4 114 Percentage estimate of course changes and/or supplements		Less than 20% X More than 20% □			
2. COURSE DESCRIP	TION	•				
2.1. Course objectives	The aim of the course is to provide students successfully solve the problem of road vehicle e	with theoretical knowledge and practical examples to acquire the knowledge.	nowledge necessary to			
2.2. Terms of course entry and required competences	Four-year secondary education completed; 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 LO8: To solve problems in traffic by using analytical and / or graphical methods					
	LO13: To track trends in the development of technique, technology and safety in traffic					
2.4. Expected learning outcomes on the course	Learning outcomes by Bloom: (maximum 2 werbs for LO)					



level (4-10 learning outcomes)	1. 2. 3. 4. 5.	3 - application, 4 - analysis, 5 - evaluation, 6 - synthesis. 1, 2 4 6 5 4								
2.5. Course content according to detailed curriculum schedule	Constructive allignement									
	No	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time			
	1.	Introductory presentation (introducing students to the content and obligations of the course). Area of study of vehicle motion theory. Exploitation of vehicle technical characteristics.	1	Listen to a lecture. By working independently on a computer, they become acquainted with the course content, obligations, literature and documents on the e-learning course page. Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the oral exam they define an basic terms, physical qu units of measurement.	d explain the	3 h			
	2.	Performance characteristics related to vehicle movement. Construction of motor vehicles.	1, 2	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	At the colloquium or the oral exam they define an basic concepts; distingu drive engines, concepts an	d explain the ish between	3 h			



1							
					transmission of road vehicles; solve		
					numerical tasks from the specified area;		
	3.	Dynamism. Traction		Listen to a lecture and read literature. The	At the colloquium or written and oral		
		dynamic. Braking dynamic.		exercises demonstrate how to solve tasks.	exam define and explain the basic		
			1, 2, 3	Independent task solving.	concepts; distinguish between	3 h	
					powertrains, and modes and elements		
					of transmission of road vehicles;		
					formulate the final equation of motion		
					of the vehicle based on the traction		
					forces and the resistance of the vehicle;		
					solve numerical tasks from the		
					specified area;		
	4.	Sliding. Rolling resistance. Air resistance. Inertia resistance. 1,		Listen to a lecture and read literature. The	At the colloquium or written and oral		
				exercises demonstrate how to solve tasks.	exam define and explain the basic		
				Independent task solving.	concepts; distinguish between		
					powertrains, and modes and elements		
			1 2 2		of transmission of road vehicles;	21	
			1, 2, 3		formulate the final equation of motion	3 h	
					of the vehicle based on the traction		
					forces and the resistance of the vehicle;		
					solve numerical tasks from the		
					specified area;		
	5.	Dynamic factor. Car power		Listen to a lecture and read literature. The	At the colloquium or written and oral		
		balance.		exercises demonstrate how to solve tasks.	exam define and explain the basic		
				Independent task solving.	concepts; formulate the final equation	2 h	
			1, 3, 4		of motion of the vehicle based on the		
					traction forces and the resistance of the	3 h	
					vehicle; evaluate the fuel economy of a		
					road vehicle; solve numerical tasks		
					from the specified area;		
		I					



r					
	Dynamic indicator for unequal movement.		Listen to a lecture and read literature. The exercises demonstrate how to solve tasks.	At the colloquium or the written and oral exam they define and explain the	
	Dynamic climb control.		Independent task solving.	basic concepts; formulate the final	
	Inertia motion with the		independent task solving.	equation of motion of the vehicle based	
6.	engine off.	1, 3, 4		on the traction forces and the resistance	3 h
	engine on.			of the vehicle; evaluate the fuel	
				economy of a road vehicle; solve	
				numerical tasks from the specified area;	
	Overtaking. Economy. Fuel		Listen to a lecture and read literature. The	At the colloquium or the written and	
	consumption equation.		exercises demonstrate how to solve tasks.	oral exam they define and explain the	
	Method of normalizing fuel		Independent task solving.	basic concepts; formulate the final	
7.	consumption	1, 3, 4		equation of motion of the vehicle based	3 h
/.		1, 3, 4		on the traction forces and the resistance	511
				of the vehicle; evaluate the fuel	
				economy of a road vehicle; solve	
				numerical tasks from the specified area;	
	Stability. Longitudinal		Listen to a lecture and read literature. The	At the colloquium or the written and	
	stability. Transverse		exercises demonstrate how to solve tasks.	oral exam they define and explain the	
8.	stability. Rotate the vehicle	1, 5	Independent task solving.	basic concepts; analyze the stability of	3 h
	on a horizontal and	,		the road vehicle under different	
	transverse inclined path			operating conditions; solve numerical	
				tasks from the specified area;	
	Single axle sliding. Force		Listen to a lecture and read literature. The	At the colloquium or the written and	
	distribution		exercises demonstrate how to solve tasks.	oral exam they define and explain the	
9.		1, 5	Independent task solving.	basic concepts; analyze the stability of the road vehicle under different	3 h
				operating conditions; solve numerical	
				tasks from the specified area;	



1						
		Distribution of tangential		Listen to a lecture and read literature. The	At the colloquium or the written and	
		forces across axles		exercises demonstrate how to solve tasks.	oral exam they define and explain the	
	10.		1, 5	Independent task solving.	basic concepts; analyze the stability of	3 h
	10.		1, 5		the road vehicle under different	5 11
					operating conditions; solve numerical	
					tasks from the specified area;	
		Constant deceleration		Listen to a lecture and read literature. The	At the colloquium or the written and	
		curve. Curves of constant		exercises demonstrate how to solve tasks.	oral exam they define and explain the	
		brake grip coefficient		Independent task solving.	basic concepts; formulate the final	
					equation of motion of the vehicle based	
	11.		1, 3, 5		on the traction forces and the resistance	3 h
					of the vehicle; analyze the stability of	
					the road vehicle under different	
					operating conditions; solve numerical	
					tasks from the specified area;	
		Possibility of distributing		Listen to a lecture and read literature. The	At the colloquium or the written and	
		braking forces.		exercises demonstrate how to solve tasks.	oral exam they define and explain the	
				Independent task solving.	basic concepts; formulate the final	
					equation of motion of the vehicle based	
	12.		1, 3, 5		on the traction forces and the resistance	3 h
					of the vehicle; analyze the stability of	
					the road vehicle under different	
					operating conditions; solve numerical	
					tasks from the specified area;	
		Braking force control		Listen to a lecture and read literature. The	At the colloquium or the written and	
		device. Correctors. Anti-		exercises demonstrate how to solve tasks.	oral exam they define and explain the	
	13.	lock braking (ABS)	1, 5	Independent task solving.	basic concepts; analyze the stability of	3 h
	13.	devices.	1, 5		the road vehicle under different	5 11
					operating conditions; solve numerical	
					tasks from the specified area;	



14. Construction of anti-lock braking systems for commercial vehicles. Characteristic installations of AB systems in passenger vehicles 1,5 Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. At the colloquium or the writted oral exam they define and explait basic concepts; analyze the stability the road vehicle under dia operating conditions; solve num tasks from the specified area; 15. Final consideration, repetition and preparation for the exam. - Listen to a lecture and read literature. Prepare individually for the exam. -	ain the ility of fferent 3 h
14. commercial vehicles. Characteristic installations of AB systems in passenger vehicles 1, 5 Independent task solving. basic concepts; analyze the stability the road vehicle under dialoperating conditions; solve num tasks from the specified area; 15. Final consideration, repetition and preparation for the exam. - Listen to a lecture and read literature. Prepare individually for the exam. -	ility of fferent nerical 3 h
14. Characteristic installations of AB systems in passenger vehicles 1,5 1 the road vehicle under di operating conditions; solve nur tasks from the specified area; 15. Final consideration, repetition and preparation for the exam. - Listen to a lecture and read literature. Prepare individually for the exam.	fferent nerical
Characteristic installations of AB systems in passenger vehicles the road vehicle under dialogeneration operating conditions; solve nur- tasks from the specified area; 15. Final consideration, repetition and preparation for the exam. - Listen to a lecture and read literature. Prepare individually for the exam.	fferent nerical
vehicles tasks from the specified area; 15. Final consideration, repetition and preparation for the exam. Listen to a lecture and read literature. Prepare individually for the exam.	
15. Final consideration, repetition and preparation for the exam. - Listen to a lecture and read literature.	3 h
15. repetition and preparation for the exam. - Listen to a lecture and read literature. Prepare individually for the exam. -	3 h
15. repetition and preparation for the exam. - Prepare individually for the exam.	3 h
for the exam.	
3. EVALUATION OF STUDENT WORK	
In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Full-tin	ne students are
3.1. Student obligations required to attend classes at least 70%, which is also a requirement for obtaining the lecturer's signature. Students can take the	e final exam in
the course in two ways: a) during the course, by taking colloquiums and oral part of the exam; b) passing the written and oral part	rt of the exam.
3.2. Student work Attending classes 1,5 Written exam 1 (without Project	
monitoring (enter the colloquiums)	
share of ECTS credits for Experimental work Research Practical work	
each activity so that the Essay Report Continuous check 0,5	
total number of ECTS Colloquiums 1 (without written Seminar paper Field works or	
credits corresponds to the exam) Study trips	
course credit value) Teaching activities The oral part of exam 1 (other)	
Student workload on all bases is 1 ECTS credit for 30 hours of work per semester and is estimated as going to fieldwork or	study trips (30
hours), preparation of seminar work and presentation (30 hours).	
Obligation Hours (estimated)	
3.3. Student work-load 1. Attending classes 45	
2. Continuous check preparations 15	
3. Colloquiums and written exam individual preparation 30	
4. Oral exam individual preparation 30	



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



5.1. Compulsory literature		Title				Availability via other media
5. ADDITIONAL INFOR	MATION ABOUT COUR	SE			of copies in	
	50 - 59,9	9%	2 (sufficient)		F]
rade according to the valuation elements .4. Formation of the final rade based on the bsolute distribution	60-64,9	9%	2 (sufficient)		D	
absolute distribution	65 - 79,9	9%	3 (good)		(
grade based on the	80-89,9	9%	4 (very good)		В	
4.4. Formation of the final	90 - 100	9%	5 (excellent)		А	
	Percentage of acquired kn competencies (teachir	-	Numerical grade		ECTS grade	
		50-64,9 bodova	65-79,9 bodova	80-89,9 bod	lova	90-100 bodova
	The oral part of exem	2	3	4		5
		50-64,9 bodova	65-79,9 bodova	80-89,9 bod	lova	90-100 bodova
evaluation elements	Written exam	50-64,9%	65-79,9%	80-89,9%	6	90-100%
grade according to the	Colloquiums/	2	3	4		5
4.3. Forming the final	Continuous check	0-5	6-10	11-15		16-20
		4 points	6 points	8 points		10 points
	Attending classes	> 80%	> 85%	> 90% prisu	stva	100%
					terminology.	
						ent in professional

5.1. Compulsory literature
(available in the library
and via other media)1. Perše, S., Višnjić, V. : Strojarstvo u prometu, Fakultet prometnih znanosti, Zagreb,
2005. (odabrana poglavlja)102. Cerovac V., Tehnika i sigurnost prometa, Fakultet prometnih znanosti, Zagreb, 2001.
(odabrana poglavlja)5



	3. Vrhovski D. Nikšić M., Osnove strojarstva, zbirka riješenih zadataka, Fakultet prometnih znanosti, Zagreb, 2000. (odabrana poglavlja)					
5.2. Additional literature	1. Teaching materials from the lectures and exercises on the e-learning system of the					
(at the moment of changes	Polytechnic for the course Technical Mechanics.	- 1	on-line (e-learning)			
and/or amended of study	2. Rotim, F.: Elementi sigurnosti cestovnog prometa, Svezak 2., Znanstveni savjet za	1				
programme)	promet HAZU, Zagreb, 1991.					
	The control of students' work quality and the acquisition of necessary knowledge and skills will	l be ensured through intera	ctive work. By keeping			
5.3. Quality assurance	track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework,					
methods that ensure the	information for further guidance to students will be provided in order to increase the efficience	information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about				
acquisition of knowledge,	their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey,					
skills and competences	monitoring of annual data from the Croatian employment service on the annual state of stu	nonitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and				
	lumni association.					
	It is the responsibility of each student to be regularly informed about the course, the coursework	rk, and classroom activitie	s. All notices of classes			
5.4. Informing about the	or possible adjournment will be published in a timely manner on the e-learning site of the course	se and on the website of the	e Polytechnic. Students			
course and contacting the	an contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted					
course lecturer	during class. It is also possible to ask questions by e-mail (from the official e-mail address na	ame@vus.hr), which will	be answered as soon as			
	possible (no later than five working days after receiving the e-mail).					



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

1. GENERAL INFORMA	TION		
1.1. Course title	DISTRIBUTIONAL CENTRES AND TERMINALS	1.8. Course code at ISVU	140777
1.2. Course lecturer	Ana-Mari Poljičak	1.9. Course code at MOZVAG	-
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing+Practical exercises + Seminars + e learning)	(30+0+30+0)
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of Transport	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st - some of the material available Online, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.
1.6. Year of study	2 nd	1.13. Modernization	X Yes 🗆 No
1.7. Credit point (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20% □

2. COURSE DESCRIPTION	ON
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 HKO.
	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.						
2.3. Learning outcomes on the 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.						
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.						
		Level of LO:					
		1 - memory,					
	Learning outcomes according to Diacut's town own	2 - understanding,					
	Learning outcomes according to Bloom's taxonomy:	3 - application,					
	(maximum 2 werbs for LO)	4 - analysis,					
2.4. Expected learning		5 - evaluation,					
outcomes on the course		6 – synthesis.					
level	1. demonstrate knowledge and understanding of the content of the course by defining and describing basic goods - distribution concepts,	1, 1					
	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					
	5. distinguish between types of storage and technological storage procedures.	2					

	Co	nstructive allignement				
2.5. Course content	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time
according to detailed curriculum schedule	1.	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	-	2 h



1						
				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.		
	-	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
2	2.	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.	6 h
3	3.	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	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.	8 h



1						
				discussed are applied in the seminar		
	4.	Port Terminals. Multifunctional and universal terminals.	1, 2, 3	teaching. 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).	6 h
	5.	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. Seminar paper created and presented (using computer programs independently).	10 h
	6.	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,	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 land-based container terminals. Explain Huckepack technologies and list loading and unloading devices. Describe	10 h



			and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	storage types. Seminar paper created and presented (using computer programs independently).	
7.	Ro-Ro terminals. Colloquium I.	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.	8 h
8.	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 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 LUF and LASH terminals explain the technological processes of work on 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 (using computer programs independently).	8 h



1						
	9.	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. Seminar paper created and presented (using computer programs independently).	10 h
	10.	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 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
	11.	Field teaching Port of Split and LDC KONZUM in Dugopolje.	2, 3, 4, 5	They listen to a lecture. (Visiting Split RO- RO, 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	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



1						
	12.	Terminals for the transhipment of liquid and liquefied gases.	1, 3, 4, 5	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. The experiential and self- discovery methods are applied. They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and 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	11 h
	13.	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 work on seminar teaching, the	independently). 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 materials. Give an example for very heavy loads. List and describe methods for loading heavy loads on board. Enumerate loading / unloading	12 h



1						
				brainstorming method and the discussion method on the topic are applied.	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 independently).	
	14.	Terminals for animal transshipment. Terminals for the transshipment of southern fruit and food products. Colloquium II.	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 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.	8 h
	15.	Concluding considerations. Repeating and preparing for the exam.		They listen to a lecture and prepare individually for the exam.	-	35 h
3. EVALUATION OF ST	UDE	NT WORK				
3.1. Students` obligations	leas	t 70%. Part-time students are requer. Students who have achieved d	uired to att uring the co	the Rulebook on Student Assessment and Eva end a class of at least 50%. All students mu purse: are rated F (unsuccessful) and cannot earn EC	st create, present and positively colloquy s	eminar



		% - are assessed by F		nd must p	pass	s and pass the writte	en exai	m (test). Written e	xam (test) can be	e held in
	regular or extra	ordinary exam period;								
	• More than 509	% - students have the r	right to take the fi	inal exam.	•					
I	Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (activ participation in classes and development and presentation of seminar work and two colloquium); b) during class (active participation in class and development and presentation of seminar work) and passing exams (written and oral part of the exam).									
3.2. Monitoring student	Attendance		Written exam	3	3 (v	without colloquia)	Proje	ect		
e –	Experimental work		Research				Pract	ical work		
activity so that the total	Essay		Report					inuous nination		
corresponds to the credit	Colloquium	3 (without written exam)	Seminar paper	(0,5		Other			
score of the course)	Class activity (),5	Oral exam	1	1 (v	(without colloquia) O		r		
5	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as:									
	Obligation					Hours (estimated)				
3.3. Student workload	1. Active class a	ttendance			60					
	2. Designing a se	eminar paper and prese	entation			20				
	3. Preparing coll	oquia or exams throug	gh individual wor	k		70				
4. FORMATION OF GRAI	DES									
	Element of evaluation	Bad				Satisfying		Above average		
4.1. Evaluation of a of seminar work	Organization	The paper is not logical order and lac	-	clear clear clear	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.		the	distinction between the introduction, the		on, the lusion,
	Terminology, writing	Words and expressi	ions low in line	Words a	and	expressions are in	line	Words and expressions are aligned with		
	style	with official terr	ninology. The	with of	offic	cial terminology.	The	official termino	logy and sho	w an



1								1	
		writing style is no		writing style is				g of their meaning. The	
		sentences are too	•	sentence structu		-	riting style	is excellent, the sentences	
		vocabulary and w	vocabulary and with frequent and		propriate and	there an	re clear and	concise, the vocabulary is	
		repeated grammati	ical errors.	are few grammat	tical errors.	ri	ch and there	are no grammatical errors.	
	Citing and referencing references	references do not show a cursor	show a cursory approach to		are listed but I with errors. The elevant to the topic atisfactory research		The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.		
	E	ad		Satisfying			Abov	e average	
4.2. Grading of the colloguium / written and oral exam	understanding. Doe basic terms and con	emory, without a deeper Does not know or apply concepts. Does not know explain the contents of xamples.					rves the legality, accurately ains the content of the connects and explains the t it supports with examples. ere not originally given. It a related material.		
	Active attendance	70-75% of the presen		76-86% of the presence		87-100% of the prese		Case studies resolved	
		2 points	4	4 points		7 points		10 points	
	Seminar paper	2		3	4			5	
4.3. Forming the final	Seminar paper	5 points	7	points	8]	points		10 points	
grade according to the	Examination /	2		3		4		5	
evaluation elements	Written	50-64,9%	65	-79,9%	80-	-89,9%		90-100%	
	examination	25 points	30	points	35	points		40 points	
	Oral part of the	2		3		4		5	
	exam	25 points	30	points	35	points		40 points	
4.4. Formation of final grade based on absolute		uired knowledge, skills (teaching + final exam)	•	Number rating			ECTS grade		
distribution		90-100%		5 (ex		A			



	80-89,9%	4 (very good)	В				
	65 - 79,9%	3 (good)	C				
	60-64,9%	2 (sufficient)	D				
	50-59,9%	E					
5. ADDITIONAL INFOR	MATION ON THE SUBJECT						
5.1. Required literature	Title		Number of copies in the library	Availability via other media			
(available in the library and through other media)	 Poljičak, AM., Ljubić Hinić, M.: Robni terminali, Au 2016. 		Available online				
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	 Dundović, Č.: Lučki terminali, PFR, 2002. Mlinarić T. J.: Robno transportni centri, Fpz, Zagreb, 2013. Dundović, Č., Kesić, B.: Tehnologija i organizacija luka, Kirinčić, J.: Luke i terminali, Školska knjiga, Zagreb, 199 	3 2 3	Available online				
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.						
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).						



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

1. GENERAL INFORM	IATION		
1.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	140771
1.2. Course title	TRAFFIC CORRIDORS AND MERCHANDISE	1.9. Course code in MOZVAG	
	FLOWS		
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing + Practical	(30 + 0 + 30 + 0)
associates		exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level),	1 st , course materials are
(specialist, undergraduate,		percentage of on line course performance (max. 20%)	on-line, 0%
graduate)			
1.5. Course status	Obligatory	1.12. Number of course revisions	4
(obligatory, optional)			
1.6. Year of study	2 nd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or	Less than 20% X
		supplements	More than 20 % \Box
2. COURSE DESCRIP			
2.1. Course objectives	The goal is that students on the basis of theoretical kno	0	
	 become familiar with the creation and develop 	-	
	 analyze and comment of commodity exchange 		
	 distinguish the main transport corridors in European 		
2.2. Terms of course entry	Enrolled 2 nd academic year, 4 year secondary education	n completed; qualification level 4.2 according to the CROQF	
and required competences			
2.3. Learning outcomes	-	hnology and organization in written and oral communication	with the professional public
on the study programme	in Croatian and English.		
level	-	valuate the opinions and attitudes of team stakeholders.	
	LO3: Independently and responsibly search, interpret a	-	
	LO6: Analyze and present relevant facts from the traffi	•	
	LO10: Compare and select technical and technological	-	
	LO12: Design a smaller transport process and critically	v evaluate it.	



