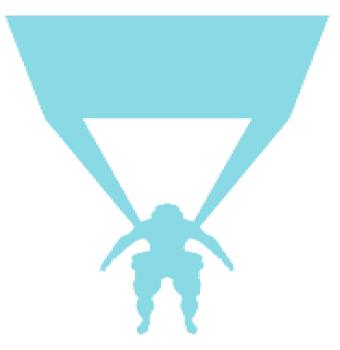
# **ŠIBENIK UNIVERSITY OF APPLIED SCIENCES** *Department of Traffic Studies*

Trg Andrije Hebranga 11, 22000 Šibenik Republic of Croatia



Šibenik, July 2024

# **ŠIBENIK UNIVERSITY OF APPLIED SCIENCES** Department of Traffic Studies

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# **DEPARTMENT OF TRAFFIC STUDIES CURRICULUM**

# **UNDERGRADUATE PROFESSIONAL STUDY OF TRAFFIC**

## DIRECTIONS: ROAD TRAFFIC, POSTAL TRAFFIC

Academic year 2024/2025

Dean of Šibenik University of Applied Sciences PhD Ljubo Runjić, college professor

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

Šibenik, July 2024

Department of Traffic Studies at Šibenik University of Applied Sciences performs Professional undergraduate study of Traffic, directions Road traffc and Postal traffic. Study 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 30 ECTS credits by semester, that is 60 ECTS credits per year, in accordance with the Šibenik University of Applied Sciences Study Regulations.

#### 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 Šibenik University of Applied Sciences. 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 (2<sup>nd</sup>) academic year, if in the first (1<sup>st</sup>) academic year he/she has earned at least 30 ECTS credits,
- partial enrollment of the subject from the third (3<sup>rd</sup>) academic year, if in the second (2<sup>nd</sup>) 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.

#### **Completion of studies**

Department of Traffic Studies, the Professional undergraduate study of Traffic Šibenik University of Applied Sciences ends with the passing of all exams of enrolled subjects, the fulfillment of other obligations, and the preparation and defense of the Batchelor Thesis. Before submitting the Batchelor Thesis for assessment and defense, the student must pass all courses and achieve a minimum of 170 ECTS credits.

All information about the Department of Traffic Studies you can see on the official website of the Šibenik University of Applied Sciences <a href="https://www.vus.hr/en/study\_programmes/undergraduate\_professional\_study/traffic">https://www.vus.hr/en/study\_programmes/undergraduate\_professional\_study/traffic</a>

Good luck studying at the Department of Traffic Studies and have a pleasant stay at the Šibenik University of Applied Sciences.

## 1. REQUIREMENTS AND RESULTS OF THE STUDY PROGRAM

Study programme at Department of Traffic Studies, Professional undergraduate study of Traffic, Šibenik University of Applied Sciences 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.

Students at the level of the study program acquire general and professional competencies.

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.

The professional competencies that the student acquires are the theoretical and practical knowledge and skills necessary for the analysis and evaluation of technical-technological solutions for road traffic, applying computer tools to analyze and compare data to propose an optimal solution in the traffic process, evaluation and organization of road traffic processes and traffic logistics, application of fundamental legal and economic principles organized with socially responsible business in technical and technological entities and monitoring the trends of the development of technology and traffic safety.

The Professional undergraduate study programme of Traffic consists of six (VI.) semesters.

## 2. EXPECTED LEARNING OUTCOMES

Learning Outcomes (LO) from study programme at the Department of Traffic Studies, Professional undergraduate study of Traffic, Šibenik University of Applied Sciences in the academic year 2024/2025 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 TEACHING STAFF WHO PERFORM LESSONS (LECTURES, SEMINARS, EXERCISES)

**Dear Students** at the Department of Traffic Studies, Professional Undergraduate Study of Traffic Šibenik University of Applied Sciences, in the table below you can see a list of the entire teaching staff who perform lessons during all study years. By the subsequent and special decision of the Council Department, Council, and Dean of the Šibenik University of Applied Sciences it is possible to change the teaching staff on a particular course during the study of the year.