	Lear	ning outcomes by Bloom: (maximum	n 2 werbs	for LO)		Level of LO:	
2.4. Expected learning		b		,		1 - memory,	
outcomes on the course						2 - understanding,	
level (4-10 learning						3 - application,	
outcomes)						4 - analysis,	
						5 - evaluation,	
						6 – synthesis.	
	1. Pre	esent and comment on the historical d	levelopme	nt of the traffic branches.		6, 3	
	2. Lis	st and explain the main factors for the	creation a	and development of commodity flows.		1, 2	
	3. An	alyze and evaluate world trade in goo	ods.			4, 5	
	4. Pre	esent and comment on the traffic con	nection of	the Republic of Croatia.		6,4	
	5. Lis	st and compare major transport corrid	ors in Eur	ope and the Republic of Croatia.		1, 2	
	6. Co	omment on the objective and strategy					
	transport.						
	7. Us	e materials and tools to search scienti	ific and pr	ofessional literature in native and English lang	uages.	3	
	8. Pre	esent the acquired knowledge, ideas, j	problems,	and solutions independently and in a team.		6	
2.5. Course content	Cons	tructive allignement					
according to detailed							
curriculum schedule							
	No	Thematic unit	LO of	Content/teaching methods	Eva	luation	Time
			the				
			course				
	1.	Introductory presentation		Listening to the lecture. In the course of			
		(introducing students to the course		seminars, they are introduced to the course			
		content and obligations)	-	content and documents on the e-learning		-	2 h
				page of the course by working			
				independently on a computer.			
	2.	Geo-traffic factors of formation	2, 7, 8	They listen to a lecture and read literature.	-	ium or the written	6 h
		and location of commodity flows	4, 1, 0	At the seminar class, they individually	and oral example.	m students know	υn



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



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



1						
				the literature, create a seminar paper that	passenger and cargo	
				presents the acquired knowledge and	transportation. Analyze and	
				presents their own ideas, and ways to solve	evaluate continental air routes.	
				problems. In group work at the seminar	Seminar paper created and	
				class, the brainstorming method and the	presented (by computer	
				discussion method on the topic are applied.	programs).	
	8.	Transport corridors in Europe		They listen to a lecture and read literature.	At the colloquium or written and	6 h
		(Trans-European transport		At the seminar class, they individually	oral exam students know state	
		network, transport corridors in		explore the content of this topic area by	and compare the main transport	
		Western and Northern Europe,		searching the database, and on the basis of	corridors in all parts of Europe	
		Pan-European transport corridors,		it and reading the literature, create a seminar	and all branches of transport.	
		pipeline corridors, inland	5, 7, 8	paper that presents the acquired knowledge	Define the term of traffic	
		waterways)		and presents their own ideas, and ways to	corridor. List the countries	
				solve problems. In group work at the	through which each transport	
				seminar class, the brainstorming method	corridor passes. Seminar paper	
				and the discussion method on the topic are	created and presented (by	
				applied.	computer programs).	
-	9.	Transport corridors in the Republic		They listen to a lecture and read literature.	At the colloquium or the written	6 h
		of Croatia (Geographical location,		At the seminar class, they individually	and oral exam, students can	
		traffic directions, traffic corridors		explore the content of this topic area by	identify and compare major	
		in the road, rail, air, water, and		searching the database, and on the basis of	traffic corridors in Europe and	
		pipeline transport)		it and reading the literature, create a seminar	the Republic of Croatia. Present,	
			4, 5, 7,	paper that presents the acquired knowledge	critically evaluate the traffic	
			8	and presents their own ideas, and ways to	connection of the Republic of	
				solve problems. In group work at the	Croatia in the road, rail, air,	
				seminar class, the brainstorming method	pipeline and inland waterway	
				and the discussion method on the topic are	transport. Seminar paper created	
				applied.	and presented (by computer	
					programs).	
		I			× • ·	



1						
	10.	Merchandise and traffic flows in		They listen to a lecture and read literature.	At the colloquium or the written	6 h
		the modern world (Concept and		At the seminar class, they individually	and oral exam, students know	
		characteristics of traffic flow,		explore the content of this topic area by	how to define the concept of	
		commodity flows of food, raw		searching the database, and on the basis of	goods traffic. Categorize,	
		materials, and industrial products)		it and reading the literature, create a seminar	analyze and evaluate the world	
			2 7 9	paper that presents the acquired knowledge	trade of food, raw materials, and	
			3, 7, 8	and presents their own ideas, and ways to	industrial products. List the	
				solve problems. In group work at the	countries with the largest	
				seminar class, the brainstorming method	importers and exporters of all	
				and the discussion method on the topic are	types of goods. Seminar paper	
				applied.	created and presented (by	
					computer programs).	
	11.	Merchandise and traffic flows of		They listen to a lecture and read literature.	At the colloquium or the written	6 h
		the Republic of Croatia (import		At the seminar class, they individually	and oral exam students know	•
		and export of products,		explore the content of this topic area by	how to analyze and evaluate the	
		merchandise and traffic flows of		searching the database, and on the basis of	trade of products in the Republic	
		the Republic of Croatia in land,		it and reading the literature, create a seminar	of Croatia. List the products that	
		water, and air)		paper that presents the acquired knowledge	the Republic of Croatia	
		water, and any	3, 4, 7,	and presents their own ideas, and ways to	imports/exports the most.	
			3, 4 , 7, 8	solve problems. In group work at the	Present, critically evaluate and	
			0	seminar class, the brainstorming method	comment on the traffic	
				and the discussion method on the topic are	connection of the Republic of	
				applied.	Croatia in all branches of traffic.	
				appried.	Seminar paper created and	
	10	Marza Dolo Drogrom (program		They use multimedic and network They	programs).	4 h
	12.	Marco Polo Program (program		They use multimedia and network. They listen to a last up and read literature. At the	At the colloquium or the written	4 h
		objective, program activities,	6, 7, 8	listen to a lecture and read literature. At the	and oral exam, students can	
		program projects)		seminar class, they individually explore the	define the goal and strategy of	
				content of this topic area by searching the	the Marco Polo program.	



database, and on the basis of it and readingDistinguish activities Marcohe literature, create a seminar paper thatPolo. Critically evaluate thepresents the acquired knowledge andprofessional video filmspresents their own ideas, and ways to solveprogram.Seminar paper createdproblems. In group work at the seminarand presented (by computerclass, the brainstorming method and theprograms).discussion method on the topic are applied.	
presents the acquired knowledge and professional video films presents their own ideas, and ways to solve program.Seminar paper created problems. In group work at the seminar and presented (by computer class, the brainstorming method and the programs).	
presents their own ideas, and ways to solve program.Seminar paper created problems. In group work at the seminar and presented (by computer class, the brainstorming method and the programs).	
problems. In group work at the seminar and presented (by computer class, the brainstorming method and the programs).	
class, the brainstorming method and the programs).	
discussion method on the topic are applied.	
13.European Union White Paper onThey listen to a lecture and read literature.At the colloquium or written and	
Transport (White Paper titles, keyAt the seminar class, they individuallyoralexam, studentsdefine	
content areas, preparing the explore the content of this topic area by objective and strategy of the	
European transport area for the searching the database, and on the basis of current EU White Paper on	
future, visions for developing a it and reading the literature, create a seminar transport. Comment on EU	
competitive and sustainable 6,7,8 paper that presents the acquired knowledge professional projects in the field	6 h
transport system, strategy - what and presents their own ideas, and ways to of transport. Seminar paper	
needs to be done) solve problems. In group work at the created and presented (by	
seminar class, the brainstorming method computer programs).	
and the discussion method on the topic are	
applied.	
14.Study visit to the port of RijekaDuring the study visit, students	
will be able to analyze and	
evaluate the exchange of	
products through seaports in the	
Republic of Croatia. To present	
3, 4, 5 and comment on the traffic	8 h
connection of the Republic of	
Croatia in road and rail transport.	
List and compare major transport	
corridors in Europe and the	
Republic of Croatia.	



	15.	Final consider	ations/Repeating		They listen to a course le	ecture and prepare			40 h
		and preparing for	the exam.	-	individuals for the exam.		-		
3. EVALUATION OF S	STUDI	ENT WORK							
3.1. Student obligations	least paper and n (test). Stude	accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at ast 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar apers. Students who have achieved during the course: from $0 - 24,9\%$ ECTS credits- are rated F (unsuccessful) and cannot earn ECTS credits, and must re-enroll in the next academic year; from $25 - 49,9\%$ - are assessed by FX (insufficient) and must pass and pass the written exam est). 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. Fundents can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students cuive 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	At	tending classes	1		Written exam	1 (without colloqiums)	Project		
share of ECTS credits for	Exp	perimental work			Research		Practical work		
each activity so that the		Esaay			Report		Continuous check		
total number of ECTS credits corresponds to the		Colloquiums	1 (without writt exam)		Seminar paper	0,5	(other)		
course credit value)	Tea	aching activities	1		The oral part of exam	0,5	(other)		
3.3. Student work-load) semester hours and is ass exam through self-study (4		(60 hours), preparation	n of seminar v	vork and
4. FORMATION OF STU	JDENT	GRADE							
4.1. Evaluation of seminar paper		Elements of evaluation	Bad		Satisfy	ying	Above	average	
	(Organization	The paper is no	ot organize	· ·		^ ^		
			in a logical orde	er and lack					
	structure. main body of the text and the conclusion. main body of the text and the conclusion. which are logically interconnected								
	Terr	minolog, writing	Words and expr		·		·	•	
		style	not in line w			ē .		0.	
			terminology. T	he writing	g appropriate, the senten	ce structure is clear	, understanding of	their meaning	ng. The



1						
		style is not appropriate, the	the vocabulary is appropri-	iate and there are	writing style is e	excellent, the sentences
		sentences are too long, of a	few grammatical errors.		are clear and con	cise, the vocabulary is
		modest vocabulary and with			rich and there are	no grammatical errors.
		frequent and repeated				
		grammatical errors.				
	Citing and referencing	The sources are not listed at	The sources are listed but	t incomplete and	The sources are	accurately, completely
	references	all. The references do not fit	with errors. The reference	es are relevant to	and consistently	listed. The references
		the topic and show a cursory	the topic and show a satis	sfactory research	are appropriate,	their list is "rich" and
		approach to exploring the	attitude.		comprehensive a	and shows a detailed
		topic.			research approach	1.
4.2. Gradeing of the		Bad	Satisfying	g	Abov	ve average
colloquium/written and	It responds by me	mory, without a deeper	It reproduces the basic concepts and		Knowledge is at the level of analysis,	
oral exam	· ·	ot know or apply basic terms	without difficulty imparts new knowledge,		synthesis, and evaluation. It observes the	
	-	know how to apply or explain	understands the materia		•	tely and thoroughly
	the contents of the cours		terms and concepts that it supports with		explains the content of the material, and	
	the contents of the course with examples.		examples.		logically connects and explains the terms	
			enumpros.		•••	hat it supports with
					examples. Finds solutions that were not originally given. It notes correlations	
					with related mate	
4.3. Forming the final	Active attendance on	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created,
grade according to the	class	10 13/0 attenduitee	70 00% attendance	07 10070	attendance	Case studies resolved
evaluation elements		2 points	4 points	7 p	oints	3 points
	Seminar paper	2	3		4	5
	Seminar paper	5 points	7 points	8 p	oints	10 points
	~	2	3		4	5
	Colloquiums/ Written part of exam	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%
	withen part of exam	25 points	30 points	35 1	points 40 points	



		2	3		5	5
	Oral part of exam	25 points	30 points	3	5 points	40 points
4.4. Formation of the final	Percentage of acquir	ed knowledge, skills and	ade	ECTS grade		
grade based on the	-	eaching + final exam)				
absolute distribution	90	- 100%	5 (excellent	t)		А
	80	- 89,9%	4 (very good	d)		В
	65	- 79,9%	3 (good)			С
	60	- 64,9%	2 (sufficien	t)		D
	50	- 59,9%	2 (sufficien	t)		Е
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE				
5.1. Compulsory literature		Title		Nı	umber of copies in	Availability via
(available in the library					the library	other media
and via other media)	<i>e v</i>	ridors and merchandise flows, S	Script for internal use, Pol	ytechnic		e-learning system
	of Sibenik, Sibenik 2016					
	Strategy for Transport D (selected chapters)	evelopment of the Republic of	Croatia for the Period 201	14-2030.		Internet website
	World trade organization	http://www.wto.org/ (selected	chapters)		-	Internet website
	Transport in EU http://ed	e.europa.eu/transport/index_en.h	htm(selected chapters)		-	Internet website
	Central Bureau of Statist	ics of the Republic of Croatia h			Internet website	
5.2. Additional literature	Teaching materials from	lectures and seminars on the e-	Learning system of the Pol	ytechnic	-	e-learning system
(at the moment of changes	of Sibenik for the mentio	oned course.				
and/or amended of study		ics https://www.trademap.org/I	ndex.aspx			Internet website
programme)	÷ ·	://www.fao.org/home/en/				Internet website
5.3. Quality assurance		vork quality and the acquisition	· · ·		-	• • •
methods that ensure the		udent activity during classes and	-		-	-
acquisition of knowledge,	-	uidance to students will be prov		-		
skills and competences	their rights and obligation	ns as well as the methods of we	ork and the required literat	ure. Indicators	of quality assurance	system: Student survey,



	monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and
	Alumni association.
5.4. Informing about the	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes
course and contacting the	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
course lecturer	can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted
	during class. It is also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will be answered as soon as
	possible (no later than five working days after receiving the e-mail).



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

1.1. Course lecturer	Dragan Bolanča	1.8. Course code in ISVU	169046					
1.2. Course title	TRAFFIC LAW	1.9. Course code in MOZVAG						
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing	(30 + 0 + 30 + 0)					
associates		+Practical exercises + Seminars + e learning)						
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level),	1 st , course materials are					
(specialist, undergraduate,	percentage of on line course performance (max. 20%) on-line, 0%							
graduate)								
1.5. Course status	Obligatory	bligatory 1.12. Number of course revisions 2						
(obligatory, optional)								
1.6. Year of study	2 nd	1.13. Modernization	Yes					
1.7. Credit score (ECTS)	3	Less than 20% X						
		supplements More than 20 %						
2. COURSE DESCRIP	TION							
2.1. Course objectives	The main aim of class is informing students about	fundamental institutes of various branches of traffic includin	g their important role in the					
	world trading. Because geographical location of Cr	oatia points out to importance of maritime law, the maritime	traffic is in focus. Also, the					
	administrative and civil law of road traffic is elaborated in comparison with another branches of traffic.							
	administrative and civil law of road traffic is elabor	ated in comparison with another branches of traffic.						
2.2. Terms of course entry	Four-year secondary education completed; qualifica	-						
2.2. Terms of course entry and required competences		-						
and required competences	Four-year secondary education completed; qualifica	tion level 4.2 according to the HKO.						
and required competences 2.3. Learning outcomes	Four-year secondary education completed; qualifica IU2: Organize and conduct teamwork, and critically	tion level 4.2 according to the HKO. evaluate the opinions and attitudes of team stakeholders.						
and required competences	Four-year secondary education completed; qualifica IU2: Organize and conduct teamwork, and critically	tion level 4.2 according to the HKO. evaluate the opinions and attitudes of team stakeholders. t and integrate relevant literature for decision making.						
and required competences 2.3. Learning outcomes on the study programme	Four-year secondary education completed; qualifica IU2: Organize and conduct teamwork, and critically IU3: Independently and responsibly search, interpret	tion level 4.2 according to the HKO. evaluate the opinions and attitudes of team stakeholders. t and integrate relevant literature for decision making.						
and required competences 2.3. Learning outcomes on the study programme	Four-year secondary education completed; qualifica IU2: Organize and conduct teamwork, and critically IU3: Independently and responsibly search, interpre IU4: To know the basic institutes of traffic law in al IU8: Analytically solving law problems.	tion level 4.2 according to the HKO. evaluate the opinions and attitudes of team stakeholders. t and integrate relevant literature for decision making. l branches of traffic.	Level of LO:					
and required competences 2.3. Learning outcomes on the study programme	Four-year secondary education completed; qualifica IU2: Organize and conduct teamwork, and critically IU3: Independently and responsibly search, interpre- IU4: To know the basic institutes of traffic law in al	tion level 4.2 according to the HKO. evaluate the opinions and attitudes of team stakeholders. t and integrate relevant literature for decision making. l branches of traffic.	Level of LO: 1 - memory,					
and required competences 2.3. Learning outcomes on the study programme level	Four-year secondary education completed; qualifica IU2: Organize and conduct teamwork, and critically IU3: Independently and responsibly search, interpre IU4: To know the basic institutes of traffic law in al IU8: Analytically solving law problems.	tion level 4.2 according to the HKO. evaluate the opinions and attitudes of team stakeholders. t and integrate relevant literature for decision making. l branches of traffic.						



level (4-10 learning outcomes)		4 - analysis, 5 - evaluation, 6 - synthesis.							
	1. To	describe modern methodologically to	endencies	in legal sciences, especially in traffic law.		1, 2			
	2. To	perceive and recognize actual institu	tes in traff	fic law.		2, 3			
	3. To	apply acquired methodological know	vledge and	l solve practical traffic problems.		3			
	4. To	approach analytically to empirical m	aterial.			4,5			
	5. To	individually and responsibly make d	ecisions ir	n the frame of individual law traffic institut	е.	6			
2.5. Course content according to detailed curriculum schedule	Cons	Constructive allignement							
	No	Thematic unit	LO of the course	Content/teaching methods	Evalu	ation	Time		
	1.	Introductory presentation (introducing students to the course content and obligations)	-	Listening to the lecture. In the course of seminars, they are introduced to the course content and documents on the e- learning page of the course by working independently on a computer.	-		2 h		
	1.	MARITIME TRAFFIC: Safety of maritime navigation and maritime objects	1, 6, 7	They listen to a lecture and read literature.	At the oral exam how to define the safety of maritim maritime objects.	basic elements of	4 h		
	2.	Proprietary rights on ship and crewmember of maritime ship (seaman)	1, 6, 7	They listen to a lecture and read literature.	At the oral exam how to enumerate the kinds of basic on ship and define conection with maritime ship (sea	e and distinguish proprietary rights the basic terms in crewmember of	4 h		



	3.	Tort liabilty of shipowner and ship		They listen to a lecture and read	At the oral exam, students know	
		operator and general limitation of	1, 6, 7	literature.	how to define all cases of tort liability	4 h
		shipowner's liability	1, 0, 7		of shipowner and ship operator	4 11
					including the limit of their liability.	
	4.	Maritime accidents and salvage at		They listen to a lecture and read	At the oral exam, students know	
		the sea		literature. At the seminar class, they	how to define the maritime	
				individually or in group explore the	accidents and the salvage at the sea.	
			1, 23,	content of this topic area by searching	Seminar paper created and presented	
			4, 5, 6,	the database, and on the basis of it and	(by computer programs).	6 h
			7	reading the literature, create a seminar		
				paper that presents the acquired		
				knowledge and presents their own ideas,		
_				and ways to solve problems.		
	5.	Shipbuilding contract and contract		They listen to a lecture and read	At the oral exam, students know	
		of maritime agency		literature. At the seminar class, they	how to define and describe the basic	
				individually or in group explore the	terms of shipbuilding contract and	
			1, 2 3,	content of this topic area by searching	contract of maritime agency.	
			4, 5, 6,	the database, and on the basis of it and	Seminar paper created and presented	6 h
			7	reading the literature, create a seminar	(by computer programs).	
				paper that presents the acquired		
				knowledge and presents their own ideas,		
_				and ways to solve problems.		
	6.	Contract of carriage of goods by		They listen to a lecture and read	At the oral exam, students know	4 h
		sea	1.0.0	literature. At the seminar class, they	how to define and describe the basic	
			1, 23,	individually or in group explore the	terms of contract of carriage of	
			4, 5, 6, 7	content of this topic area by searching	goods by sea. Seminar paper created	
			7	the database, and on the basis of it and	and presented (by computer	
				reading the literature, create a seminar	programs).	
				paper that presents the acquired		



1						
				knowledge and presents their own ideas,		
				and ways to solve problems.		
	7.	Contract of carriage of passengers		They listen to a lecture and read	At the oral exam, students know	4 h
		and luggage by sea		literature. At the seminar class, they	how to define and describe the basic	
				individually or in group explore the	terms of contract of carriage of	
			1, 23,	content of this topic area by searching	passengers and luggage by sea.	
			4, 5, 6,	the database, and on the basis of it and	Seminar paper created and presented	
			7	reading the literature, create a seminar	(by computer programs).	
				paper that presents the acquired		
				knowledge and presents their own ideas,		
				and ways to solve problems.		
	8.	TRAFFIC OF INLAND WATER		They listen to a lecture and read	At the oral exam, students know	6 h
		NAVIGATION: Administrative		literature. At the seminar class, they	how to define and describe the kinds	
		and civil law		individually or in group explore the	of administrative and civil law in	
			1, 23,	content of this topic area by searching	inland water navigation.	
			4, 5, 6,	the database, and on the basis of it and	Seminar paper created and presented	
			7	reading the literature, create a seminar	(by computer programs).	
				paper that presents the acquired		
				knowledge and presents their own ideas,		
				and ways to solve problems.		
	9.	ROAD TRAFFIC: Public and		They listen to a lecture and read	At the oral exam, students know	4 h
		unpublic roads (building,		literature.	how to define and describe the kinds	
		maintenance, direction and using)			of public and unpublic roads	
			1, 6, 7		including the modes of their	
					building, maintenance, direction and	
					using. Seminar paper created and	
					presented (by computer programs).	
	10.	The conditions and modes of	1, 2 3,	They listen to a lecture and read	At the oral exam, students know	4 h
		making of national carigge of	4, 5, 6,	literature.	how to define and describe the	
		passengers and goods on road. The	7		conditions and modes of making of	



1						
		conditions and modes of f international carigge of passengers			national and international carigge of passengers and goods on road.	
	11.	and goods on road. Agency services, services of passenger and trucking terminals, law conditions for drivers and vehicles	1, 2 3, 4, 5, 6, 7	They listen to a lecture and read literature.	At the oral exam, students know how to define and describe the basic terms of agency services, services of passenger and trucking terminals, law conditions for drivers and vehicles.	4 h
	12.	Contract for the carriage of goods by road, contract for the carriage of passengers by road	1, 2 3, 4, 5, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually or in group 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 oral exam, students know how to define and describe the basic terms of contract for the carriage of goods by road and contract for the carriage of passengers by road Seminar paper created and presented (by computer programs).	4 h
	13.	RAILWAY TRAFFIC: Administrative and civil law	1, 2 3, 4, 5, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually or in group 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 oral exam, students know how to define and describe the kinds of administrative and civil law in railway traffic. Seminar paper created and presented (by computer programs).	4 h
	14.	AIR TRAFFIC: Administrative and civil law	1, 2 3, 4, 5, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually or in group explore the	At the oral exam, students know how to define and describe the kinds	6 h



			I					
				content of this topic are	• •	of administrative and c	civil law in	l
				the database, and on the	basis of it and	railway traffic.		I
				reading the literature, cr	reate a seminar	Seminar paper created an	nd presented	I
				paper that presents	the acquired	(by computer programs).		I
				knowledge and presents t	their own.			l
	15. Final	considera	ations/Repeating	They listen to a course	se lecture and			24 h
	and pre	paring for	the exam.	prepare individuals for th	e exam.	-		I
3. EVALUATION OF S	STUDENT WO	ORK						
3.1. Student obligations	In accordance	with the R	ulebook on Study and the R	ulebook on Student Asses	sment and Evalu	ation: for all full-time stud	dents attendar	nce of at
	least 70%. Pa	rt-time stud	lents are required to attend a	a class of at least 50%. Al	l students must o	create, present and positiv	vely colloquy	seminar
			ve achieved during the cours					
	and must re-e	nroll in the	e next academic year; from	25 - 49,9% - are assessed	by FX (insuffic	ient) and must pass and p	bass the writte	en exam
	(test). Written	exam (test) can be held in a regular or	extraordinary exam period	; more than 50%	- students have the right t	to take the fination	al exam.
	Students can	take the fin	nal exam from the course in	two ways: a) during the	course of teaching	ing through continuous m	nonitoring of	students
	(active partici	pation in cl	asses and through two exam	s); b) passing the exam (w	vritten and oral p	art of the exam).		
3.2. Student work	Attending	classes	0,5	Written exam	1 (without	Project		
monitoring (enter the					colloqiums)			
share of ECTS credits for	Experiment	al work		Research		Practical work		
each activity so that the	Esaa	у		Report		Continuous check		
total number of ECTS	Colloqui	ums	1 (without written part of	Seminar paper	0,5	(other)		
credits corresponds to the	_		exam)					
course credit value)	Teaching ac	ctivities	1	The oral part of exam	2	(other)		
3.3. Student work-load	Student work	oad on all	bases is 1 ECTS credit for 30	semester hours and is ass	essed as attendar	nce (15 hours), preparation	n of seminar v	vork and
			preparation for the midterm/					
4. FORMATION OF STU	DENT GRAD	E		• • •				
4.1. Evaluation of seminar	Element	ts of	Bad	Satisf	ying	Above	average	
paper	evaluat	ion					-	
<u> </u>								



1						
	Organization	The paper is not organized	The paper is well structure			structured with a clear
		in a logical order and lacks	distinction between the i	ntroduction, the	distinction betwee	en the introduction, the
		structure.	main body of the text and	the conclusion.	main body of the	text and the conclusion,
					which are logicall	y interconnected.
	Terminolog, writing	Words and expressions are	Words and expressions a	are in line with	Words and expres	ssions are aligned with
	style not in line with official official terminology. The writing style		writing style is	official terminology and show an		
		terminology. The writing	appropriate, the sentence s	structure is clear,	understanding of	their meaning. The
		style is not appropriate, the	the vocabulary is appropri	ate and there are	writing style is excellent, the sentences	
		sentences are too long, of a	few grammatical errors.		are clear and concise, the vocabulary is	
		modest vocabulary and with			rich and there are no grammatical errors.	
		frequent and repeated				
		grammatical errors.				
	Citing and referencing The sources are not listed at The sources are listed but incomple		incomplete and	The sources are accurately, completely		
	references	all. The references do not fit	with errors. The references are relevant to		and consistently listed. The references	
		the topic and show a cursory	the topic and show a satis	factory research	are appropriate,	their list is "rich" and
		approach to exploring the	attitude.		comprehensive a	nd shows a detailed
		topic.			research approach	l.
4.2. Gradeing of the	Bad		Satisfying		Above average	
colloquium/written and						
oral exam	It responds by memory, without a deeper understanding. It does not know or apply basic terms and concepts. It does not know how to apply or explain the contents of the course with examples.		It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		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 on	70-75% attendance	76-86% attendance	87 1000/	attendance	Mental map created,
	class	70-7570 attenuance	70-00% attenuance	07-100%	87-100% attendance Case studies resolve	



2 points		4 points	7 pc	oints	3 points			
Seminar paper	2	3	2	4	5			
	5 points	7 points	8 points		10 points			
Colloquiums/ Written part of exam	2	3	4		5			
	50 - 64,9%	65 - 79,9%	80 - 8	39,9%	90 - 100%			
	25 points	30 points	35 p	oints	40 points			
Oral part of exam	2	3	:	5	5			
	25 points	30 points	35 points		40 points			
Percentage of acquired knowledge, skills and competencies (teaching + final exam)		Numerical grade		ECTS grade				
90-100%		5 (excellent)		А				
80 - 89,9%		4 (very good)		В				
65 - 79,9%		3 (good)		С				
60 - 64,9%		2 (sufficient)		D				
50-59,9%		2 (sufficient)		Е				
MATION ABOUT COU	RSE							
Title				-	Availability via other media			
Bolanča, D., Prometno pravo (electronic book), Veleučilište, Šibenik, 2016								
Vasilj, A., Činčurak Erce	eg, B., Prometno pravo i osigu	5	0					
The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping								
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,								
		• •		through short collor	aujums and homework			
	Colloquiums/ Written part of exam Oral part of exam Percentage of acquir competencies (te 90 - 80 - 65 - 60 - 50 - MATION ABOUT COU Bolanča, D., Prometno p Vasilj, A., Činčurak Erce	Seminar paper 2 Seminar paper 2 Source 2 Colloquiums/ 50 - 64,9% Written part of exam 25 points Oral part of exam 2 Oral part of exam 25 points Percentage of acquired knowledge, skills and competencies (teaching + final exam) 90 - 100% 80 - 89,9% 65 - 79,9% 60 - 64,9% 50 - 59,9% MATION ABOUT COURSE Title Bolanča, D., Prometno pravo (electronic book), Veleu Vasilj, A., Činčurak Erceg, B., Prometno pravo i osigu	Seminar paper 2 3 Colloquiums/ 2 3 Written part of exam 200 - 64,9% 65 - 79,9% Oral part of exam 2 3 Oral part of exam 2 3 Percentage of acquired knowledge, skills and competencies (teaching + final exam) Numerical grade 90 – 100% 5 (excellent) 80 – 89,9% 4 (very good) 65 – 79,9% 3 (good) 60 – 64,9% 2 (sufficient) 50 – 59,9% 2 (sufficient) MATION ABOUT COURSE Title Bolanča, D., Prometno pravo (electronic book), Veleučilište, Šibenik, 2016 Vasilj, A., Činčurak Erceg, B., Prometno pravo i osiguranje, Pravni fakultet, Osijek, 2016	Seminar paper23Seminar paper 2 3 3 Colloquiums/ Written part of exam 2 3 3 Oral part of exam 2 3 3 Oral part of exam 2 3 3 Percentage of acquired knowledge, skills and competencies (teaching + final exam)Numerical grade $90 - 100\%$ 5 (excellent) $80 - 89,9\%$ 4 (very good) $65 - 79,9\%$ 3 (good) $60 - 64,9\%$ 2 (sufficient) $50 - 59,9\%$ 2 (sufficient) $50 - 59,9\%$ 2 (sufficient) $50 - 59,9\%$ 2 (sufficient) $50 - 79,9\%$ 2 (sufficient) $50 - 59,9\%$ 2 (sufficient) 4 10 </td <td>Seminar paper234Seminar paper$2$$3$$4$Colloquiums/ Written part of exam$2$$3$$4$Colloquiums/ Written part of exam$50 - 64.9\%$$65 - 79.9\%$$80 - 89.9\%$Oral part of exam$2$$3$$5$Oral part of exam$2$$3$$5$Percentage of acquired knowledge, skills and competencies (teaching + final exam)Numerical gradeEC'$90 - 100\%$$5$ (excellent)$80 - 89.9\%$$4$ (very good)$65 - 79.9\%$$3$ (good)$65 - 79.9\%$$3$ (good)$60 - 64.9\%$$2$ (sufficient)$50 - 59.9\%$$2$ (sufficient)$50 - 59.9\%$$2$ (sufficient)$50 - 59.9\%$$2$ (sufficient)MATION ABOUT COURSETitleNumber of copies in the libraryBolanča, D., Prometno pravo (electronic book), Veleučilište, Šibenik, 2016$0$</td>	Seminar paper234Seminar paper 2 3 4 Colloquiums/ Written part of exam 2 3 4 Colloquiums/ Written part of exam $50 - 64.9\%$ $65 - 79.9\%$ $80 - 89.9\%$ Oral part of exam 2 3 5 Oral part of exam 2 3 5 Percentage of acquired knowledge, skills and competencies (teaching + final exam)Numerical gradeEC' $90 - 100\%$ 5 (excellent) $80 - 89.9\%$ 4 (very good) $65 - 79.9\%$ 3 (good) $65 - 79.9\%$ 3 (good) $60 - 64.9\%$ 2 (sufficient) $50 - 59.9\%$ 2 (sufficient) $50 - 59.9\%$ 2 (sufficient) $50 - 59.9\%$ 2 (sufficient)MATION ABOUT COURSETitleNumber of copies in the libraryBolanča, D., Prometno pravo (electronic book), Veleučilište, Šibenik, 2016 0			

Stranica **8** od **9**



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



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

1. GENERAL INFORMA	TION		
1.1. Course title	TECHNOLOGY AND ORGANIZATION OF PUBLIC CITY TRANSPORT	1.8. Course code at ISVU	140782
1.2. Course lecturer	Martina Ljubić Hinić	1.9. Course code at MOZVAG	
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(30L+15P)
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of Traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1st
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.
1.6. Year of study	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 DESCRIPTIO	. COURSE DESCRIPTION							
	The aim is to provide students with theoretical knowledge and case studies to:							
	 know the basic principles of public transport; understand the advantages and disadvantages of conducting public passenger and freight transport; 							
2.1. Course objectives	 adopt knowledge and a logical way of thinking about the possibilities of organizing public transport; learn and understand the issues of the relationship between public and individual transportation; 							
	 know the possibilities of improving public transport and increasing the mobility of passengers; apply the learned content of this course in business practice. 							
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the HKO.							



	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	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.						
on the study programme	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.						
level	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.						
	LO9: Assess and organize processes in the field of road transport and / or transport logistics.						
	LO13: Follow trends in technology, technology and traffic safety.						
	Learning outcomes according to Bloom's taxonomy:						
2.4. Expected learning	1. to define and describe the public transportation system 1, 1						
outcomes on the course	2. to explain and distinguish between the technical and technological features of the public transport system 2, 4						
level	3. to analyze and identify the wishes and behaviors of travelers 4, 1						
	4. to distinguish conventional from innovative passenger transport technologies 4						
	5. to identify and connect the needs and opportunities for improving public transport organization in cities 1, 5						
	6. to use materials and tools to search scientific and professional literature in their native and English languages 3						
	7. to present the acquired knowledge, ideas, problems and solutions independently and in a team 6						

	Cons	Constructive allignement											
	no	o Thematic unit LO of the course		Content/teaching methods	Evaluation	Time							
2.5. Course content according to detailed curriculum schedule	1.	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							



1						
		Historical development.	1,6	Listen to lectures and read literature.	In colloquium or the written and oral exam they indicate the historical development of the elements of the public urban transport system.	2 h
	2.	Symbiotic connection city - public urban transport. Public urban transport in the Republic of Croatia.	1, 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 the written and oral exam they define, enumerate and explain the factors that influenced the development, location and structure of cities, and enumerate and describe forms of public transport in the Republic of Croatia and their efficiency in passenger mobility.	3 h
	3.	The meaning and efficiency of public urban transport.	1, 3, 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 define and describe the problems and significance of public urban transport, and state and explain the criteria for evaluating efficiency, with suggestions for improvement.	3 h
	4.	Urban passenger transport technology.	1, 2, 3, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they state the need and role of public transport, define the main technologies and modes of traffic in cities and state the consequences of greater representation of individual transport in relation to public transport. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving public transport.	3 h



1						
	5.	Urban passenger transport technology.	1, 2, 3, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they can state the need and role of public transport, define the main technologies and modes of traffic in cities and state the consequences of greater representation of individual transport in relation to public transport. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving public transport.	3 h
	6.	Urban passenger transport technology.	1, 2, 3, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they can state the need and role of public transport, define the main technologies and modes of traffic in cities and state the consequences of greater representation of individual transport in relation to public transport. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving public transport.	3 h
	7.	Models of passenger behavior. Planning of public urban passenger transport.	1, 2, 3, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define the levels of traffic planning and explain the process of planning public transport taking into account the wishes of passengers. Seminar work is organized in groups, with discussion and proposing measures for	3 h



1	1	1	1				
					possibilities of improving public		
					transport.		
					In colloquium or written and oral exams		
					they define and state the types and types		
		Public passenger transport	1, 2, 3, 5,	They listen to a lecture and prepare	of public transport vehicles and their		
	8.	vehicles.	6	individually for the colloquium.	technical and technological	38 h	
		1st Colloquium			characteristics that are important for the		
					establishment and organization of		
					public transport systems.		
					In colloquium or written and oral exams		
					they define and state the types and types		
		Public passenger transport vehicles.	1, 2, 3, 5, 6	They listen to a lecture and read	of public transport vehicles and their		
				1, 2, 3, 5, literature. In the course of the seminar, they individually explore the content of	technical and technological		
					characteristics that are important for the		
	9.			this topic area by searching the	establishment and organization of	3 h	
				da rea	database, and on the basis of it and the	public transport systems. Seminar work	
					read literature, come up with their o	is organized in groups, with discussion	
				ideas, and ways to solve problems.	and proposing measures for		
					possibilities of improving public		
					transport.		
					In colloquium or written and oral exams		
				They listen to a lecture and read	they define and state the types and		
				literature. In the course of the seminar,	methods of conventional public		
		Conventional modes of subli-	1 2 2 4	they individually explore the content of	transport and their technical,		
	10.	Conventional modes of public	1, 2, 3, 4,	this topic area by searching the	technological and exploitative characteristics, which are important for	3 h	
		transportation.	5, 6, 7	database, and on the basis of it and the	the establishment and organization of		
				read literature, come up with their own	the public transport system. Seminar		
				ideas, and ways to solve problems.	work is organized in groups, with		
					discussion and proposing measures for		
					unscussion and proposing measures for		



	1				
				possibilities of improving public	
				transport.	
11.	Conventional modes of public transportation.	1, 3, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and state the types and methods of conventional public transport and their technical, technological and exploitative characteristics, which are important for the establishment and organization of the public transport system. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving public transport.	3 h
12.	Network of public transport lines.	1, 3, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and describe the types of networks and ways of providing the route of lines, to specify and analyze the factors that determine the quality of the network of lines. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving public transport.	3 h
13.	Urban expansion, telecommuting and transportation. Paratransit.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the	In colloquium or written and oral exams they state and describe the causes and consequences of urban expansion, and define and describe the forms of paratransit and its effects and influence on the public transportation system in	3 h



1							[
					me up with their own	cities. Seminar work i	e e			
				ideas, and ways to	o solve problems.	groups, with discussion				
						measures for possibilitie	es of improving			
						public transport.				
						In colloquium or written	and oral exams			
	Innovative tran	sportation	24	They liston to a	lecture and prepare	they define and describ	e the forms of			
	14. technologies.		2, 3,4,	•	• •	innovative transport tec	hnologies, and	38 h		
	2nd Colloquiun	n. 5,0	5,7	individually for the	ie conoquium.	explain the effects and	impact on the			
						public transport system.	_			
	Concluding cor	nsiderations.		These listen to a	1					
	15. Repeating and	preparing for 6, 7	7	•	lecture and prepare	-		38 h		
	the exam.			individually for the	ne exam.					
3. EVALUATION OF STU	UDENT WORK	·								
	In accordance with th	e Rulebook on Study	and the H	Rulebook on Stude	ent Assessment and Eva	aluation: for all full-time	students attendar	nce of at		
	least 70%. Part-time s	students are required	to attend	a class of at least	50%. All students mus	st create, present and pos	itively colloquy	seminar		
	paper. Students who h	nave achieved during t	the course	e:						
	• From 0 - 24.	9% of ECTS credits -	they are a	rated F (unsuccess	ful) and cannot earn EC	TS credits and must re-er	nroll in the next a	cademic		
	year;									
2.1. Statestal alliesticat	• From 25-49	.9% - are assessed by	FX (insu	fficient) and must	pass and pass the writt	en exam (test). Written e	xam (test) can be	e held in		
3.1. Students` obligations	regular or ext	raordinary exam perio	od;							
	• More than 5	0% - students have the	e right to	take the final exar	n.					
	Writing a seminar pa	per is a prerequisite f	or obtain	ing a signature. St	udents can take the fin	al exam in the course in	two ways: a) du	uring the		
	course of teaching three	ough continuous moni	itoring of	students (active pa	rticipation in classes an	nd two exams); b) during o	class (active parti	icipation		
	in class and passing ex				-			-		
3.2. Monitoring student	Attendance	1	Writt	ten exam	1 (without colloquia)	Project				
work (enter the share of	Experimental work		Rese	arch		Practical work				
ECTS credits for each						Continuous				
activity so that the total	Essay		Repo			Continuous				



number of ECTS points corresponds to the credit	Colloquium	1 (without written exam)	Seminar paper		1	Oth	er	
score of the course)	Class activity	1	Oral exam		1	Oth	er	
3.3. Student workload	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as: 1. Attendance 30 h 2. Design of seminar work and presentation 15 h 3. Preparation for the mid-term / midterm exam 115 h							
4. FORMATION OF GRA	ADES							
	Element of evaluation	Bad			Satisfying		Abo	ve average
	Organization	The paper is not o logical order and lack	•	clear introdu	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.		distinction between the introduction, the	
4.1. Grading of seminar work	Terminology, writing style	Words and expression with official term writing style is not an sentences are too lon vocabulary and with repeated grammatica	inology. The ppropriate, the g, of a modest a frequent and	with writing sentence vocabu	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.		official termino understanding of writing style is e are clear and cor	ssions are aligned with logy and show an f their meaning. The excellent, the sentences noise, the vocabulary is no grammatical errors.
	Citing and referencing references	The sources are not li references do not fit show a cursory exploring the topic.	the topic and	incomp referen	incomplete and with errors. The references are relevant to the topic and show a satisfactory research		and consistently li appropriate, thei	accurately, completely isted. The references are ir list is "rich" and and shows a detailed h.
4.2. Grading of the		Bad		Sati	isfying			average
colloguium / written and oral exam	understanding. Does	nory, without a deepen not know or apply basic Does not know how to	difficulty	It reproduces the basic concepts and without difficulty imparts new knowledge		t sy	Knowledge is at the level of analysis, synthesis and evaluation. It observes the legality, accurately and thoroughly explains	



1								
	apply or explain t with examples.	he contents of the course	and concepts that it supports with examples.			the content of the material, and logically connects and explains the terms and concepts		
							amples. Finds solutions nally given. It notes ed material.	
	A ative attendence	70-75% of the presence	76-86% of the p	resence	87-100% of t	he presence C	ase studies resolved	
	Active attendance	0 points	0 points		0 poi	nts	0 points	
	Saminan nanan	2	3		4		5	
4.3. Forming the final	Seminar paper	Made and handed over	Made and hande	ed over	Made and ha	anded over M	ade and handed over	
grade according to the	Examination /	2	3		4		5	
evaluation elements	Written	50-64%	65-80%	81-9		0%	91-100%	
	examination	25-32 points	33-40 points 41		41-45 p	points	46-50 points	
	Oral part of the	2	3		5		5	
	exam	xam 25-32 points 33-40 points 41-4		41-45 p	points	46-50 points		
	Percentage of	acquired knowledge, skills a (teaching + final exam)	and competences	nd competences Number rating		EC	ECTS grade	
4.4. Formation of final		90 - 100%	5 (excellent)		A			
grade based on absolute		80-89,9%	4 (very good)		B			
distribution		$\frac{65-79,9\%}{60-64,9\%}$			3 (good) (sufficient)	С		
		$\frac{00-04,9\%}{50-59,9\%}$			(sufficient)		D E	
5. ADDITIONAL INFOR	RMATION ON THE	·			(surreicht)			
5.1. Required literature (available in the library		Title				Number of copies in the library	Availability via other media	
and through other modia)	1 Štafančić G	· Tahnalagija gradskog pro	moto I EP7 2009 (a)	Johrona no	alaulia)	2	No	

Stranica 9 od 10



the submission of changes	3. Banister, D.: Transport and Urban Development, E & FN Spon, New York, 1995.	0	No
and / or additions to the	4. Lectures		Yes
study program)			
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensu of students' attendance and activity in the classroom and information obtained about student print information needed for further guidance to students in order to increase their work efficiency. So obligations as well as working methods and required literature. Quality assurance system indicate data on annual employment status of students, employer survey and Alumni Association.	ogress through the mi Students will be instrue	dterm will provide the cted in their rights and
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 courseword classes or possible adjournment will be published in a timely manner on the e-learning site of the Students can contact teachers during the consultation period (at least one hour per week), while for contacted during class. It is also possible to ask questions by e-mail (from the official e-mail add soon as possible (no later than five working days after receiving the e-mail).	course and on the web r short questions and ex	site of the Polytechnic. A splanations they can be