NAME AND SURNAME OF THE TEACHING STAFF	COURSE NAME	CONTACT E-MAIL	CONSULTATION
Employees of the Šibenik University of	f Applied Sciences who perform lessons		
PhD Ana PERIŠIĆ, college professor	Operational research in traffic	ana.sisak@vus.hr	Cabinet 24
The Ana TERISTE, conege professor	Statistics in traffic	ana.sisak@vus.m	Caomet 24
	Freight-distributional centres and terminals		
	Infrastructure of postal-telecomunications traffic		
	Internal transport and storage		
	Modern traffic systems		
	Planning of postal network		
PhD Ana-Mari POLJIČAK,	Resources and exploitation of resources of road		
· · · · · · · · · · · · · · · · · · ·	traffic	ana.jankovic@vus.hr	Cabinet 21
senior lecturer	Safety and protection of transport processes		
	Technical means of postal-telecomunications traffic		
	Technology and organization of road traffic		
	Traffic in tourism		
	Traffic techniques		
	Transshipment resources		

Darijo ŠEGO, univ. spec. traff., senior lecturer Acting Head of the Department	Information systems in postal traffic Infrastructures of road traffic Logistics and supply chains Modern traffic systems Postal and money circulation Postal technology and organization Professional practice Technology and organization of road traffic Traffic corridors and merchandise flows Traffic logistics Traffic techniques Transport geography	<u>darijo.sego@vus.hr</u>	Cabinet 21
PhD Dijana MEČEV, college professor	Economics of traffic Logistic and supply chains	dijana.mecev@vus.hr	Cabinet 3
Ivana BELJO, grad. eng. math., univ. spec. oecc., senior lecturer Vice dean for Education	Mathematics I Mathematics II Operational research in traffic Statistics in traffic	<u>ivana.beljo@vus.hr</u>	Cabinet 24, Office of the Vice Dean for Education
PhD Ivana KARDUM GOLEŠ, college professor Vice Dean for International Cooperation, Scientific and Professional Work	English language I English language II English language III English language IV	ivana.kardumgoles@vus.hr	Cabinet 22, Office of the Vice Dean for for International Cooperation, Scientific and Professional Work
Luka OLIVARI, master of mech., senior lecturer	Basics of mechanical engineering Graphic communications Logistic and supply chains	<u>luka.olivari@vus.hr</u>	Cabinet 18

	Resources and exploitation of resources of road traffic Technical mechanics I Tehnical mechanics II Theory of vehicle movement		
PhD Nikolina GAĆINA, senior lecturer	Knowledge of goods	<u>nikolina.gacina@vus.hr</u>	Cabinet 2
MSc Tanja RADIĆ LAKOŠ, senior lecturer	Traffic and ecology	<u>tanja.radiclakos@vus.hr</u>	Cabinet 11
Zvonimir KLARIN, master of comp., lecturer	Informatics	zvonimir.klarin@vus.hr	Cabinet 12
Associates of the Šibenik University of	Applied Sciences who perform lessons		
MSc Danijel MILETA, adjunct senior lecturer	Basics of electrical engineering and electronics Information systems in road traffic	danijel.mileta@gmail.com	According to the schedule of lessons
MSc Ivo JURIĆ, senior lecturer	Resources and exploitation of resources of road traffic	<u>ijuric@fpz.hr</u>	According to the schedule of lessons
Ivana JARDAS DUVNJAK, professor, adjunct lecturer	English language II English language III English language IV	ivana.jardas.duvnjak@gmail.com	According to the schedule of lessons
MSc. Krešimir NIMAC, adjunct senior lecturer	Traffic law	kresonimac@gmail.com	According to the schedule of lessons
Luca OLIVARI, master of math., adjunct lecturer	Mathematics Operational research in traffic	<u>luca.olivari@vus.hr</u> lolivari25@outlook.com	According to the schedule of lessons

PhD Luka VUKIĆ, assistant professor	Traffic corridors and merchandise flows	<u>luka.vukic@pfst.hr</u>	According to the schedule of lessons
PhD Marko SLAVULJ, associate professor	Technology and organization of public city transport Urban mobility	<u>marko.slavulj@fpz.hr</u>	According to the schedule of lessons
PhD Nikola MANDIĆ, associate professor	Traffic law	nikola.mandic@pfst.hr	According to the schedule of lessons

## 4. PLACE OF TEACHING PROCESS

**Teaching process at the Department of Traffic Studies, Professional undergraduate study of Traffic** is performed at the Šibenik University of Applied Sciences, in the city of Šibenik, at the address Trg Andrije Hebranga 11. In the mentioned location, apart from the service offices, there are 15 lecture halls with a total area of 1320 m<sup>2</sup>.

The lecture halls in which the teaching process takes place, provide optimal conditions in view of the enrolled students. 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 Šibenik University of Applied Sciences 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 internet website <u>https://www.vus.hr/en</u>, under the menu "*Lessons Schedule for Students*".

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 Šibenik University of Applied Sciences meets the ratio of the number of students enrolled and the space available for teaching.

## 5. LIST OF COURSES, TEACHING STAFF, HOURS AND WORKLOAD OF STUDENTS

Department	of Traffic Studies, Profes	sional undergraduate st	tudy of Traffic (directi	ons: Ro	ad traf	fic) - I.	Study yea	ır
	COURSES	TEACHI	ING STAFF	C	COURSE SCHEDLUE			
				L	S	Ε	Number	ECTS
Head of course	Name	Lectures	Seminars / Excersises	Hours	Hours	Hours	of groups	credits
				per	per	per		
				week	week	week		
I. semester								
Beljo Ivana	Mathematics I	Beljo Ivana/ Olivari Luca	Olivari Luca	2	-	2	1	5
Olivari Luka	Technical mechanics I	Olivari Luka	Olivari Luka	2	-	2	1	5
Goleš Kardum Ivana	English language I	Goleš Kardum Ivana	Goleš Kardum Ivana	2	-	1	1	3
Olivari Luka	Graphic communications	Olivari Luka	Olivari Luka	2	-	2	1	5
Šego Darijo	Modern traffic systems	Šego Darijo/	Šego Darijo	2	2	_	1	5
Sego Dalijo	Widdelli traffic Systems	Poljičak Ana-Mari	Sego Dalijo	2	2	-	1	5
Gaćina Nikolina	Knowledge of goods	Gaćina Nikolina	Gaćina Nikolina	2	1	-	1	4
Nimac Krešimir	Traffic law	Nimac Krešimir/	Nimac Krešimir	2	1	_	1	3
		Mandić Nikola		2	1		1	5
II. semester								
Beljo Ivana	Mathematics II	Beljo Ivana/	Olivari Luca	2	_	2	1	5
		Olivari Luca		2	_	2	1	5
Olivari Luka	Technical mechanics II	Olivari Luka	Olivari Luka	2	-	2	1	5
Goleš Kardum Ivana	English language II	Jardas Duvnjak Ivana	Jardas Duvnjak Ivana	2	-	1	1	3
Klarin Zvonimir	Informatics	Klarin Zvonimir	Klarin Zvonimir	1	-	2	1	4
Radić Lakoš Tanja	Traffic and ecology	Radić Lakoš Tanja	Radić Lakoš Tanja	2	1	-	1	4

Šego Darijo	Traffic logistics	Šego Darijo	Šego Darijo	2	2	-	1	4
Mileta Danijel	Basics of electrical engineering and electronics	Mileta Danijel	Mileta Danijel	2	-	2	1	5
$\mathbf{L}$ – Lectures, $\mathbf{S}$ – Sem	inars, <b>E</b> – Excersises.							