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

1. GENERAL INFORM	1. GENERAL INFORMATION							
1.1. Course lecturer	Ivana Kardum Goleš	1.8. Course code in ISVU	140784					
1.2. Course title	ENGLISH LANGUAGE IV	1.9. Course code in MOZVAG						
1.3. Assistants and/or associates		1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(15+30+0+0)					
1.4. Study programme (specialist, undergraduate, graduate)	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st , course materials are on-line, 0%					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1					
1.6. Year of study	2 nd	1.13. Modernization	Yes					
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%X□More than 20 %□					
2. COURSE DESCRIPTIO	ON							
2.1. Course objectives The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the 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	Completed course English language III							
2.3. Learning outcomes on the study programme level	omes LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the							



	Lear	Level of LO: 1- rememberi 2- understand 3- application 4-analysis, 5-evaluation, 6-synthesis	ling,					
	V	written and oral communication		professional terminology of Englis	h road traffic and use them in	2, 3		
		o create CV (Europass template),				3, 4, 6		
		o interpret and use tenses in real-l				3, 4		
		o develop a longer essay within th	A			5,6		
		o present own ideas for developm		1		3		
		o compare and evaluate different		the subjects of the course, to expre	ss one own opinions	<u>6</u> 5		
		o analyse complex texts and solve				4		
		o use part of the general language		cv at levels B1/B2		6		
		structive allignement		ý				
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time	
2.5. Course content according to detailed	1.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h	
curriculum schedule	2.	Early Trading Conditions – Tenses CV – Europass template	Image: Conditions – elearning documents. Image: Conditions – Image: Conditions – Ima					



-					
3.	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
4.	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
5.	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	4 h



1					
				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.	Tehnological Advances In The Twenty-First Century - Direct And Indirect Speech - Commands, Requests, Advice Past	1, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	4 h
7.	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 a real linguistic context, can communicate	6 h



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



				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.	
11.	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
12.	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
13.	The Modern Wonder Of Electronics - Business Letters – Job Intervju	1,2, 3,4, 5,	Listen to lectures and read literature. During lectures individually research the content	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted	4 h



		6, 7, 8, 9	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 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.	
14.	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
15.	Revision – II Kolokvij	1, 2, 3, 4,5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and	10 h



							solve tasks, use part competences at B1 level.	00	
3. EVALUATION OF ST	UDENTS` V	VORK							
3.1. Students` obligations	of at least course class paid to the Of particul both exams written and etc. The of teaching w	accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance f at least 70% is required. Part-time students are required to attend classes at least 50%. The students` acquired knowledge is tested during the pourse classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being aid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. If particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes oth 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 rritten and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, tc. The obligation of each student is to regularly inform oneself about the course. All notices about maintenance or eventual postponement of eaching will be published on the web site of the Polytechnic of Šibenik and the e-learning page of the course, where all the information on the bourse as well as the teaching materials and the list of literature are also available.							
3.2. Monitoring student	Attendance	9	0,5	Written e	exam	1 (without colloquia)	Project		
work (enter the share of	Experimen	tal work		Research	l		Practical work		
ECTS credits for each activity so that the total number of ECTS points	Essay			Report			Continuous examination		
corresponds to the credit score of the course)	Colloquiun	n	1 (without written exam)	Seminar	paper		Other		
score of the course)	Class activ	ity	0,5	Oral exam	m	1	Other		
3.3. Student workload	1. Att	tending cla	all bases for 1 ECT asses and exercises loquia or exams the	45 hours			mated as:	•	
4. GRADING SYSTEM									
4.1. Grading seminar papers	-								
4.2. Grading colloquia/ written and oral exam		Unsatisfa	ictory		Satisfactory	7	Abov	e average	



	Responds by memory, deeper understanding. I know or apply basic to concepts. Does not know apply or explain the contect course with examples.	Does not erms and w how to keproduces the basic co difficulty imparts understands the mate	new knowledge,	evaluation. Obs thoroughly expl logically connect supported with a	at the level of analysis, synthesis and serves the principles, accurately and ains the content of the material, and ets and explains the terms and concepts examples. Finds solutions that were not Notes correlations with related material.	
		70-75% of attendance	76-86% of	attendance	87-100% of attendance	Mał
	Active course attendance	3 points	7 po	oints	20 points	
	Sominor popor					
	Seminar paper					
4.3. Final grade according to evaluation elements		2	3	3	4	
to evaluation elements	Colloquia/ Written exam	50-64,9%	65-79	9,9%	80-89,9%	
		25 points	30 pc	oints	35 points	
	0.1	2	3	3	4	
	Oral exam	25 points	30 pc	oints	35 points	
		red knowledge, skills and eaching + final exam)	Numerical grad	e	ECTS grade	
4.3. Final grade according	90	- 100%	5 (excellent)		А	
to absolute division		- 89,9%	4 (very good)		B	
		- 79,9%	3 (good)	<u></u>	С	
		- 64,9%	2 (satisfactory)		D E	
	50	- 59,9%	2 (satisfactory))	E	4

5.1. Compulsory literature	Title	Number of copies in the library	Availability via other media
(available in the library and via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2002. (selected chapters)	10	Х



5.2. Additional literature (at the moment of changes and/or amended of study programme)	 Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Veleučilište u Rijeci, Prometni odjel, 2007. Adrian Pilbeam and Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University 	10	X (elearning, handouts)
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will track of attendance and student activity during classes and provided information on students` prinformation for further guidance to students will be provided in order to increase the efficience their rights and obligations as well as the methods of work and the required literature. Indicate monitoring of annual data from the Croatian employment service on the annual state of student e association.	ogress through short col y of their work. Student ors of quality assurance	loquiums and homework, as will be informed about e system: Student survey,
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursew classes or possible adjournment will be published in a timely manner on the e-learning site of Students can contact teachers during the consultation period (at least one hour per week), while contacted during class. It is also possible to ask questions by e-mail (from the official e-mail soon as possible (no later than five working days after receiving the e-mail).	the course and on the w for short questions and	ebsite of the Polytechnic. explanations they can be



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

1.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	142746
1.2. Course title	PROFESSIONAL PRACTICE	1.9. Course code in MOZVAG	
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e learning)	-
 Study programme (specialist, undergraduate, graduate) 	Undergraduate professional study of traffic	 1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%) 	1 st , course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4
1.6. Year of study	2 nd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	2	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□
2. COURSE DESCRIP	TION		·
2.1. Course objectives	 The goal is for students to draw on theoretical knowledge a to analyze and describe jobs in transport companies to distinguish the necessary equipment for profession to categorize services provided by transport companies to compare business processes in different or similar 	s, onal activities, nies,	
2.2. Terms of course entry and required competences	Enrolled 2 nd academic year, tested III. semester of the curre	nt academic year	
2.3. Learning outcomes on the study programme level	 LO1: Use and link professional terms in road traffic technol in Croatian and English. LO2: Organize and conduct teamwork, and critically evaluated LO3: Independently and responsibly search, interpret and in LO6: Analyze and present relevant facts from the traffic area 	ate the opinions and attitudes of team stakeholders ntegrate relevant literature for decision making.	



2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	<u> </u>	Identify the equipment and catego	tion and tr rize the se	raffic connections of professional visiting firm ervices of professional visiting firm.	(company).	Level of LO: 1 - memory, 2 - understanding, 3 - application, 4 - analysis, 5 - evaluation, 6 - synthesis. 4, 3 2, 4		
	3. 4. 5.	Design and explain the logical ma	4, 2 4, 2 6					
	6.	Use materials and tools to search t	he scienti	fic and professional literature in their native la	nguage.	3	3	
2.5. Course content according to detailed curriculum schedule	Const	ructive allignement						
	No	Thematic unit	LO of the course	Content/teaching methods	E	valuation	Time	
	1.	Introductory presentation (introducing students to the content and obligations of the course).	-	They listen to a lecture. By working independently on a computer, they are introduced to the course content, writing a seminar paper and documents on the e- learning page of the course.			2 h	
	2.	Professional visit to a company performing transport-related activities (KONZUM Logistics and Distribution Center).	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services	Seminar pa presented program).	aper created and (using computer	3 h	



			that the company performs, future development.		
3.	Professional visit to a company performing transport-related activities (LIDL Logistics and Distribution Center).	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	3 h
4.	Professional visit to a company performing transport-related activities (MLINAR bakery)	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	3 h
5.	Professional visit to a company performing transport-related activities (Šibenik winery)	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	3 h
6.	Professional visit to a company performing transport-related activities (TLM-IMPOL warehouse)	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	3 h



1						
	7.	Professional visit to a company performing transport-related activities (Port of Šibenik)	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	3 h
	8.	Professional visit to a company performing transport-related activities (Port of Split)	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	3 h
	9.	Professional visit to a company performing transport-related activities (VELPRO Logistics and Distribution Center).	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	3 h
	10.	Professional visit to a company performing transport-related activities (Container terminal BRAJDICA Port of Rijeka).	1, 2	They listen to a lecture by an expert from a professional visiting firm. Students are introduced to the organization and work processes, company equipment, traffic connections, basic and additional services that the company performs, future development.	Seminar paper created and presented (using computer program).	4 h



	11.	Final consideration		1, 2, 3, 4, 5, 6			Seminar presented program).	paper c (using	reated and computer	30
3. EVALUATION OF STUDENT WORK										
3.1. Student obligations In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Students are required to go on study trips and fieldwork at companies engaged in transport activities. All students must create and present a seminar paper. Seminar work is brought to the head of the professional practice for review by students. The leader of the professional practice evaluates the seminar paper and presentation with or not satisfied.										
3.2. Student work	А	ttending classes			Written exam		Project			
monitoring (enter the	Ex	perimental work			Research		Practical work			
share of ECTS credits for		Esaay			Report		Continuous check			
each activity so that the total number of ECTS		Colloquiums			Seminar paper	1	Field works or Study trips		1	
credits corresponds to the course credit value)	Τe	eaching activities			The oral part of exam		(other)			
3.3. Student work-load		tudent workload on all bases is 1 ECTS credit for 30 hours of work per semester and is estimated as going to fieldwork or study trips (30 hours), reparation of seminar work and presentation (30 hours).								

4. FORMATION OF STUDENT GRADE

	Elements of evaluation	Bad	Satisfying	Above average
4.1. Evaluation of seminar paper	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.
	Terminolog, writing style	not in line with official terminology. The writing	with official terminology. The writing style is appropriate, the sentence	Words and expressions are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are



		sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.	appropriate and t grammatical errors.	here are few		d concise, the vocabulary is rich e 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 and with errors. The relevant to the top satisfactory research	e references are ic and show a	and con appropri comprel	urces are accurately, completely sistently listed. The references are iate, their list is "rich" and nensive and shows a detailed approach.	
		2	3	4		5	
4.3. Forming the final grade according to the evaluation elements	Seminar paper	5 points	7 points	4 8 points		10 points	
	The evolution of event 2		3	5		5	
	The oral part of exem	25 points	30 points	35 point	8	40 points	
		uired knowledge, skills and (teaching + final exam)	Numerical	grade		ECTS grade	
4.4. Formation of the final	9	0 - 100%	5 (excell	ent)		А	
grade based on the	8	0-89,9%	4 (very g	ood)		В	
absolute distribution	6	5 – 79,9%	3 (goo	d)		С	
	6	0 - 64,9%	2 (suffici	ent)		D	
	51	0-59,9%	2 (suffici	ent)		E	
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE					
5.1. Compulsory literature (available in the library and via other media)		Title		Numb copies libra	in the	Availability via other media	
,	Company websites where	e students attended fieldwork.			-	Internet website	



	Obtained company materials where students were in fieldwork.		Internal materials of
			professional visiting firm
			(company)
5.2. Additional literature	Professional website in the native and foreign language in the field of transport activities,		
(at the moment of changes	where the students were on fieldwork.		Internet website
and/or amended of study			internet website
programme)			
	The control of students' work quality and the acquisition of necessary knowledge and skil	ls will be ensured three	ough interactive work. By keeping
5.3. Quality assurance	track of attendance and student activity during classes and provided information on studen	nts` progress through	short colloquiums and homework,
methods that ensure the	information for further guidance to students will be provided in order to increase the eff	iciency of their work	. Students will be informed about
acquisition of knowledge,	their rights and obligations as well as the methods of work and the required literature. I	ndicators of quality a	assurance system: Student survey,
skills and competences	monitoring of annual data from the Croatian employment service on the annual state of stu	ident employment, su	rveys from employers and Alumni
	association.		
	It is the responsibility of each student to be regularly informed about the course, the cour	sework, and classroo	m activities. All notices of classes
5.4. Informing about the	or possible adjournment will be published in a timely manner on the e-learning site of the	course and on the w	ebsite of the Polytechnic. Students
course and contacting the	can contact teachers during the consultation period (at least one hour per week), while for	short questions and e	explanations they can be contacted
course lecturer	during class. It is also possible to ask questions by e-mail (from the official e-mail addr	ess name@vus.hr), v	which will be answered as soon as
	possible (no later than five working days after receiving the e-mail).		



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

1.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	187603
1.2. Course title	INFRASTRUCTURE OF ROAD	1.9. Course code in MOZVAG	
	TRANSPORT		
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing + Practical	(45 + 15 + 30 + 0)
associates		exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level),	1 st , course materials are
(specialist, undergraduate,		percentage of on line course performance (max. 20%)	on-line, 0%
graduate)			
1.5. Course status	Obligatory	1.12. Number of course revisions	4
(obligatory, optional)			
1.6. Year of study	3 rd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	6	1.14. Percentage estimate of course changes and/or	Less than 20%
		supplements	X
			More than 20 %
2. COURSE DESCRIP			
2.1. Course objectives	The goal is that students on the basis of theoreti	6	
	_	niliar with the division, classification, and categorization of road	ds,
	 get acquainted with the documentation 	-	
	-	nd parts of the road (lower and upper structures) and road constr	ructions,
		s on regular and extraordinary maintenance,	
	-	ad intersections, and parking arrangements.	
2.2. Terms of course entry	Enrolled 3 nd academic year		
and required competences			
2.3. Learning outcomes	_	ffic technology and organization in written and oral communicat	ion with the professional public
on the study programme	in Croatian and English.		
level	LO4: Apply knowledge of natural and technical		
	I O7. Apply computer tools for data analysis an	d comparison, and propose an optimal solution in the traffic pro	0000

Stranica 1 od 12



1							
		Solve traffic problems using analytic					
	L011	: Identity, anticipate and propose a re	oad transp	ort technology and technique solution.			
	LO12	2: Design a smaller transport process	and critica	lly evaluate it.			
	Lear	ning outcomes by Bloom: (maximur	n 2 werbs	for LO)		Level of LO:	
2.4. Expected learning						1 - memory,	
outcomes on the course						2 - understanding	, ,
level (4-10 learning						3 - application,	
outcomes)						4 - analysis,	
						5 - evaluation,	
						6-synthesis.	
	1. De	fine terms and categorize roads and r	oad inters	ections in the Republic of Croatia.		1, 3	
	2. Ca	lculate and sketch the basic road elem	nents requ	ired for design and construction.		2,4	
	3. Dis	stinguish and compare the lower and	upper stru	ctures of the road, road structures, associated r	oadside	2,4	
		ties, parking lots and garages.				2,4	
	4. En	umerate and propose necessary road	equipmen	t, road maintenance works.		1,6	
		stinguish the city roads, streets, and r	•			4	
				d technical literature in the native and English	language.	3	
	7. Pre	esent the acquired knowledge, ideas,	problems,	and solutions independently and in a team.		6	
	8. Te	ll, summarize the history of road con-	struction i	n the world and the Republic of Croatia.		1, 2	
2.5. Course content	Cons	tructive allignement					
according to detailed							
curriculum schedule							-
	No	Thematic unit	LO of	Content/teaching methods	Eva	luation	Time
			the				
			course				
	1.	Introductory presentation		Listening to the lecture. In the course of			
		(introducing students to the course	-	seminars, they are introduced to the course		-	3 h
		content and obligations)		content and documents on the e-learning			



1						
				page of the course by working		
				independently on a computer.		
-	2.	Development of road construction		They listen to a lecture and read literature.	At the colloquium or written and	
		(the historical development of		They use multimedia and network. At the	oral exam, students know tell,	
		roads in the World and the		seminar class, they individually explore the	summarize and comment on road	
		Republic of Croatia).		content of this topic area by searching the	construction throughout history,	
				database, and on the basis of it and reading	isolate the most dangerous roads	
				the literature, create a seminar paper that	in the world, list the historical	
			6, 7, 8	presents the acquired knowledge and	roads in the Republic of Croatia,	6 h
				presents their own ideas, and ways to solve	indicate the country with the	
				problems. In group work at the seminar	longest road network in the	
				class, the brainstorming method and the	world. Exercise created, seminar	
				discussion method on the topic are applied.	paper created and presented (by	
				During exercises, students are knowing with	computer programs).	
				the general content of the transport project.		
-	3.	Road classification (classification		They listen to a lecture and read literature.	At the colloquium or the written	
		based on the law of roads, the		They use multimedia and network. At the	and oral exam, students can	
		classification standards, types of		seminar class, they individually explore the	define the concept of the road on	
		roads in the Republic of Croatia)		content of this topic area by searching the	the basis of the Roads Law of the	
		· · · · ·		database, and on the basis of it and reading	Republic of Croatia, categorize	
				the literature, create a seminar paper that	roads, establish the difference	
			1, 6, 7	presents the acquired knowledge and	between individual categories of	6 h
				presents their own ideas, and ways to solve	roads, identify the most	
				problems. In group work at the seminar	important roads in the Republic	
				class, the brainstorming method and the	of Croatia. Exercise created,	
				discussion method on the topic are applied.	seminar paper created and	
				During exercises, the topic is project	presented (by computer	
				assignment.	programs).	
		I		÷		



1						
	4.	Road design I (project		They listen to a lecture and read literature.	At the colloquium or the written	
		documentation, road indicators,		At the seminar class, they individually	and oral exam, students can state	
		tracing, layout elements)		explore the content of this topic area by	and differentiate the study	
				searching the database, and on the basis of	project documentation, sort the	
				it and reading the literature, create a seminar	order of the road design,	
				paper that presents the acquired knowledge	determine the difference between	
			267	and presents their own ideas, and ways to	the individual terrain paths that	71
			2, 6, 7	solve problems. In group work at the	the road passes through,	7 h
				seminar class, the brainstorming method	distinguish and explain and	
				and the discussion method on the topic are	calculate speeds, and analyze the	
				applied. During exercises, the topic is	layout elements of the road.	
				routing of the road.	Exercise created, seminar paper	
					created and presented (by	
					computer programs).	
	5.	Road design II (elements of		They use multimedia and network. They use	At the colloquium or the written	
		longitudinal sections, road cross-		multimedia and network. They listen to a	and oral exam, students know	
		sections, drainage elements)		lecture and read literature. At the seminar	how to distinguish between the	
				class, they individually explore the content	terrain and the level of the road,	
				of this topic area by searching the database,	analyze and describe the road	
				and on the basis of it and reading the	elements, enumerate and extract	
				literature, create a seminar paper that	hydro-meteorological data and	
			2, 6, 7	presents the acquired knowledge and	drainage elements. Exercise	7 h
				presents their own ideas, and ways to solve	created, seminar paper created	
				problems. In group work at the seminar	and presented (by computer	
				class, the brainstorming method and the	programs).	
				discussion method on the topic are applied.		
				During exercises, the topic is the calculation		
				of elements of the horizontal and vertical		
				bend.		
				1		



1						
	6.	Road design – guest lecture		They listen a guest lecture about topic. At	At the colloquium or the written	
				the seminar class, they individually explore	and oral exam, students define	
				the content of this topic area by searching	the basic terms and concepts of	
				the database, and on the basis of it and	road and road intersection.	
				reading the literature, create a seminar paper	Specify and distinguish the study	
			2, 6, 7	that presents the acquired knowledge and	design documentation, sort the	7 h
				presents their own ideas, and ways to solve	order of road design. Analyze	
				problems. In group work at the seminar	and describe the elements of the	
				class, the brainstorming method and the	road. Exercise created, seminar	
				discussion method on the topic are applied.	paper created and presented (by	
					computer programs).	
	7.	Road structure (lower and upper		They use multimedia and network. They	At the colloquium or the written	7 h
		part of road structure)		listen to a lecture and read literature. At the	and oral exam, students can	
				seminar class, they individually explore the	define the concept of the lower	
				content of this topic area by searching the	and upper road structure, list and	
				database, and on the basis of it and reading	describe the parts of the lower	
				the literature, create a seminar paper that	and upper road structure,	
				presents the acquired knowledge and	distinguish road structures, draw	
			3, 6, 7	presents their own ideas, and ways to solve	the shapes of the hull, establish	
				problems. In group work at the seminar	the difference in the mode of	
				class, the brainstorming method and the	ventilation in tunnels, identify	
				discussion method on the topic are applied.	factors for the choice of road	
				During exercises, the topic is Creating a	curtain Exercise created,	
				horizontal bend.	seminar paper created and	
					presented (by computer	
					programs).	
	8.	Road equipment (traffic signs and		They listen to a lecture and read literature.	At the colloquium or written and	7 h
		signaling)	1, 4, 6,	At the seminar class, they individually	oral exam, students can sort the	
			7	explore the content of this topic area by	road equipment, distinguish	
				searching the database, and on the basis of	between road equipment and	



it and reading the literature, create a seminar traffic equipment, describ	
paper that presents the acquired knowledge signs, vertical, horizonta	
and presents their own ideas, and ways to light traffic signs. E	
solve problems. In group work at the created, seminar paper	
seminar class, the brainstorming method and presented (by co	mputer
and the discussion method on the topic are programs).	
applied. During exercises, the topic is	
Creating vertical bends.	
9. Road equipment (traffic signs and They listen a guest lecture about topic. At the colloquium or the	written 7 h
signaling) – guest lecture the seminar class, they individually explore and oral exam, students	know
the content of this topic area by searching how to sort traffic sign	ns and
the database, and on the basis of it and signaling. Make a diff	erence
1, 4, 6, reading the literature, create a seminar paper between marking road	signs,
7 that presents the acquired knowledge and describe road signs, v	ertical,
presents their own ideas, and ways to solve horizontal and light traffic	
problems. In group work at the seminar Exercise created, seminar	•
class, the brainstorming method and the created and presented	* *
discussion method on the topic are applied. computer programs).	
10. Maintenance of the road (the main They listen to a lecture and read literature. At the colloquium or write	en and 7 h
goals of maintenance, regular and At the seminar class, they individually oral exam, students can st	
periodic maintenance, machinery explore the content of this topic area by basic goals of road maintenance	
for road maintenance) for road maintenance between the content of this topic area by basic goals of road maintenance and protection, identify the database, and on the basis of and protection, identify the database area by basic goals of road maintenance area by basic goals of road main	
	• •
it and reading the literature, create a seminar of road maintenance, distribution of the second seco	-
3, 4, 6 , paper that presents the acquired knowledge between regular and winter	
7 and presents their own ideas, and ways to maintenance, enumerate	
	enance
seminar class, the brainstorming method works, categorize	road
	hinery.
applied. During exercises, the topic is Exercise created, seminar	paper
making of notches, cuts, and embankments.	