Department	of Traffic Studies, Profession	nal undergraduate st	udy of Traffic (direction	ons: Ro	ad traff	ic) - II.	Study ye	ar
	COURSES	TEACHI	ING STAFF	COURSE SCHEDLUE			LUE	
				L	S	Е	Number of groups	ECTS
Head of course	Name	Lectures	Seminars / Excersises	Hours	Hours	Hours		credits
				per	per	per		
				week	week	week		
III. semester								
Beljo Ivana	Ivana Operational research in traffic Beljo Ivana/ Beljo Ivana/		Beljo Ivana/	2		1	1	4
Deljo Ivalla	-	Perišić Ana	Perišić Ana	2	-	1	1	4
Olivari Luka	Basics of mechanical	Olivari Luka	Olivari Luka	2	_	2	1	5
Olivari Luka	engineering	Olivari Luka	Olivali Luka		-	2	1	5
Goleš Kardum Ivana	English language III	Jardas Duvnjak Ivana	Jardas Duvnjak Ivana	1	-	2	1	3
Slavulj Marko	Urban mobility	Slavulj Marko	Slavulj Marko	2	2	-	1	4
Šego Darijo	Traffic corridors and	Šego Darijo/	Šego Darijo	2	2		1	4
Segu Dariju	merchandise flows	Vukić Luka	Sego Darijo	2	2	-	1	4
Poljičak Ana-Mari	Internal transport and storage	Poljičak Ana-Mari	Poljičak Ana-Mari	2	-	2	1	5
Šego Darijo	Logistics and supply chains	Šego Darijo/Mečev Dijana/Olivari Luka	Šego Darijo	3	-	1	1	5
IV. semester		-						
Beljo Ivana	Statistics in traffic	Beljo Ivana/	Beljo Ivana/	2	_	2	1	4
		Perišić Ana	Perišić Ana			2	1	
Olivari Luka	Theory of vehicle movement	Olivari Luka	Olivari Luka	2	-	1	1	4
Kardum Goleš Ivana	English language IV	Jardas Duvnjak Ivana	Jardas Duvnjak Ivana	1	-	2	1	3
Slavulj Marko	Technology and organization of public city transport	Slavulj Marko	Slavulj Marko	2	1	-	1	5
Poljičak Ana-Mari	Transshipment resources	Poljičak Ana-Mari	Poljičak Ana-Mari	3	1	1	1	6

Poljičak Ana-Mari	Freight-distributional centers and terminals	Poljičak Ana-Mari	Poljičak Ana-Mari	2	2	-	1	5
Mečev Dijana	Economics of traffic	Mečev Dijana	Mečev Dijana	2	1	-	1	3
$\mathbf{L}$ – Lectures, $\mathbf{S}$ – Sem	inars, <b>E</b> – Excersises.							

	COURSES	TEACH	HING STAFF	COURSE SCHEDLUE					
Head of course	Name	Name	Lectures	Lectures Seminars / Excersises		S Hours per	E Hours per	Number of groups	ECTS credits
				per week	week	week			
V. semester									
Šego Darijo	Infrastructures of road traffic	Šego Darijo	Šego Darijo	3	2	2	1	6	
Jurić Ivo	Resources and exploitation of resources of road traffic	Jurić Ivo/ Olivari Luka	Poljičak Ana-Mari/ Olivari Luka	3	-	1	1	5	
Šego Darijo	Technology and organization of road traffic	Šego Darijo/ Poljičak Ana-Mari	Šego Darijo/ Poljičak Ana-Mari	3	-	2	1	7	
Šego Darijo	Traffic techniques	Šego Darijo/ Poljičak Ana-Mari	Šego Darijo∕ Poljičak Ana-Mari	3	-	1	1	6	
Mileta Danijel	Information systems in road traffic	Mileta Danijel	Mileta Danijel	2	1	-	1	3	
Šego Darijo	Transport geography*	Šego Darijo	Šego Darijo	2	1	-	1	3	
Poljičak Ana-Mari	Traffic in tourism*	Poljičak Ana-Mari	Poljičak Ana-Mari	2	1	-	1	3	
VI. semester									
Poljičak Ana-Mari	Safety and protection of transport processes	Poljičak Ana-Mari	Poljičak Ana-Mari	3	1	-	1	5	
Šego Darijo	Professional practice	-	-	-	_	-	-	15	
	- Bachelors thesis		_	_	-	_	10		