1					
				created and presented (by computer programs).	
11	Urban roads and streets (division by economic and traffic characteristics, elements of urban roads and streets in the transversal sense)	5, 6, 7	They listen to a lecture and read literature. They use multimedia and network. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied. During exercises, the topic is the design of traffic intersections.	At the colloquium or the written and oral exam, students can enumerate parts of the city street network, choose the form of the city street network, enumerate and distinguish between primary, secondary and other city roads. Comment on the city street network of individual settlements. Exercise created, seminar paper created and presented (by computer programs).	7 h
12	Road intersections (basic construction criteria, traffic operations in intersections, division of road intersections, special forms of intersections)	1, 4, 5, 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. In group work at the seminar class, the brainstorming method and the discussion method on the topic are applied. During exercises, the topic is Budget bandwidth.	At the colloquium or the written and oral part, students can define the terms of road intersections in and out of level, state and identify traffic operations in the intersection, distinguish intersections by location, size, number of traffic. Find out the difference between a road intersection and a hub. Exercise created, seminar paper created and presented (by computer programs).	7 h
13	Parking place and garages (basic terms of stationary traffic, modes	3, 4, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually	At the colloquium or the written and oral exam, students can	6 h



1						
		of on-street and off-street parking,		explore the content of this topic area by	define the basic term of parking	
		division of parking garages,		searching the database, and on the basis of	spaces, parking places, and	
		equipment of parking garages)		it and reading the literature, create a seminar	parking garages. Analyze the	
				paper that presents the acquired knowledge	ways to park vehicles on-street	
				and presents their own ideas, and ways to	and off-street surfaces. List the	
				solve problems. In group work at the	parts and equipment of the	
				seminar class, the brainstorming method	parking garage. Recommend	
				and the discussion method on the topic are	location for building parking lot	
				applied. During exercises, the topic is	and parking garage. Exercise	
				elaborate on the ideal and final design.	created, seminar paper created	
					and presented (by computer	
					programs).	
	14.	Service facilities on the roads (bus		They listen to a lecture and read literature.	At the colloquium or in the	
		stops, stations, and terminals, rest		At the seminar class, they individually	written and oral exam, students	
		stations, gas stations)		explore the content of this topic area by	can enumerate and describe the	
				searching the database, and on the basis of	accompanying roadside service	
				it and reading the literature, create a seminar	facilities. To distinguish between	
				paper that presents the acquired knowledge	standpoint and guesswork.	
			3, 6, 7	and presents their own ideas, and ways to	Evaluate the location of the bus	6 h
				solve problems. In group work at the		
				seminar class, the brainstorming method	seminar paper created and	
				and the discussion method on the topic are	presented (by computer	
				applied. During exercises, the topic is	programs).	
				Control intersection elements and traffic		
				signs.		
	15.	Final considerations/Repeating	-	They listen to a course lecture and prepare	_	90 h
		and preparing for the exam.		individuals for the exam.		
3. EVALUATION OF						
3.1. Student obligations		5		Rulebook on Student Assessment and Evaluation		
	least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar					



	· ·	•	rse: from 0 - 24,9% ECTS cr			
		•	1 25 - 49,9% - are assessed r extraordinary exam period	•	• •	
			in two ways: a) during the		•	
			ms); b) passing the exam (w	U U	•	intoring of students
3.2. Student work	Attending classes	1,5	Written exam	1 (without	Project	
monitoring (enter the				colloqiums)		
share of ECTS credits for	Experimental work		Research		Practical work	0,5
each activity so that the	Esaay		Report		Continuous check	
total number of ECTS credits corresponds to the	Colloquiums	1 (without written part of exam)	Seminar paper	1	(other)	
course credit value)	Teaching activities	1	The oral part of exam	1	(other)	
4. FORMATION OF STU	study (90 hours). J DENT GRADE					
4.1. Evaluation of seminar	on of seminar Elements of Bad Satisfying					
	Elements of	Bad	Satisfyin	g	Above a	iverage
paper	Elements of evaluation					5
paper		The paper is not	The paper is well struct	ured with a clear	The paper is well str	ructured with a clear
paper	evaluation	The paper is not organized in a logical	The paper is well struct distinction between the intr	ured with a clear roduction, the main	The paper is well str distinction between t	uctured with a clear the introduction, the
paper	evaluation	The paper is not organized in a logical order and lacks	The paper is well struct	ured with a clear roduction, the main	The paper is well str distinction between t main body of the text	uctured with a clear the introduction, the t and the conclusion,
paper	evaluation Organization	The paper is not organized in a logical order and lacks structure.	The paper is well struct distinction between the intr body of the text and the con	ured with a clear roduction, the main clusion.	The paper is well str distinction between t main body of the text which are logically in	uctured with a clear the introduction, the t and the conclusion, nterconnected.
paper	evaluation Organization Terminolog, writing	The paper is not organized in a logical order and lacks structure. Words and expressions	The paper is well struct distinction between the intr body of the text and the con Words and expressions are	ured with a clear roduction, the main clusion. in line with official	The paper is well str distinction between t main body of the text which are logically in Words and expression	uctured with a clear the introduction, the t and the conclusion, nterconnected.
paper	evaluation Organization	The paper is not organized in a logical order and lacks structure. Words and expressions are not in line with	The paper is well struct distinction between the intr body of the text and the con Words and expressions are terminology. The writing s	ured with a clear roduction, the main iclusion. in line with official style is appropriate,	The paper is well str distinction between t main body of the text which are logically in Words and expression official terminology	uctured with a clear the introduction, the t and the conclusion, nterconnected. ons are aligned with y and show an
paper	evaluation Organization Terminolog, writing	The paper is not organized in a logical order and lacks structure. Words and expressions are not in line with official terminology.	The paper is well struct distinction between the intr body of the text and the con Words and expressions are terminology. The writing s the sentence structure is clear	ured with a clear roduction, the main aclusion. in line with official style is appropriate, ar, the vocabulary is	The paper is well str distinction between t main body of the text which are logically in Words and expression official terminology understanding of the	uctured with a clear the introduction, the t and the conclusion, nterconnected. ons are aligned with y and show an heir meaning. The
paper	evaluation Organization Terminolog, writing	The paper is not organized in a logical order and lacks structure. Words and expressions are not in line with official terminology. The writing style is not	The paper is well struct distinction between the intr body of the text and the con Words and expressions are terminology. The writing s	ured with a clear roduction, the main aclusion. in line with official style is appropriate, ar, the vocabulary is	The paper is well str distinction between t main body of the text which are logically in Words and expression official terminology	uctured with a clear the introduction, the t and the conclusion, nterconnected. ons are aligned with y and show an heir meaning. The ellent, the sentences
paper	evaluation Organization Terminolog, writing	The paper is not organized in a logical order and lacks structure. Words and expressions are not in line with official terminology. The writing style is not	The paper is well struct distinction between the intr body of the text and the con Words and expressions are terminology. The writing s the sentence structure is clea appropriate and there are	ured with a clear roduction, the main aclusion. in line with official style is appropriate, ar, the vocabulary is	The paper is well str distinction between t main body of the text which are logically in Words and expression official terminology understanding of the writing style is exce	ructured with a clear the introduction, the t and the conclusion, nterconnected. Ons are aligned with y and show an heir meaning. The ellent, the sentences e, the vocabulary is



1		1	1			
		and with frequent and				
		repeated grammatical				
		errors.				
	Citing and referencing	The sources are not	The sources are listed but inco	•		e accurately, completely
	references	listed at all. The	errors. The references are rele	•		y listed. The references
		references do not fit the	and show a satisfactory researc	h attitude.		their list is "rich" and
		topic and show a			<u>^</u>	and shows a detailed
		cursory approach to			research approa	ch.
		exploring the topic.				
4.2. Gradeing of the	Ba	ad	Satisfying		Ab	ove average
colloquium/written and oral exam	It responds by memo	ory, without a deeper	It reproduces the basic conce	pts and without	Knowledge is a	at the level of analysis,
	understanding. It does n	not know or apply basic	difficulty imparts new knowledge, understands		synthesis, and evaluation. It observes the	
	terms and concepts. It does not know how to		the material, explains the terms and concepts		legality, accurately and thoroughly	
	apply or explain the contents of the course with		that it supports with examples.		explains the content of the material, and	
	examples.				logically connects and explains the terms	
					^	that it supports with
					-	s solutions that were not
						n. It notes correlations
					with related mat	
4.3. Forming the final grade according to the	Active attendance on class	70-75% attendance	76-86% attendance	87-100% attendance		Mental map created, Case studies resolved
evaluation elements		2 points	4 points	7 p	oints	3 points
	Cominon nonon	2	3		4	5
	Seminar paper	5 points	7 points	8 p	oints	10 points
		2	3		4	5
	Colloquiums/ Written part of exam	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%
		25 points	30 points	35 I	points	40 points
	Oral part of exam	2	3		5	5



		25 points	30 points	35	points	40 points	
4.4. Formation of the final grade based on the	Percentage of acquired knowledge, skills and competencies (teaching + final exam) Numerical grade				ECTS grade		
absolute distribution	90 – 1	00%	5 (excellent)			А	
	80 - 8	9,9%	4 (very good)			В	
	65 - 7	9,9%	3 (good)			С	
	60 - 6	4,9%	2 (sufficient)			D	
	50 - 5	9,9%	2 (sufficient)			Е	
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE					
5.1. Compulsory literature		Title		Nun	nber of copies in	Availability via	
(available in the library					the library	other media	
and via other media)	Legac I.: Roads I, Faculty of Transportation and Traffic Sciences, University of Zagreb,				4	-	
	Zagreb 2001. or in 2006.						
	Legac I.: Intersections of	of public Roads - Road II, Faculty of Transportation and Traffic			2	-	
	Sciences, University of Z	Zagreb, Zagreb 2008. (selec	ted chapters)				
	The Law on the Croatian	roads https://zakon.hr/z/24	4/Zakon-o-cestama (selected chapte	rs)	-	Internet website	
	Ministry of Maritime A	ffairs, Transport and Infra	structure, Rule book on traffic sig	ns,	-	Internet website	
	•		sal), Zagreb 2015 (selected chapters)				
	Brčić D., Šoštarić M .: Pa	rking and Garages, Faculty	of Transportation and Traffic Scienc	es,	-	Internet website	
	University of Zagreb, Zagreb 2012. (selected chapters)						
5.2. Additional literature	e e		e e-Learning system of the Polytech	nic		e-learning system	
(at the moment of changes	of Sibenik for the mentio					Internet website	
and/or amended of study	Traffic Zone <u>https://www</u>				-	Internet website	
programme)		ww.prometna-signalizacija.	<u>com/</u>			Internet website	
	Croatian Roads https://ht					Internet website	
	First Blinker <u>http://prvitr</u>	^				Internet website	
	Croatian Motorways <u>http</u>	://hac.hr/hr					



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



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

1. GENERAL INFORMA	TION		
1.1. Course title	RESOURCES AND EXPLOITATION OF ROAD TRAFFIC	1.8. Course code at ISVU	142536
1.2. Course lecturer	Ivan Mavrin	1.9. Course code at MOZVAG	
1.3. Assistants and/or associates	Ana-Mari Poljičak	1.10. Forms of teaching (number of hours Lecturing+Practical exercises + Seminars + e learning)	(45+15+0+0)
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of Transport	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1 st 0%
1.5. Course status (obligatory, optional)	Obligatory	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)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20% □

2. COURSE DESCRIPTI	ON
2.1. Course objectives	 The goal is to provide students with theoretical knowledge: Define basic concepts in the field of road vehicle exploitation; Differentiate the vehicle's performances, parts and assemblies; Learn how to review vehicle reliability changes, select and describe system diagnostics, and choose the optimal maintenance option for the given operating conditions; Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the HKO.
	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	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.								
on the study programme level	LO8: To solve problems in traffic by using analytical and / or graphical methods.								
		Level of LO:							
		1 - memory,							
	Learning outcomes according to Bloom's taxonomy:	2 - understanding,							
	(maximum 2 werbs for LO)	3 - application,							
	(maximum 2 werbs for LO)	4 - analysis,							
24 F (11)		5 - evaluation,							
2.4. Expected learning		6 – synthesis.							
outcomes on the course level	1. demonstrate knowledge and understanding of the content of the course by defining and describing basic concepts in	1, 1							
level	the field of road vehicle exploitation,	1, 1							
	2. distinguish between the performance and analyze the vehicle components and assemblies,	2, 4							
	3. review and analyze the reliability of the vehicle,	5, 4							
	4. draw and comment on the impact of exploitation on the life of the vehicle,	4, 4							
	5. to comment on the impact of the road profile and tires on driving safety,	4							
	6. Present the acquired knowledge, ideas, problems and solutions independently and in a team.	6							

	Cons	tructive allignement				
	no	no Thematic unit LO of the course		Content/teaching methods Evaluation		Time
2.5. Course content according to detailed curriculum schedule	1.	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
		Division of road vehicles.	1	They listen to a lecture.	At the colloquium or written and oral exam define, recognize and different types of	5 h



1						
					road vehicles. They know how to explain basic concepts, physical quantities and units of measure.	
	2.	Changing the technical condition of the vehicle.	2	They listen to a lecture and read literature. In the exercise classes describe the physical quantities and compare examples of their relationships with each other.	At the colloquium or written and oral examination know enumerate, explain and give examples of changes in the technical condition of the elements of a motor vehicle during the operation.	8 h
	3.	Causes of technical condition change.	4	They listen to a lecture and read literature. In the exercise classes are shown and calculated on examples of different sizes of measurement units (ISO systems).	At the colloquium or the written and oral exam they know how to relate the causes and consequences of exploitation to changes in the technical condition of the vehicle as a whole and of elements, assemblies as parts of the vehicle.	8 h
	4.	Wear, friction (dry and liquid).	1, 4	They listen to a lecture and read literature. In the exercise classes, tasks in this field are solved with analytical methods.	At the colloquium or the written and oral exam they can define and describe the dry and liquid friction and explain the role of exploitation on the occurrence of wear and cause and effect relationships during the use of motor vehicles.	8 h
	5.	Features of road vehicles.	1, 4	They listen to a lecture and read literature. In the exercise classes, they group motor vehicle parts.	At the colloquium or written and oral exam knows define fundamental features of vehicles. They know how to describe and relate individual factors and their importance in the operation of motor vehicles.	8 h
	6.	Impact of exploitation on the life of the vehicle.	4, 6	They listen to a lecture and read literature.	At the colloquium or written and oral exam know how to use and apply technical data obtained during the operation on the life of the vehicle. Give examples of	8 h



1						
				In the exercise classes sketch and	interrelationships between different factors	
				explain the features of Otto and	on the reliability and life of a vehicle.	
				Diesel engines.	Repetition of the materials and preparation	
					for the colloquium.	
	7.	Stability and safe driving. Colloquium I.	4	They listen to a lecture and read literature.	At the colloquium or the written and oral examination, they can recognize the traffic conditions and vehicle trajectories and draw conclusions about safe driving during operation based on the factors given.	8 h
	8.	Stability in the curve. Driving mechanics.	1, 6	They listen to a lecture and read literature. In the exercise classes, they sketch and explain the forces on the vehicle as they move, and solve problems in this thematic area by analytical methods.	At the colloquium or the written and oral exam they know how to define, calculate and explain the effect of force systems on vehicles during movement and their influence on the driving mechanism.	8 h
	9.	Influence of roadway profile and vehicle elements on driving safety.	2, 4, 5	They listen to a lecture and read literature. In the exercise classes, tasks in this field are solved with analytical methods.	At the colloquium or the written and oral exam they can define the influencing factors of the elements, parts of the vehicle and to anticipate the effects and consequences of their technical condition on the safe driving of the motor vehicle during operation.	8 h
	10.	Maintenance of road vehicles.	1, 3, 4	They listen to a lecture and read literature. In the exercise classes, they sketch and explain the fault intensity curve.	At the colloquium or the written and oral exam they can define and describe the role of vehicle maintenance for a lifetime. They know how to distinguish and compare different types and types of maintenance and choose the optimal option for the given operating conditions.	8 h



1						
	11.	Vehicle assemblies, engine, coupler.	1, 2, 6	They listen to a lecture and read literature. In the exercise classes, they sketch and explain the various designs of clutches used on motor vehicles.	At the colloquium or written and oral exam knows define, outline and describe the role and operation of the engine and clutch. They know how to choose and explain the choice of vehicle assembly in the contemporary context of the development of vehicle construction and its assemblies.	8 h
	12.	Transmission, differential and drive shaft.	1, 2, 6	They listen to a lecture and read literature. In the exercise classes, they sketch and apply the learned content in the choice of differential type for different types of motor vehicles.	At the colloquium or the written and oral exam they can define and describe the role and mode of operation of the transmission, differentials and drive shaft. They know how to choose and explain the choice of vehicle assembly in the contemporary context of the development of vehicle construction and its assemblies.	8 h
	13.	Diagnostics and diagnostic methods.	1, 2, 6	They listen to a lecture and read literature. In the exercise classes, they sketch and explain the performances of the clutches.	At the colloquium or written and oral exam knows define and describe the role of diagnostic systems and components of vehicles. They are able to interpret the interrelations of structural and diagnostic parameters and to analyze on the basis of the diagnostic parameters the actual state of the vehicle element or assembly (ie structural parameters).	8 h
	14.	Brake system.	1, 2, 6	They listen to a lecture and read literature. In the exercise classes, they sketch, explain the principle of operation and propose brake types for various types of motor vehicles.	At the colloquium or the written and oral exam they know how to define and describe the elements of the vehicle's braking system. They know how to choose individual brake system performance	8 h



1								
						options and present them. preparation for the colloqui	•	
	15. Braking system Colloquium II. considerations. preparing for th	Concluding Repeating and 1,	,2	They listen to literature individually fo	a lecture and read and prepare or the exam.	At the colloquium or the v exam they can define a options for diagnosing the the braking system. They diagnostic parameters th obtained that the braking used.	nd choose the e correctness of know from the nat they have	40 h
3. EVALUATION OF ST	UDENT WORK							
3.1. Students` obligations	 JDENT WORK In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year; From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; More than 50% - students have the right to take the final exam. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and preparation of a mental map and case study, preparation and presentation of seminar work and two colloquium); b) during class (active participation in classes 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). 							
3.2. Monitoring student work (enter the share of	Attendance		Written	exam	3,5 (without colloquia)	Project		
ECTS credits for each	Experimental work		Researc	ch		Practical work		
activity so that the total number of ECTS points	Essay		Report			Continuous examination		



corresponds to the credit score of the course)	Colloquium e	xam)	Seminar paper			Other	
	5	-	Oral exam	1 (without co	1 /	Other	
	Student workload on all	bases is 1 ECTS credit	t 30 semester hours				
3.3. Student workload	Obligation			Hours (est	imated)		
5.5. Student Workloud	1. Active class at			60			
	2. Preparing coll	oquia or exams through	individual work	90			
4. FORMATION OF GRA	ADES						
4.1. Grading of seminar work	-						
	Ba	ad	Satisfying			Above average	
						Knowledge is at the level of analysis,	
	It responds by mome	ory, without a deeper	It reproduces the basic concepts and without difficulty imparts new knowledge,			synthesis and evaluation. It observes the	
4.2. Grading of the	· · ·	ot know or apply basic				legality, accurately and thoroughly explains	
colloguium / written and	-	Does not know how to				the content of the material, and logically	
oral exam	^	contents of the course	understands the material, explains the terms			connects and explains the terms and concepts	
	with examples.		and concepts that it supports with examples.			that it supports with examples. Finds	
	, and enampies.					solutions that were not originally given. It	
		-				notes correlations with related material.	
	Active attendance	70-75% of the pre		of the presence	87-10	0% of the presence	Case studies resolved
		2 points		4 points		7 points	10 points
4.3. Forming the final	Examination / Written	2		3		4	5
grade according to the	examination	50-64,9%		5-79,9%		80-89,9%	90-100%
evaluation elements		25 points		0 points	35 points		40 points
	Oral part of the exam	2		3		4	5
		25 points		0 points		35 points	40 points



4.4. Formation of final grade based on absolute distribution	$\begin{tabular}{ c c c c } \hline Percentage of acquired knowledge, skills and competences (teaching + final exam) \\ \hline 90-100\% \\ \hline 80-89,9\% \\ \hline 65-79,9\% \\ \hline 60-64,9\% \\ \hline 50-59,9\% \\ \hline \end{tabular}$	ECTS grade A B C C D E					
5. ADDITIONAL INFOR5.1. Required literature	MATION ON THE SUBJECT Title		Number of copies in the library	Availability via other media			
(available in the library and through other media)	1. Zavada J.: Prijevozna sredstva, Fakultet prometnih znanosti, Zagreb, 2000. (selected chapters) 6						
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	1. Grupa autora: Tehnika motornih vozila, Pučko otvoreno učilište, Zagreb, 2006. 0 2. Krpan D.: Motorna vozila, Sveučilište u Zagrebu, Zagreb, 1966. 0 3. Hillier, V. A. W.: Fundamentals Motor Vehicle Tehnology, Chelenham GL53 ODN, England, 1991. 0						
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.						
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).						



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

1. GENERAL INFORMA	TION		
1.1. Course title	ROAD TRANSPORT TECHNOLOGY	1.8. Course code at ISVU	187604
1.2. Course lecturer	Martina Ljubić Hinić	1.9. Course code at MOZVAG	
1.3. Assistants and/or		1.10. Forms of teaching (number of hours Lecturing	(45L+30P)
associates	-	+Practical exercises + Seminars + e learning)	(43L+30F)
1.4. Study programme		1.11. Level of e- learning application (1 st , 2 nd , 3 rd	
(specialist, undergraduate,	Undergraduate professional study of Traffic	level), percentage of on line course performance (max.	1st
graduate)		20%)	
1.5. Course status	Obligatory	1.12. Number of course revisions	3.
(obligatory, optional)	Obligatory	1.12. Number of course revisions	5.
1.6. Year of study	3 rd	1.13. Modernization	X Yes 🗆 No
		1.14. Percentage estimate of course changes and/or	Less than 20% X
1.7. Credit point (ECTS)	5	supplements	More than 20 % \square

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



	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.						
2.3. Learning outcomes	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.						
on the study programme	LO5: Apply basic legal and economic principles in an organization with CSR in technical and technological entities.						
level	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.						
	LO8: Solve traffic problems using analytical and / or graphical methods.						
	LO9: Assess and organize processes in the field of road transport and / or transport logistics.						
	LO12: Design a smaller transport process and critically evaluate it.						
	LO13: Follow trends in technology, technology and traffic safety.						
	Learning outcomes according to Bloom's taxonomy:						
2.4. Expected learning	1. to demonstrate knowledge and understanding of course content by defining and describing the basic principles of road transport technology and						
outcomes on the course	organization 1,						
	2. to enumerate and explain the elements of road transport technology 1, 2						
level							
	2. to enumerate and explain the elements of road transport technology 1, 2						
	 2. to enumerate and explain the elements of road transport technology 1, 2 3. to distinguish and evaluate the technical and technological characteristics of the elements of road transport technology 3, 6 						
	 2. to enumerate and explain the elements of road transport technology 1, 2 3. to distinguish and evaluate the technical and technological characteristics of the elements of road transport technology 3, 6 4. to analyze and compare the characteristics of transportation requirements 4, 2 						

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



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



12	1	1				1
	4.	Occurrence and development of road vehicles. Road freight vehicles.	1, 2, 3, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	vehicles, and define and specify the types and types of cargo handling equipment and their technical and technological characteristics important for establishing the optimal transportation process. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process.	5 h
	5.	Road freight vehicles. Exploitation parameters.	1, 2, 3, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and specify the types and types of cargo handling equipment and their technical and technological characteristics, which are important for establishing the optimal transportation process. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process.	5 h
	6.	Temporal analysis of the movement of vehicles. Analysis of the movement of vehicles from the standpoint of the distance traveled and the rated load capacity of the vehicles.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define the coefficients of the time analysis of the fleet, define the coefficients and indicators of the analysis of the distance traveled and the nominal bearing capacity of the fleet, solve the problem of the traffic process and suggest ways to improve the process. The terms of reference are drafted in groups, with discussion and suggestion of measures to optimize the given transportation process.	5 h



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



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



1									
	14.	Logistic concept 2nd Colloquium		1, 2, 3, 4, 5, 6, 7	They listen to a lect individually for the o		In colloquium or written and describe, state and explain t and logistics concept w establishing an optimal moo process.	he role of logistics with the aim of	26 h
	15.	Concluding cons Repeating and p the exam.		6, 7	They listen to a lec individually for the		-		30 h
3. EVALUATION OF S	ГUDE	NT WORK							
3.1. Students` obligations	 In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year; From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; More than 50% - students have the right to take the final exam. Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two exams); b) during class (active participation in classes and passing exams (written and oral part of the exam). 								
3.2. Monitoring student	Atter	ndance	1	V	Written exam	1 (without colloq	uia) Project	1	
work (enter the share of	Expe	erimental work		F	Research		Practical work		
ECTS credits for each activity so that the total	Essa	у		F	Report		Continuous examination		
number of ECTS points corresponds to the credit	Colle	oquium	1 (without wri exam)	tten S	Seminar paper		Other		
score of the course)	Class	s activity	1	(Dral exam	1	Other		



	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as:
3.3. Student workload	1. Attendance 45 h
	2. Design of seminar work and presentation 30 h
	3. Preparation for the mid-term / midterm exam 75 h

4. FORMATION OF GRADES

	Element of evaluation	Bad		Satisfying	Above average
4.1. Grading of seminar work	Organization Terminology, writing style	The paper is not org logical order and lacks Words and expression with official termin writing style is not app sentences are too long, vocabulary and with	s low in line ology. The propriate, the , of a modest	 introduction, the main body of the text and the conclusion. Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the sentence structure is clear, the sentence structure is clear. 	 distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected. Words and expressions are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are
	Citing and referencing references	repeated grammatical errors. The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.		are few grammatical errors. The sources are listed b incomplete and with errors. The references are relevant to the top and show a satisfactory research attitude.	ic appropriate, their list is "rich" and
	B	ad		Satisfying	Above average
4.2. Grading of the colloguium / written and oral exam	understanding. Does n terms and concepts. I	bry, without a deeper ot know or apply basic Does not know how to contents of the course	difficulty understands	s the basic concepts and without imparts new knowledge, the material, explains the terms s that it supports with 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 orig	inally given. It notes ed material.
4.3. Forming the final	Active attendance	70-75% of the presence 76-86% of		f the presence 87-100% of the		ne presence	ase studies resolved
		0 points	0 p	oints	0 poi	nts	0 points
	G	2		3	4		5
	Seminar paper	Made and handed over	Made and	handed over	Made and ha	nded over M	ade and handed over
grade according to the evaluation elements	Examination /	2		3	4		5
evaluation elements	Written	50-64%	65-	80%	81-90)%	91-100%
	examination	25-32 points	33-40) points	41-45 p	oints	46-50 points
	Oral part of the	2		3	5		5
	exam	25-32 points	33-40) points	41-45 p	oints	46-50 points
	Percentage of acc	Percentage of acquired knowledge, skills and competences (teaching + final exam)			rating	ECTS grade	
4.4. Formation of final		90-100%		5 (exce	ellent)		ł
grade based on absolute		80-89,9%	4 (very good)		В		
distribution	65 - 79,9%			3 (good)			C
		60 - 64,9%			2 (sufficient))
		2 (sufficient)		Е			
5. ADDITIONAL INFO	RMATION ON THE	SUBJECT			·		
5.1. Required literature (available in		Title				Number of copies in the library	n Availability via other media
the library and through other media)	1. Županović, I.: '	1. Županović, I.: Tehnologija cestovnog prijevoza, FPZ, Zagreb, 2002. (selected chapters)					No
5.2. Supplementary literature (at the time		Tehnologija kopnenog prometa D., Willumsen, L.G. : Mode	•		& Sons United	3	No

2. Ortuzar, J. de D., Willumsen, L.G. : Modelling Transport, John Wiley & Sons, United

No

Yes

0

literature (at the time

of the submission of

Kingdom, 2011.

veleučilište ^u ŠIBENIKU			
	2 Listerra		[]
changes and / or additions to the study	3. Lectures		
program)			
5.3. Quality assurance	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensur	ed through interactive	work. Keeping records
methods that ensure	of students' attendance and activity in the classroom and information obtained about student pro-	e	
the acquisition of	information needed for further guidance to students in order to increase their work efficiency. Students	will be instructed in the	ir rights and obligations
knowledge, skills and	as well as working methods and required literature. Quality assurance system indicators: Student surv	vey, monitoring of CES	S annual data on annual
competences	employment status of students, employer survey and Alumni Association.		
	It is the responsibility of each student to be regularly informed about the course, the coursework, and	the classroom activitie	s. All notices of classes
5.4. Informing about	or possible adjournment will be published in a timely manner on the e-learning site of the course and c	on the website of the Po	olytechnic. Students can
the course and	contact teachers during the consultation period (at least one hour per week), while for short questions	and explanations they	can be contacted during
contacting the teacher	class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), where we have a statement of the official e-mail address at @ vus.hr), where the official e-mail address at @ vus.hr) and the official e-mail address at @ vus.hr).	hich will be answered	as soon as possible (no
	later than five working days after receiving the e-mail).		



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

1. GENERAL INFORMA	1. GENERAL INFORMATION				
1.1. Course title	TRAFFIC TECHNIQUE	1.8. Course code at ISVU	187605		
1.2. Course lecturer	Martina Ljubić Hinić	1.9. Course code at MOZVAG			
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	(45+0+15+0)		
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of Transport	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level), percentage of on line course performance (max. 20%)	1st		
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.		
1.6. Year of study	3 rd	1.13. Modernization	X Yes 🗆 No		
1.7. Credit point (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□		

2. COURSE DESCRIPTION	ON			
	The aim is to provide students with theoretical knowledge and case studies to:			
	define road safety factors;			
2.1 Course chiestives	• know the lawfulness of traffic management;			
2.1. Course objectives	• understand traffic supply and demand issues;			
	• learn to identify traffic flow problems so that they can contribute independently to solving problems;			
	• apply the learned content of this course in business practice.			
2.2. Terms of course entry	Four-year secondary education completed; qualification level 4.2 according to the HKO.			
and required competences	Tour-year secondary education completed, quantication rever 4.2 according to the TIKO.			
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public			
on the study programme	in Croatian and English.			
level	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.			



	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.
	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.
	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.
	LO7: Apply computer tools for data analysis and comparison, and propose an optimal solution in the traffic process.
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.
	LO13: Follow trends in technology, technology and traffic safety.
	Learning outcomes according to Bloom's taxonomy:
	1. to demonstrate knowledge and understanding of course content by defining and describing the basic principles of traffic flow 1, 1
2.4 Exposted learning	2. to enumerate and explain the factors of road safety, their role and significance in traffic flow 1, 2
2.4. Expected learning outcomes on the course	3. to analyze and compare traffic supply and demand relationships and recommend problem solving methods 4, 2
	4. to analyze the example of traffic conflict and propose measures to increase traffic safety 4, 5
level	5. to comment on and critically evaluate the causes of conflicts in traffic flows 4, 5
	6. to use materials and tools to search scientific and professional literature in their native and English languages 3
	7. to present the acquired knowledge, ideas, problems and solutions independently and in a team 6

	Cons	structive allignement				
	no	Thematic unit	LO of the	Content/teaching methods	Evaluation	Time
2.5. Course content according to detailed curriculum schedule		Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer, they are introduced to the course content and documents on the e-learning page of the course.	-	1 h
		Traffic safety factors.	1, 2, 7	Listen to lectures and read literature.	In colloquium or the written and oral exam they define the factors of traffic safety. They describe the role and importance of factors for the safe and undisturbed flow of traffic flows.	3 h



Human as a factor in traffic safety.	1, 2, 4, 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 enumerate and describe the characteristics, characteristics and behaviors of a person which are necessary for the safe operation of the vehicle and therefore the traffic flows.	4 h
Human as a factor in traffic safety.	1, 2, 4, 5, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they enumerate and describe the characteristics, characteristics and behaviors of a person which are necessary for the safe operation of the vehicle. In colloquium or written and oral exams they can state and describe the active and passive elements of vehicle safety.	4 h
Vehicle as a factor in traffic safety.	1, 2, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they enumerate, define and describe the role of technical and technological characteristics of vehicles in the traffic system	4 h
Vehicle as a factor in traffic safety.	1, 2, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they enumerate, define and describe the role of technical and technological characteristics of vehicles in the traffic system, as well as define what is the road and describe the elements of road safety, and analyze and conclude how the proper	4 h



		1	1	
			maintenance of the road affects the traffic	
Road as a factor in traffic safety.	1, 2, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	system. In colloquium or written and oral exams they can enumerate, define and describe the role of technical and technological characteristics of vehicles in the traffic system, define what is the road and describe the elements of road safety, and analyze and conclude how the proper maintenance of the road affects the traffic system.	4 h
Road traffic and Incident factor.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and describe conflict situations in road traffic, and analyze the impact of improper traffic management on the safety of all participants. They know how to list	4 h
Road design elements. 1st Colloquium	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they define and describe the elements of road design and their role in guiding the flow.	34 h
Traffic counting and planning (fieldwork).	1, 3, 4, 5, 6, 7	AT the fieldwork in group work, they investigate and solve a case study.	In colloquium or written and oral exams they define and describe traffic counting methods and their role in traffic flow planning. Seminar work is organized in groups, discussing and proposing measures to calm traffic, resolve conflict situations and improve traffic flows.	9 h
Parking lots and garages. Road and tunnel lighting.	1, 3, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar,	In colloquium or written and oral exams they define and describe the importance of	4 h



		-			1
			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.	stationary traffic in the transport system of populated areas. They know how to define and describe the types and ways of installing lighting on traffic structures, and compare the characteristics and express the advantages and disadvantages of different types of traffic lighting. Seminar work is organized in groups, discussing and proposing measures to calm traffic, resolve conflict situations and improve traffic flows.	
	Adherence coefficient. Vehicle stability. Horizontal and vertical transparency.	1, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and describe the characteristics of vehicles and roads that influence the best adhesion of the vehicle to the ground in order to maximize the stability of the vehicle when moving, and define and explain what factors reduce and increase visibility for road users. Seminar work is organized in groups, discussing and proposing measures to calm traffic, resolve conflict situations and improve traffic flows.	4 h
	Safety clearance between vehicles in motion. Braking path. The way to react.	1, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and describe the elements of the safety gap between different modes of traffic on the roads, and define and describe the basic concepts and elements necessary to determine the length of the braking and response times and propose measures for	4 h



				improvement. Seminar work is organized in groups, discussing and proposing measures to calm traffic, resolve conflict situations and improve traffic	
Tr	raffic signalization.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they define and list types of traffic signs and describe their characteristics. Seminar work is organized in groups, discussing and proposing measures to calm traffic, resolve conflict situations and improve traffic flows.	4 h
ma sig	raffic lighting device nanagement. Pedestrian ignals. nd Colloquium.	1,2, 3,4, 5, 6, 7, 8, 9	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they describe and specify ways to control the light signaling, define the types and cycles of light signaling for pedestrians and vehicles.	34 h
Re	Concluding considerations. Repeating and preparing for ne exam.	6, 7	They listen to a lecture and prepare individually for the exam.	-	34 h

3. EVALUATION OF STUDENT WORK

	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at
3.1. Students` obligations	 In accordance with the Kulebook on Study and the Kulebook on Student Assessment and Evaluation. for an fun-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year; From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; More than 50% - students have the right to take the final exam.



	Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two exams); b) during class (active participation in class and passing exams (written and oral part of the exam).							
3.2. Monitoring student	Attendance	1	Written exam	1 (without colloquia)	Project			
work (enter the share of	Experimental work		Research		Practical work			
ECTS credits for each activity so that the total	Essay		Report		Continuous examination			
number of ECTS points corresponds to the credit	Colloquium	1 (without written exam)	Seminar paper	1	Other			
score of the course)	Class activity	1	Oral exam	1	Other			
3.3. Student workload	Student workload on all bases is 1 ECTS credit 30 semester hours and is estimated as: 1. Attendance 45 h 2. Design of seminar work and presentation 15 h 3. Preparation for the mid-term / midterm exam 90 h							

4. FORMATION OF GRADES

4.1. Grading of seminar work	Element of evaluation	Bad	Satisfying	Above average	
			The paper is well structured with a	The paper is well structured with a clear	
	Organization	The paper is not organized in a	clear distinction between the	distinction between the introduction, the	
	organization	logical order and lacks structure.	introduction, the main body of the	main body of the text and the conclusion,	
			text and the conclusion.	which are logically interconnected.	
		Words and expressions low in line	Words and expressions are in line	Words and expressions are aligned with	
		with official terminology. The	with official terminology. The	official terminology and show an	
	Terminology, writing	writing style is not appropriate, the	writing style is appropriate, the	understanding of their meaning. The	
	style	sentences are too long, of a modest	sentence structure is clear, the	writing style is excellent, the sentences are	
		vocabulary and with frequent and	vocabulary is appropriate and there	clear and concise, the vocabulary is rich	
		repeated grammatical errors.	are few grammatical errors.	and there are no grammatical errors.	



	Citing and referencing references	The sources are not list references do not fit show a cursory a exploring the topic.	the topic and	The sources incomplete and references are rel and show a sat attitude.	with errors. ' levant to the to	Theand constropicappropriaarchcomprehe	rces are accurately, completely istently listed. The references are ate, their list is "rich" and ensive and shows a detailed approach.	
	F	Bad		Satisfying			Above average	
4.2. Grading of the colloguium / written and oral exam	understanding. Does terms and concepts.	we memory, without a deeper Does not know or apply basic cepts. Does not know how to in the contents of the course			is at the level of analysis, d evaluation. It observes the rately and thoroughly explains of the material, and logically explains the terms and concepts s with examples. Finds solutions ot originally given. It notes <i>v</i> ith related material.			
	Active attendance	70-75% of the presence	e 76-86% of the presence 8		87-100% of	the presence	Case studies resolved	
		0 points	0 points		0 pc	oints	0 points	
	Sominor popor	2	3		2	1	5	
4.3. Forming the final	Seminar paper	Made and handed over	r Made and handed over		Made and h	nanded over	Made and handed over	
grade according to the evaluation elements	Examination /	2	3		2	1	5	
evaluation ciements	Written examination	50-64%		65-80%	81-9	90%	91-100%	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	25-32 points	33	-40 points	41-45	points	46-50 points	
	Oral part of the	2		3		5	5	
	exam	25-32 points	33	-40 points	41-45	points	46-50 points	
4.4. Formation of final grade based on absolute	e 1	age of acquired knowledge, skills and competences (teaching + final exam)			Number rating		ECTS grade	
distribution		90 - 100%		5 (excel	llent)	А		



	80-89,9%	4 (very good)]	В			
	65 – 79,9%	3 (good)		С			
	60 - 64,9%	2 (sufficient)	D				
	50 - 59,9%	2 (sufficient)		E			
5. ADDITIONAL INFOR	MATION ON THE SUBJECT						
5.1. Required literature	Title	Number of copies in the library	Availability via other media				
(available in the library	Cerovac, V.: Tehnika i sigurnost prometa; FPZ, Zagreb, 2001.	2	Yes				
and through other media)	Zakon o sigurnosti prometa na cestama			Available on-line			
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	McShane, W.R. Roess, R.P., Prassas, E.S.: Traffic engineering Suvremeni promet; časopis Hrvatskog znanstvenog društva za Lectures	0 1	Yes 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 classes or possible adjournment will be published in a timely m Students can contact teachers during the consultation period (and contacted during class. It is also possible to ask questions by a soon as possible (no later than five working days after receiving	nanner on the e-learning site of the t least one hour per week), while fo e-mail (from the official e-mail add	course and on the web r short questions and e	site of the Polytechnic. xplanations they can be			



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

1. GENERAL INFORM			
1.1. Course lecturer	Danijel Mileta	1.8. Course code in ISVU	142540
1.2. Course title	INFORMATION SYSTEMS IN ROAD	1.9. Course code in MOZVAG	
	TRAFFIC		
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing + Practical	(30 + 0 + 15 + 0)
associates		exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd level),	1 st , course materials are on-
(specialist, undergraduate,		percentage of on line course performance (max. 20%)	line, 0%
graduate)			
1.5. Course status	Obligatory	1.12. Number of course revisions	6
(obligatory, optional)			
1.6. Year of study	3 rd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or	Less than 20% X
		supplements	More than 20 % \Box
2. COURSE DESCRIP	TION		
2.1. Course objectives	The main objective of the course is to acquaint stud	dents with information systems as well as telecommunication a	and information infrastructure
	in the function of road traffic, and the benefits they	provide.	
2.2. Terms of course entry	Enrolled 3 nd academic year, 4 year secondary educ	ation completed; qualification level 4.2 according to the CRO	QF.
and required competences			
2.3. Learning outcomes	IU1: Use and link professional terms in road traffic	technology and organization in written and oral communication	on with the professional public
on the study programme	in Croatian and English.		
level	IUx: Organize and conduct teamwork, and criticall	y evaluate the opinions and attitudes of team stakeholders.	
	IU3: Independently and responsibly search, interpr	et and integrate relevant literature needed to reach conclusions	s.
	IU4: Apply knowledge of natural and technical sci	ences to road transport problems.	
	IU6: Analyze and interpret relevant road transport	facts needed to reach conclusions.	
	IU11: Identify, anticipate and propose a road trans	port technology and technique solution.	
	IU13: Follow trends in technology, technology and	l traffic safety	



	Lear	ning outcomes by Bloom: (maximu	um 2 werbs	s for LO)	Level of LO:		
2.4. Expected learning					<i>1 - memory,</i>		
outcomes on the course					2 - understanding,		
level (4-10 learning					3 - application,		
outcomes)					4 - analysis,		
			5 - evaluation,				
			6-synthesis.				
	1. Ca	tegorize intelligent transport system	efits. 4				
	2. Co	mpare different information and int	elligent tra	nsport systems.	4		
	3. Cr	tically evaluate and evaluate the be	st system to	o use.	5		
	4. Pro	ppose and properly present a solutio	on for a pro	blematic location or purpose	6		
2.5. Course content according to detailed	Constructive allignement						
curriculum schedule							
	No	Thematic unit	LO of	Content/teaching methods	Evaluation	Time	
			the				
			course				
	1.	Introduction to the course and a		Students listen to a lecture. On the			
		detailed teaching plan.	-	computer, they are introduced to the	-	2 h	
				course content and documents on the e-			
				learning course page.			
	2.	Basics		Students listen to a lecture and read	At the midterm, written and oral exam		
				literature.	they can define, describe and		
			1		categorize the basic concepts of	2 h	
					information systems in road transport		
					and set an example.		
	3.	ITS	1,2,3,4	Students listen to a lecture and read literature.	They can enumerate, distinguish and	3 h	
			give an example of intelligent				



1						
					transport systems at the midterm,	
					written and oral exam.	
	4.	Internet and intranet		Students listen to a lecture and read	At the colloquium, written and oral	
				literature.	exam they can define, describe and	
			2,4		enumerate basic terms in the domain	3 h
					of Internet, intranet and extranet, and	
					give an example.	
	5.	Wireless data transmission		Students listen to a lecture and read	At the midterm, written and oral exam	
				literature.	they can define, describe and	
			1,2,3,4		enumerate wireless data transfer for	4 h
			1,2,3,4		different technologies, and critically	7 11
					evaluate and evaluate the best	
					technology to use.	
	6.	ERP		Students listen to a lecture and read	At the colloquium, written and oral	
			1,2	literature.	exam they can define and describe the	3 h
		1,2			information system in business and	511
					the concepts related to it.	
	7.	Repetition of materials /		Students listen to a lecture and read	They know the matter from thematic	
		colloquium		literature.	units 2-6. At the colloquium, the	
			1,2,3,4		written and the oral exam they know	2 h
					how to define parking payment	
					systems.	
	8.	Parking Billing Systems		Students listen to a lecture and read	At the colloquium, written and oral	
				literature.	exam they can define, describe,	
			1,2,3,4		categorize, compare, judge and	3 h
					evaluate parking charging systems in	
					open and ramp-regulated parking lots.	
	9.	Highway billing systems		Students listen to a lecture and read	At the midterm, written and oral exam	
			1,2,3,4	literature.	they know how to define, describe,	
						1 h
			-			



					categorize, compare, judge and	
					evaluate highway billing systems.	
	10.	Autopilot		Students listen to a lecture and read	At the colloquium or the written and	
			1,2,3	literature.	oral exam they can define and	2 h
			1,2,5		describe the features of autopilot in	
					cars and the technologies used in it.	
	11.	Fleet management		Students listen to a lecture and read	At the colloquium or the written and	
				literature.	oral exam they can define and	
			1,2,3,4		describe the basic elements of fleet	2 h
			1,2,3,4		management and critically evaluate,	
					evaluate and propose the right	
					solution for a particular need.	
	12.	Speedometers on roads		Students listen to a lecture and read	They can define, describe and	
			1,2,3,4	literature.	categorize road speed measuring	1 h
					devices at the midterm or the written	
					and oral exam.	
	13.	Seminars		Students listen to a lecture and read	In defense of seminar paper, they are	
				literature. They use multimedia and	able to define and describe basic	
				networking. At the seminar teaching,	concepts in the topic of seminar paper,	
				they individually explore the content of	to distinguish and compare similar	
				this topic area by searching the database,	technologies, to give an example, to	
				and on the basis of it and reading the	critically judge, evaluate and propose	
			1,2,3,4	literature, create a seminar paper that	the use of technology in question.	6 h
				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.		
				* **		



1									
	14. Seminars 15. Repetition of materials			1,2,3,4	Students 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.				9 h
	15.	Repetition of colloquium	materials / 2.	1,2,3,4			They know the subject topics 8-12. and domain papers.		2 h
4. EVALUATION O	F STU	JDENT WORK							
3.1. Student obligations	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar papers. Students who have achieved during the course: from $0 - 24,9\%$ ECTS credits- are rated F (unsuccessful) and cannot earn ECTS credits, and must re-enroll in the next academic year; from $25 - 49,9\%$ - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (written and oral part of the exam).								
3.2. Student work	Att	ending classes	1		Written exam	1 (without	Project		
monitoring (enter the		-				colloqiums)			
share of ECTS credits for	Exp	erimental work			Research		Practical work		
each activity so that the		Esaay			Report		Continuous check		
total number of ECTS	(Colloquiums	1 (without writte exam)	en part of	Seminar paper	0,5	(other)		



credits corresponds to the	Teaching activities		The oral part of exam	0,5	(other)	
course credit value)	C					
3.3. Student work-load	Student workload on a	ll bases is 1 ECTS credit for 3	0 semester hours and is	assessed as attendar	ce (60 hours), preparatio	n of seminar work and
	presentation (16 hours)), preparation for the midterm	/exam through self-stud	y (44 hours).		
4. FORMATION OF STU	DENT GRADE			-		
4.1. Evaluation of seminar	Elements of	Bad	Satis	fying	Abov	e average
paper	evaluation					
	Organization	The paper is not organized	The paper is well st	ructured with a c	ear The paper is well	structured with a clear
		in a logical order and lacks	distinction between the	e introduction, the m	ain distinction between	n the introduction, the
		structure.	body of the text and the	e conclusion.	main body of the te	ext and the conclusion,
					which are logically	interconnected.
	Terminolog, writing	Words and expressions are	Words and expressions	are in line with offi	cial Words and expres	sions are aligned with
	style	not in line with official	terminology. The writi	ng style is appropri	ate, official terminol	ogy and show an
		terminology. The writing	the sentence structure i	is clear, the vocabul	ary understanding of	their meaning. The
		style is not appropriate, the	is appropriate and ther	e are few grammat	cal writing style is ex	cellent, the sentences
		sentences are too long, of a	errors.		are clear and conc	ise, the vocabulary is
		modest vocabulary and			rich and there are n	no grammatical errors.
		with frequent and repeated				
		grammatical errors.				
	Citing and	The sources are not listed	The sources are listed b	out incomplete and w	vith The sources are a	ccurately, completely
	referencing	at all. The references do	errors. The references a	are relevant to the to	pic and consistently l	isted. The references
	references	not fit the topic and show	and show a satisfactory	v research attitude.	are appropriate, th	neir list is "rich" and
		a cursory approach to			comprehensive an	nd shows a detailed
		exploring the topic.			research approach.	
4.2. Gradeing of the		Bad	Satis	fying	Above	e average
colloquium/written and						
oral exam	· ·	mory, without a deeper	It reproduces the basic	*	e e	the level of analysis,
	-	s not know or apply basic	difficulty imparts	new knowled		uation. It observes the
	terms and concepts. It	does not know how to apply	understands the mater	-		ely and thoroughly
			and concepts that it sup	pports with example	s. explains the content	nt of the material, and



	or explain the conte examples.	ents of the course with			and concepts the examples. Finds	and explains the terms nat it supports with solutions that were not It notes correlations rial.
4.3. Forming the final	Active attendance on	0-69,9% attendance	70-79,9% attendance	80-89,9%	attendance	90-100% attendance
grade according to the	class	0 points	5 points	7 p	oints	10 points
evaluation elements	Sominor popor	2	3		4	5
	Seminar paper	15 points	20 points	25]	points	30 points
		2	3		4	5
	Colloquiums/ Written part of exam	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%
	written part of exam	15 points	20 points	25	points	30 points
		2	3		4	5
	Oral part of exam	15 points	20 points	25	points	30 points
4.4. Formation of the final	Percentage of acquir	ed knowledge, skills and	Numerical grade	2	EC	TS grade
grade based on the	· · ·	aching + final exam)				
absolute distribution		- 100%	5 (excellent)			А
	80 -	- 89,9%	4 (very good) 3 (good)		B C	
	65 -	- 79,9%				
	60 -	- 64,9%	2 (sufficient)		D	
	50 -	- 59,9%	2 (sufficient)			E
5. ADDITIONAL INFOR	MATION ABOUT CO	URSE				
5.1. Compulsory literature (available in the library		Title			ber of copies in the library	Availability via other media
and via other media)	1. Bošnjak I.: Inte	ligentni transportni sustavi (o	dabrana poglavlja)		3	
	1. Mileta D.: Elek	troničko poslovanje (odabrana	a poglavlja)			on-line



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



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

1. GENERAL INFORM	IATION		
1.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	
1.2. Course title	TRANSPORT GEOGRAPHY	1.9. Course code in MOZVAG	
1.3. Assistants and/or	-	Forms of teaching (number of hours Lecturing +	(30 + 0 + 15 + 0)
associates		Practical exercises + Seminars + e learning)	
1.4. Study programme	Undergraduate professional study of traffic	1.11. Level of e- learning application (1 st , 2 nd , 3 rd	1 st , course materials are
(specialist, undergraduate,		level), percentage of on line course performance (max.	on-line, 0%
graduate)		20%)	
1.5. Course status	Optional	1.12. Number of course revisions	4
(obligatory, optional)			
1.6. Year of study	3 rd	1.13. Modernization	Yes
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or	Less than 20% X
		supplements	More than 20 %
2. COURSE DESCRIP	TION		
2.1. Course objectives	The goal is that students on the basis of theoretical knowle	edge and case studies:	
	 become familiar with the creation and development 	nt of all transport modes,	
	 analyze and comment on the progress of commod 	ity exchange in the world,	
	 distinguish main transport corridors in Europe, No 	orth America, and Asia.	
2.2. Terms of course entry	Enrolled 3 rd academic year, passed the course "Traffic cor	ridors and merchandise flows", 4 year secondary education	on completed; qualification
and required competences	level 4.2 according to the CROQF.		
2.3. Learning outcomes	LO1: Use and link professional terms in road traffic techno	logy and organization in written and oral communication v	with the professional public
on the study programme	in Croatian and English.		
level	LO2: Organize and conduct teamwork, and critically evalu	ate the opinions and attitudes of team stakeholders.	
	LO3: Independently and responsibly search, interpret and	integrate relevant literature for decision making.	
	LO6: Analyze and present relevant facts from the traffic a	-	
	LO10: Compare and select technical and technological sol	utions for traffic and/or goods flows.	
	LO12: Design a smaller transport process and critically ev	aluate it.	



	Lear	ning outcomes by Bloom: (maximum	n 2 werbs	for LO)		Level of LO:	
2.4. Expected learning						1 - memory,	
outcomes on the course						2 - understanding,	
level (4-10 learning						3 - application,	
outcomes)						4 - analysis,	
						5 - evaluation,	
						6 – synthesis.	
	1. Pre	esent and comment on the historical of	levelopme	nt of the traffic branches.		6, 3	
	2. Lis	st and explain the main factors for the	e creation a	and development of commodity flows.		1, 2	
	3. An	alyze and evaluate world trade in go	ods.			4,5	
	4. Pre	esent and comment on the traffic con	nections of	f the countries in Western, Central and Eastern	Europe.	6,4	
	5. Lis	st and compare major transport corric	lors in Asi	a, North America, and Europe.		1, 2	
	6. Co	mment on the objective and strategy	of the Ma	rco Polo Program and the current EU Transpor	t White Paper.	4	
		ş 61		ofessional literature in native and English lang	Ĩ	3	
				and solutions independently and in a team.	6	6	
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement					
cumculum schedule	No	Thematic unit	LO of	Content/teaching methods	Eva	aluation	Time
		Thematic unit	the	Content/teaching methods			Thic
	1.	Introductory presentation (introducing students to the course content and obligations)	-	Listening to the lecture. In the course of seminars, they are introduced to the course content and documents on the e-learning page of the course by working independently on a computer.		-	2 h
	2.	Development of transport branches throughout history (road, rail, pipeline)	1, 7, 8	They listen to a course lecture and read literature. At the seminar lectures, they individually explore the content of this topic	_	ium or written and dents can present, d evaluate the	3 h



1						
				area by searching the database, and on the	historical development of road,	
				basis of it and reading the literature, create	rail and pipelines. Seminar paper	
				a seminar paper that presents the acquired	created and presented (by	
				knowledge and presents their own ideas,	computer programs).	
				and ways to solve problems. In group work		
				at the seminar teaching, the brainstorming		
				method and the discussion method on the		
				topic are applied.		
	3.	Development of transport		They listen to a course lecture and read	At the colloquium or written and	
		branches throughout history		literature. At the seminar lectures, they	oral exam students can present,	
		(water, air, postal and		individually explore the content of this topic	comment and evaluate the	
		telecommunication)		area by searching the database, and on the	historical development of water,	
				basis of it and reading the literature, create	air and postal and	
			1, 7, 8	a seminar paper that presents the acquired	telecommunications traffic.	3 h
				knowledge and presents their own ideas,	Seminar paper created and	
				and ways to solve problems. In group work	presented (by computer	
				at the seminar teaching, the brainstorming	programs).	
				method and the discussion method on the		
				topic are applied.		
	4.	Development of transport		They use multimedia and network. At the	At the colloquium or the written	
		branches throughout history (video		seminar lectures, they individually explore	and oral exam students can	
		films)		the content of this topic area by searching	present maritime and airports in	
				the database, and on the basis of it and	the world. Analyze and evaluate	
			1 7 0	reading the literature, create a seminar paper	the role of rail transport.	24
			1, 7, 8	that presents the acquired knowledge and	Describe the course of highway	3 h
				presents their own ideas, and ways to solve	construction. Seminar paper	
				problems. In group work at the seminar	created and presented (by	
				teaching, the brainstorming method and the	computer programs).	
				discussion method on the topic are applied.		



1					
5.	Factors for the formation of traffic		They listen to a course lecture and read	At the colloquium or the written	
	flows (general, natural, social,		literature. At the seminar lectures, they	and oral exam, students know	
	economic)		individually explore the content of this topic	how to define, enumerate and	
			area by searching the database, and on the	distinguish the main factors for	
			basis of it and reading the literature, create	the formation and development	
		1, 2, 7,	a seminar paper that presents the acquired	of commodity flows (general,	4 h
		8,	knowledge and presents their own ideas,	natural and socio-economic	4 11
			and ways to solve problems. In group work	factors). Identify the	
			at the seminar teaching, the brainstorming	abbreviations of economic	
			method and the discussion method on the	groups of the world. Seminar	
			topic are applied.	paper created and presented (by	
				computer programs).	
6.	Geographical location of transport		They listen to a course lecture and read	At the colloquium or the written	
	corridors in Western Europe		literature. At the seminar lectures, they	and oral exam, students can	
			individually explore the content of this topic	define the term traffic corridor.	
			area by searching the database, and on the	List and compare major transport	
			basis of it and reading the literature, create	corridors in Western Europe	
		4, 5, 7,	a seminar paper that presents the acquired	(Germany, UK, Benelux, France,	3 h
		8	knowledge and presents their own ideas,	Spain) of all branches of	5 N
			and ways to solve problems. In group work	transport. List the countries	
			at the seminar teaching, the brainstorming	through which each transport	
			method and the discussion method on the	corridor passes. Seminar paper	
			topic are applied.	created and presented (by	
				computer programs).	
7.	Geographical location of transport		They listen to a course lecture and read	At the colloquium or the written	3 h
	corridors in Central and Eastern		literature. At the seminar lectures, they	and oral exam, students can	
	Europe	4, 5, 7,	individually explore the content of this topic	define the term traffic corridor.	
		8	area by searching the database, and on the	List and compare major transport	
			basis of it and reading the literature, create	corridors in Poland, Czech	
			a seminar paper that presents the acquired	Republic, Slovakia, Hungary,	



	8.	Geographical location of North American transport corridors		knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar teaching, the brainstorming method and the discussion method on the topic are applied. They listen to a course lecture and read literature. At the seminar lectures, they	branches of transport. List the countries through which each transport corridor passes. Seminar paper created and presented (by computer programs).	3 h
			4, 5, 7, 8	individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar teaching, the brainstorming method and the discussion method on the topic are applied.	define the term traffic corridor. List and compare major traffic corridors of Canada and the United States of all branches of transport. Seminar paper created	
	9.	Geographic location of traffic corridors in Asia	4, 5, 7, 8	They listen to a course lecture and read literature. At the seminar lectures, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam, students can define the term traffic corridor. List and compare major transport corridors in East and South Asia (China, Japan, South Korea, Singapore) of all branches of transport. List the countries through which each transport corridor passes. Seminar paper	3 h



1					rr	
					created and presented (by	
					computer programs).	
	10.	Spatial distribution of food flows		They listen to a course lecture and read	At the colloquium or the written	4 h
		(meat, fruits and vegetables,		literature. At the seminar lectures, they	and oral exam, students know	
		cereals)		individually explore the content of this topic	how to define the concept of	
				area by searching the database, and on the	traffic flow. Categorize, analyze	
				basis of it and reading the literature, create	and evaluate the trade in fruits	
			2, 3, 7,	a seminar paper that presents the acquired	and vegetables, milk and dairy	
			8	knowledge and presents their own ideas,	products, meat, fish in the World.	
				and ways to solve problems. In group work	List the countries with the largest	
				at the seminar teaching, the brainstorming	importers and exporters of all	
				method and the discussion method on the	types of food. Seminar paper	
				topic are applied.	created and presented (by	
					computer programs).	
	11.	Spatial distribution of natural raw		They listen to a course lecture and read	At the colloquium or the written	4 h
		material flows (oil, natural gas,		literature. At the seminar lectures, they	and oral exam, students know	
		cotton, bauxite, iron ore)		individually explore the content of this topic	how to define the concept of	
				area by searching the database, and on the	goods traffic. Categorize,	
				basis of it and reading the literature, create	analyze and evaluate the world	
			227	a seminar paper that presents the acquired	trade of oil, petroleum products,	
			2, 3, 7,	knowledge and presents their own ideas,	cotton, bauxite, iron ore, and	
			8	and ways to solve problems. In group work	natural gas. List the countries	
				at the seminar teaching, the brainstorming	with the largest importers and	
				method and the discussion method on the	exporters of all types of raw	
				topic are applied.	materials. Seminar paper created	
					and presented (by computer	
					programs).	
	12.	Spatial distribution of industrial	227	They listen to a course lecture and read	At the colloquium or the written	4 h
		product flows (cars, machines,	2, 3, 7, 8	literature. At the seminar lectures, they	and oral exam, students know	
		electronics, ships)	ð	individually explore the content of this topic	how to define the concept of	



13.	Marco Polo Program (program objective, program activities, program projects)	6, 7, 8	area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar teaching, the brainstorming method and the discussion method on the topic are applied. They listen to a course lecture and read literature. They use multimedia and networkAt the seminar lectures, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar teaching, the brainstorming method and the discussion method on the topic are applied.	goods traffic. Categorize, analyze and evaluate the progress of trade in cars, electronic products, ships, machines in the World. List the countries with the largest importers and exporters of industrial products. Seminar paper created and presented (by computer programs). At the colloquium or the written and oral exam, students can define the goal and strategy of the Marco Polo program. Distinguish activities Marco Polo. Critically evaluate the professional video films program. Seminar paper created and presented (by computer programs).	3 h
14.	European Union White Paper on 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)	6, 7, 8	They listen to a course lecture and read literature. At the seminar lectures, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In group work at the seminar teaching, the brainstorming	At the colloquium or written and oral exem, students know how to define the objective and strategy of the current EU White Paper on transport. Comment on EU professional projects in the field of transport. Seminar paper created and presented (by computer programs).	3 h



1		1				
			method and the discussi	on method on the		
			topic are applied.			
	15. Final consider	ations/Repeating	They listen to a course l	ecture and prepare		45
	and preparing for	the exam.	individuals for the exam.		-	
3. EVALUATION OF S	STUDENT WORK					
3.1. Student obligations	In accordance with the l	Rulebook on Study and the R	ulebook on Student Asses	sment and Evaluation	n: for all full-time stu	dents attendance o
	least 70%. Part-time stu	dents are required to attend	a class of at least 50%. Al	l students must creat	te, present and positiv	vely colloquy semi
	papers. Students who ha	we achieved during the cours	e: from 0 - 24,9% ECTS c	redits- are rated F (u	nsuccessful) and cann	ot earn ECTS cred
	and must re-enroll in th	e next academic year; from	25 - 49,9% - are assessed	by FX (insufficient) and must pass and j	pass the written ex
	(test). Written exam (tes	t) can be held in a regular or	extraordinary exam period	; more than 50% - st	udents have the right	to take the final exa
	Students can take the fi	nal exam from the course in	n two ways: a) during the	course of teaching	through continuous n	nonitoring of stude
	(active participation in c	lasses and through two exan	ns); b) passing the exam (w	vritten and oral part of	of the exam).	
3.2. Student work	Attending classes	0,5	Written exam	1 (without	Project	
monitoring (enter the				colloqiums)		
share of ECTS credits for	Experimental work		Research		Practical work	
each activity so that the	Esaay		Report		Continuous check	
total number of ECTS	Colloquiums	1 (without written part of	Seminar paper	0,5	(other)	
credits corresponds to the	1	exam)				
course credit value)	Teaching activities	0,5	The oral part of exam	0,5	(other)	
3.3. Student work-load	Student workload on all	bases is 1 ECTS credit for 3) semester hours and is ass	essed as attendance ((30 hours), preparation	n of seminar work a
		preparation for the midterm				
4. FORMATION OF STU						
4.1. Evaluation of seminar	Elements of	Bad	Satis	sfying	Above	average
paper	evaluation					
	Organization	The paper is not organized	in a The paper is well st	ructured with a clear	The paper is well s	tructured with a cl
		logical order and	acks distinction betwee	n the introduction,	distinction between	the introduction,
		structure.	the main body of	f the text and the	main body of the te	xt and the conclusi
			conclusion.		which are logically	interconnected.



	Terminolog, writing style Citing and referencing references	Words and expressions are not 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. The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	Words and expressions official terminology. T is appropriate, the sent clear, the vocabulary is there are few grammati The sources are listed and with errors. The relevant to the topic satisfactory research at	The writing style ence structure is appropriate and ical errors.	official termino understanding of writing style is e are clear and con rich and there are The sources are and consistently are appropriate,	ssions are aligned with logy and show an f their meaning. The excellent, the sentences acise, the vocabulary is no grammatical errors. accurately, completely listed. The references their list is "rich" and and shows a detailed
			-		research approach	1.
4.2. Gradeing of the colloquium/written and		Bad	Satisfyir	ng	Abov	ve average
oral exam	It responds by memory,	without a deeper understanding.	It reproduces the basi	ic concepts and	Knowledge is at	the level of analysis
		ply basic terms and concepts. It oply or explain the contents of the	without difficulty knowledge, understand explains the terms and supports with examples	imparts new ds the material, concepts that it	synthesis, and eva legality, accurat explains the conte logically connects and concepts the examples. Finds	aluation. It observes the tely and thoroughly ent of the material, and s and explains the terms hat it supports with solutions that were not It notes correlations
4.3. Forming the final grade according to the	does not know how to ap	ply basic terms and concepts. It	without difficulty knowledge, understand explains the terms and	imparts new ds the material, concepts that it s.	synthesis, and eva legality, accurat explains the conte logically connects and concepts th examples. Finds originally given.	aluation. It observes the tely and thoroughly ent of the material, and s and explains the terms hat it supports with solutions that were not It notes correlations
_	does not know how to ap course with examples. Active attendance on	ply basic terms and concepts. It oply or explain the contents of the	without difficulty knowledge, understand explains the terms and supports with examples	imparts new ds the material, concepts that it s. 87-100%	synthesis, and eva legality, accurat explains the conte logically connects and concepts the examples. Finds originally given. with related mater	aluation. It observes the tely and thoroughly ent of the material, and s and explains the terms hat it supports with solutions that were not It notes correlations rial. Mental map created,
grade according to the	does not know how to ap course with examples. Active attendance on	ply basic terms and concepts. It oply or explain the contents of the 70-75% attendance	without difficulty knowledge, understand explains the terms and supports with examples 76-86% attendance	imparts new ds the material, concepts that it s. 87-100% 7 p	synthesis, and eva legality, accurate explains the control logically connects and concepts the examples. Finds originally given. with related matered attendance	aluation. It observes the tely and thoroughly ent of the material, and s and explains the terms hat it supports with solutions that were not It notes correlations rial. Mental map created, Case studies resolved



		2	3		4	5		
	Colloquiums/	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%		
	Written part of exam	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	Percentage of acqu	ired knowledge, skills and	Numerical gra	ıde	EC	TS grade		
grade based on the	competencies (teaching + final exam)						
absolute distribution	9	0-100%	5 (excellent))		А		
	80) – 89,9%	4 (very good	l)		В		
	65	5 - 79,9%	3 (good)			С		
	60) - 64,9%	2 (sufficient)	D			
	50) – 59,9%	2 (sufficient)	Е			
5. ADDITIONAL INFOR	MATION ABOUT COU	RSE						
5.1. Compulsory literature		Title		Nun	iber of copies in	Availability via		
(available in the library					the library	other media		
and via other media)	Sego Darijo: Traffic corridors and merchandise flows, Script for internal use, Polytechnice-learning systeof Sibenik, Sibenik 2016.							
	World trade organization	http://www.wto.org/ (selected ch		-	Internet website			
	Transport in EU http://ec	e.europa.eu/transport/index_en.htr		-	Internet website			
5.2. Additional literature	Teaching materials from	lectures and seminars on the e-Le	arning system of the Polyte	echnic	-	e-learning system		
(at the moment of changes	of Sibenik for the mentio	oned course.						
and/or amended of study	International trade statist	ics https://www.trademap.org/Ind	lex.aspx			Internet website		
programme)	UN agency for food http	://www.fao.org/home/en/				Internet website		
5.3. Quality assurance	The control of students' w	vork quality and the acquisition of	necessary knowledge and s	skills will be en	sured through intera	active work. By keeping		
methods that ensure the	track of attendance and st	udent activity during classes and p	provided information on stu	dents` progress	s through short collo	quiums and homework,		
acquisition of knowledge,	information for further g	uidance to students will be provid	led in order to increase the	efficiency of the	heir work. Students	will be informed about		
skills and competences						system: Student survey,		



	monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and
	Alumni association.
5.4. Informing about the	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes
course and contacting the	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
course lecturer	can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted
	during class. It is also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will be answered as soon as
	possible (no later than five working days after receiving the e-mail).



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

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

2. COURSE DESCRIPTIO	ON
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; qualification level 4.2 according to the HKO.
2.3. Learning outcomes on the study programme	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.
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.	
		Level of LO:
		1 - memory,
	Learning outcomes according to Plaam's toxonomy:	2 - understanding,
	Learning outcomes according to Bloom's taxonomy: (maximum 2 werbs for LO)	3 - application,
	(maximum 2 werbs for LO)	4 - analysis,
2.4. Expected learning		5 - evaluation,
outcomes on the course		6-synthesis.
level	1. demonstrate knowledge and understanding of the content of the course by defining and describing the basic concepts	1.1
	in transport and tourism,	1, 1
	2. to analyze and compare the transport sectors in the tourism industry,	4, 2
	3. propose a form of tourist transport as part of a tourism product,	6
	4. use materials and tools to search scientific and professional literature in their native and English languages,	3
	5. Present the acquired knowledge, ideas and solutions independently and in a team.	6

	Constructive allignement									
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation					
2.5. Course content according to detailed curriculum schedule	1.	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	1 h				



		I	1	1	ГГ	
					cite and explain the elements of production	
					of transport products.	
					At the colloquium or the written and oral	
				They listen to a lecture and read	exam, they can enumerate and explain ways	
				literature. At the seminar teaching,	of influencing tourism on traffic and	
				they individually explore the content	explaining the impact of traffic on tourism.	
				of this topic area by searching the	Explain the limiting impact of transport on	
		International and a fitness of		database, and on the basis of it and the	tourism and tourism on transport. Define	
	2.	Interdependence of transport	1	literature read, create a seminar paper	transport service and tourism product.	6 h
		and tourism.		that presents the acquired knowledge.	Explain the transport service as a tourism	
				In the group work on seminar	product and give an example of the absence	
				teaching, the brainstorming method	of a transport service in a tourism product.	
				and the discussion method on the	List and explain the categories of users of	
				topic are applied.	tourist trips and motives for traveling.	
				Define and explain tourism as a system.		
				They listen to a lecture and read	1 2	
				literature. At the seminar teaching,		
				they individually explore the content		
				of this topic area by searching the	At the colloquium or the written and oral	
		Transport branches in the connection of emitting and		database, and on the basis of it and the	exam they can explain the emissive and	
	3.		1, 2	literature read, create a seminar paper	receptive tourist countries and give an	6 h
	5.	receptive areas.	1, 2	that presents the acquired knowledge.	example. Explain the characteristics of	0 11
		receptive areas.		In the group work on seminar	traffic branches in the interconnection of	
				teaching, the brainstorming method	emissive and receptive areas.	
				and the discussion method on the		
				topic are applied.		
				They listen to a lecture and read	At the colloquium or the written and oral	
		Traffic as part of a tourist	1, 2, 3,	literature. At the seminar teaching,	exam they can define trips and multi-day bus	
	4.	product.	1, 2, 3, 4, 5	they individually explore the content	trips. Explain panoramic and shuttle	6 h
			4, 5	of this topic area by searching the	transportation. Give an example of local	
				of this topic area by searching the	transportation. Give an example of local	



	20			1			
				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.	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).		
		5.	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 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. Seminar paper created and presented (using computer programs independently).	6 h
		6.	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



	1						
	7.	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	
		8.	Air traffic as part of a tourist product, charter travel. Colloquium I.	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 the history of air traffic and define tourist services based on air traffic. Comment on the role of air transport in tourism in the Republic of Croatia. Find out the difference between regular and charter air traffic.	5 h
		9.	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	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



1							
					teaching, the brainstorming method and the discussion method on the topic are applied. They listen to a lecture and read literature. At the seminar teaching, they individually explore the content		
	10.	Field teaching - Dogus Marine in Šibenik (Mandalina)	1, 4, 5	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	
1	11.	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	
1	12.	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	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	5 h	



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



	Repeating and	preparing for							
	the exam.								
3. EVALUATION OF ST	UDENT WORK								
3.1. Students` obligations	 In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: From 0 - 24.9% of ECTS credits - they are rated F (unsuccessful) and cannot earn ECTS credits and must re-enroll in the next academic year; From 25-49.9% - are assessed by FX (insufficient) and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; More than 50% - students have the right to take the final exam. 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). 								
3.2. Monitoring student	Attendance		Writter	n exam		(without oquia)	Project		
	Experimental work		Resear	ch			Practical work		
activity so that the total	Essay		Report				Continuous examination		
corresponds to the credit	Colloquium	1,5 (without write exam)	ten Semina	ar paper	0,5		Other		
score of the course)	Class activity	0,5	Oral ex	am	0,5		Other		
	Student workload on	all bases is 1 ECTS	S credit 30 sen	nester hours ar	nd is est	imated as:	1	l.	
3.3 Student workload	Obligation					Hours (estimated)			
work (enter the share of ECTS credits for each activity so that the total number of ECTS points	1. Active clas	s attendance				45			
	2. Designing	a seminar paper and	d presentation			10			



	3. Preparing colloquia or exams through individual work 35								
4. FORMATION OF GRA	ADES								
	Element of evaluation	Bad		Satisfying	Above average				
	Organization	The paper is not organized ir 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 clear distinction between introduction, the main body of and the conclusion, which are interconnected.					
4.1. Evaluation of a of seminar work	Terminology, writing style	Words and expression with official termin writing style is not ap sentences are too long vocabulary and with repeated grammatical	nology. The propriate, the g, of a modest frequent and	Words and expressions are in with official terminology. writing style is appropriate, sentence structure is clear, vocabulary is appropriate and are few grammatical errors.	The e, the c, the c, the				
	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 incomplete and with errors. references are relevant to the and show a satisfactory rese attitude.	The and consistently listed. The references are appropriate, their list is "rich" and				
4.2. Grading of the colloguium / written and oral exam	Ba	ad		Satisfying	Above average				



	anniv or explain the contents of the course l		It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		Knowledge is at the level of 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	76-86%	6 of the presence	87-100	0% of the presence	Case studies resolved
		2 points		4 points		7 points	10 points
4.3. Forming the final	Seminar paper	2		3		4	5
grade according to the evaluation elements	5 points			7 points		8 points	10 points
	Examination / Written	2	3			4	5
	examination Oral part of the exam	50-64,9%	65-79,9%			80-89,9%	90-100%
		25 points	30 points			35 points	40 points
		2	3		4		5
	-	25 points		30 points		35 points	40 points
		quired knowledge, skil s (teaching + final exar		Number rating	•	ECT	ΓS grade
4.4. Formation of final		90 - 100%		5 (excellent)		A	
grade based on absolute		80-89,9%		4 (very good))		В
distribution		65 – 79,9%		3 (good)			С
	60-64,9%			2 (sufficient)			D
		50-59,9%		2 (sufficient)			E
5. ADDITIONAL INFOR	RMATION ON THE SUB	JECT					
		,	Title			Number of co the librar	



5.1. Required literature (available in the library	 Mrnjavac E.: Promet u turizmu, Fakultet za turistički i hotelski menadžment, Opatija, 2006. (selected chapters) 	5			
and through other media)	2. Maršanić R.: Parkiranje u turističkim destinacijama, 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.: Promet u turizmu, Visoka škola za turizam, 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 students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.				
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).				



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

1.1. Course lecturer	Darijo Šego	1.8. Course code in ISVU	142747	
1.2. Course title	SEMESTRAL PROFESSIONAL PRACTICE 1.9. Course code in MOZVAG			
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing +Practical exercises + Seminars + e learning)	-	
1.4. Study programme(specialist, undergraduate, graduate)	Undergraduate professional study of traffic		1 st , course materials are on-line, 0%	
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4	
1.6. Year of study	3 rd	1.13. Modernization	Yes	
1.7. Credit score (ECTS)	13	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20%	
2. COURSE DESCRIP	ΓΙΟΝ			
2.1. Course objectives	 The goal is for students to know from theoretical knowled enumerate and explain jobs in transport companie categorize services provided by transport companie critically evaluate the business situation of transport to compare business processes in different or similian propose the best business process improvement so 	s, ies, ort companies, lar companies engaged in transport activities,		
2.2. Terms of course entry and required competences	Enrolled 3 rd academic year, tested VI. semester of the curr	rent academic year		
2.3. Learning outcomes on the study programme level	IU1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public in Croatian and English. IU3: Independently and responsibly search, interpret and integrate relevant literature for decision making. IU6: Analyze and present relevant facts from the field of study required to reach conclusions.			



2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	Learning outcomes by Bloom: (maximum 2 werbs for LO) I - m 2 - un 3 - ap 4 - an 5 - en 5 - en 6 - sy 1. To combine acquired theoretical knowledge from the course and practical knowledge from a company engaged in transport. I - an 2. Enumerate and explain the affairs of a company engaged in transport. I - an 3. Analyze and critically evaluate the existing business situation of a transport company. I - an 4. Present the company and the acquired knowledge from the company engaged in the transport industry. I - an						
	4	 5. Use materials and tools to search scientific and professional literature in native and English languages. 6. To propose and choose the best solution for improving the business processes of a transport company. 					
2.5. Course content according to detailed curriculum schedule		structive allignement		I State II	The Provide American Science Provid	6, 5	
	No	Thematic unit	LO of the course	Content/teaching methods	Evaluati	on	Time
	1.	Introductory presentation (introducing students to the course content and obligations).	-				5 h
	2.	Execution of the Semester professional practice in a company with which the Polytechnic of Šibenik has signed the Agreement on professional cooperation.	1, 2, 3, 4, 6	Students are introduced to the company's general information and construction facilities. Perform tasks related to vehicle fleet, vehicle and road maintenance, transport organization, business processes,	Developed and seminar paper on where the Semester practice was perfo computer programs	professional prmed (using	55 h



1					
			basic and additional services provided by the company, administration.		
3.	Execution of the Semester professional practice in a company with which the Polytechnic of Šibenik has signed the Agreement on professional cooperation.	1, 2, 3, 4, 6	Students are introduced to the company's general information and construction facilities. Perform tasks related to vehicle fleet, vehicle and road maintenance, transport organization, business processes, basic and additional services provided by the company, administration.	Developed and presented seminar paper on the company where the Semester professional practice was performed (using computer programs).	55 h
4.	Execution of the Semester professional practice in a company with which the Polytechnic of Šibenik has signed the Agreement on professional cooperation.	1, 2, 3, 4, 6	Students are introduced to the company's general information and construction facilities. Perform tasks related to vehicle fleet, vehicle and road maintenance, transport organization, business processes, basic and additional services provided by the company, administration.	Developed and presented seminar paper on the company where the Semester professional practice was performed (using computer programs).	55 h
5.	Execution of the Semester professional practice in a company with which the Polytechnic of Šibenik has signed the Agreement on professional cooperation.	1, 2, 3, 4, 6	Students are introduced to the company's general information and construction facilities. Perform tasks related to vehicle fleet, vehicle and road maintenance, transport organization, business processes, basic and additional services provided by the company, administration.	Developed and presented seminar paper on the company where the Semester professional practice was performed (using computer programs).	55 h
6.	Execution of the Semester professional practice in a company with which the Polytechnic of Šibenik has signed the Agreement on professional cooperation.	1, 2, 3, 4, 6	Students are introduced to the company's general information and construction facilities. Perform tasks related to vehicle fleet, vehicle and road maintenance, transport organization, business processes, basic and additional services provided by the company, administration.	Developed and presented seminar paper on the company where the Semester professional practice was performed (using computer programs).	55 h



1								
	7.	Execution of the Semester professional practice in a company with which the Polytechnic of Šibenik has signed the Agreement on professional cooperation.	1, 2, 3, 4, 6	Students are introduced to general information an facilities. Perform tasks re- fleet, vehicle and road transport organization, bus basic and additional servi- the company, administration	d construct elated to veh d maintenar siness proces ces provided	ion Developed and scle seminar paper on ace, where the Semeste ses, practice was perfo	the company r professional ormed (using	55 h
	8.	Execution of the Semester professional practice in a company with which the Polytechnic of Šibenik has signed the Agreement on professional cooperation.	1, 2, 3, 4, 5, 6	Students are introduced to general information an facilities. Perform tasks re fleet, vehicle and road transport organization, bus basic and additional servi- the company, administration	d construct elated to veh d maintenar siness proces ces provided	ion Developed and scle seminar paper on ace, where the Semeste ses, practice was perfo	r professional ormed (using	55 h
	9.	Final consideration	-			Developed and seminar paper on where the Semeste practice was perfo computer programs	r professional ormed (using	55 h
3. EVALUATION OF S	STUD	ENT WORK						
3.1. Student obligations In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Work: students are obliged to perform a Semester Professional Practice in accordance with the signed Agreement on Professional Cooperation between the Polytechnic of Šibenik and a company performing activities in the field of transport. Based on the completed Semester Professional Practice, the student prepares and presents a seminar paper. Seminar paper is brought to the course lecturer for review by students. The course lecturer of the Semester Professional Practice evaluates the seminar paper and presentation as satisfied or dissatisfied. Students who are already employed in companies that are involved in the field of transport are exempted from the Semester Professional Practice (they need to bring a copy of the employment contract as proof of employment), they are not obliged to produce and present seminar work.								
3.2. Student work		ttending classes		Written exam		Project		
monitoring (enter the	Ex	perimental work		Research		Practical work		



share of ECTS credits for	Esaay		Report		Continuous check		
each activity so that the	Colloquiums		Seminar paper	2	Semestral Professional	11	
total number of ECTS	•				Practice		
credits corresponds to the	Teaching activities		The oral part of		(other)		
course credit value)			exam				
	Student workload on all	bases is 1 ECTS credit 30 hours of	of work per semester a	nd is estima	ited as going to the company	y of implementation of	
3.3. Student work-load	the Semester Professional Practice in accordance with the signed Agreement on Professional Cooperation between the Polytechnic of Šibenik						
5.5. Student work-toad	and the company performing activities in the field of transport (330 hours), preparation of seminar work and presentation on the company of						
	execution of Semester Professional Practice (60 hours).						

4. FORMATION OF STUDENT GRADE

	Elements of evaluation	Bad	Satisfying	Above average
4.1. Evaluation of seminar paper	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.
	Terminolog, writing style	Words and expressions are not 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.	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.	and with errors. The references are relevant to the topic and show a	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.



4.3. Forming the final		2	3		4	5	
grade according to the	Seminar paper	5 points	7 points	8 p	points	10 points	
evaluation elements	The second second of second	2	3		5	5	
	The oral part of exem	25 points	30 points	35	points	40 points	
	Percentage of acquired knowledge, skills and competencies (teaching + final exam)		Numerical grade		ECTS grade		
4.4. Formation of the final	90 - 100%		5 (excelle	5 (excellent)		А	
grade based on the	80 - 89,9%		4 (very go	4 (very good)		В	
absolute distribution	65 - 79,9%		3 (good)		С		
	60 - 64,9%		2 (sufficie	ent)	D		
	50 - 59,9%		2 (sufficient)			Е	
5. ADDITIONAL INFORM	MATION ABOUT COU	RSE					
				Num	har of conics in	Avoilability via	

5.1. Compulsory literature	Title	Number of copies in the library	Availability via other media			
(available in the library and via other media)	Company websites where students have completed the Semester Professional Practice.		Internet website			
and via other media)	Obtained materials from the company where they performed the Semester Professional		Company internal			
	Practice.		materials			
5.2. Additional literature	Professional websites in native and foreign languages in the field of transport activity where					
(at the moment of changes	the Semester Professional Practice was performed.		Internet website			
and/or amended of study			internet website			
programme)						
5.3. Quality assurance	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping					
methods that ensure the	track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework,					
acquisition of knowledge,	information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about					
skills and competences	their rights and obligations as well as the methods of work and the required literature. Indic	ators of quality assurance s	ystem: Student survey,			



		monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and
		Alumni association.
ĺ		It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes
	5.4. Informing about the	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
	course and contacting the	can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted
	course lecturer	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).

Curriculum for the Undergraduate Professional Study of Traffic at the Polytechnic of Sibenik for the academic year 2019/2020. was adopted at the 9th electronic session of the Traffic Department Council, held on Thursday, October 10, 2019.

Curriculum for the Undergraduate Professional Study of the Traffic at the Polytechnic of Sibenik for the academic year 2019/2020. was confirmed at the 2nd session of the Expert Council of the Polytechnic of Sibenik, which was held on Wednesday 04 December 2019.

Curriculum for the Undergraduate Professional Study of Traffic at the Polytechnic of Sibenik for the academic year 20192020 will be published on the official website of the Polytechnic of Sibenik (http://www.yus.htr/).

KLASA: 003-08/19-07/04 UR. BROJ: 2182/1-12/3-1-19-03

Šibenik, 04.12.2019.

Head of Undergraduate professional study of Traffic

Ivana Beljo, sc. ing. mat., senior lecturer

Dean of Polytechnic of Sibenik Ph.D. Ljubo Runjić, senior lecturer