## 6. ACADEMIC CALENDAR

The academic calendar of the Šibenik University of Applied Sciences for the academic year 2024/2025 was adopted at the 9<sup>th</sup> session of the Šibenik University of Applied Sciences Council, which was held in May 2024.

#### WINTER SEMESTER:

- lectures in the winter semester run from September 30 2024 to December 20 2024, and from January 07 2025 to January 24 2025,
- winter holidays run from December 23 2024 to January 06 2025, and in that period the Šibenik University of Applied Sciences will not work with students,
- additional or/and consultative lectures for part time students will be held in the terms prescribed by the Decision on the adoption of implementation plans for the study programs in the academic year 2024/2025,
- the winter regular exam period runs from January 27 2025 to February 21 2025.

#### **SUMMER SEMESTER:**

- summer semester lectures run from February 24 2025 to June 07 2025,
- summer holidays run from July 21 2025 to August 15 2025,
- additional or/and consultative lectures for part time students will be held in the terms prescribed by the Decision on the adoption of implementation plans for the study programs in the academic year 2024/2025,
- **the summer regular exam period** runs from June 09 2025 to July 04 2025.

#### **AUTUMN EXAM TIME PERIOD:**

• **the autumn regular exam period** runs from August 25 2025 to September 14 2025.

#### **SEMESTER TESTING:**

• enrollment in academic year 2025/2026 will run from September 15 to September 26 2025.

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

DATE OF HOLIDAY	NAME OF PUBLIC HOLIDAYS
November 1 <sup>st</sup>	All Saints' Day
November 18 <sup>th</sup>	Memorial day for the victims of the Homeland War, Vukovar and Škabrnja
December 25 <sup>th</sup>	Christmas Day
December 26 <sup>th</sup>	St. Stephen's Day
January 1 <sup>st</sup>	New Year's Day
January 6 <sup>th</sup>	Holly three kings
April 20 <sup>th</sup>	Easter
April 21 <sup>th</sup>	Easter Monday
May 1 <sup>st</sup>	International Workers' Day
May 30 <sup>th</sup>	Croatian National day
June 19 <sup>th</sup>	Corpus day
June 22 <sup>nd</sup>	Anti-Fascist Struggle Day
August 5 <sup>th</sup>	Homeland Thanksgiving Day
August 15 <sup>th</sup>	Feast of the Assumption

## 8. CALENDAR OF THE EXAMS

**Dear students**, in the table below, are the dates and hours of the regular written exams in the winter, summer, and autumn period at the Department of Traffic Studies, Professional undergraduate study of Traffic. The dates of the exams for the other months of the year are issued by the Šibenik University of Applied Sciences Council upon the proposal of the Dean, and they are published separately on the official website of Šibenik University of Applied Sciences. Due to unforeseen reasons, it is possible to move the aforementioned datea and hours for the written exams.

		I	DATE AND HOURS OF WRITTEN EXAMS						
HEAD OF COURSE	COURSE NAME OF COURSE January / Februar (hours)		•	June / July (hours)		August / September (hours)			
I. STUDY YEAR (I. sem	lester)								
Beljo Ivana	Mathematics I	04.02. (09:00)	18.02. (09:00)	17.06. (09:00)	01.07. (09:00)	02.09. (09:00)	16.09. (09:00)		
Olivari Luka	Technical mechanics I	03.02. (16:00)	17.02. (16:00)	16.06. (16:00)	30.06. (16:00)	01.09. (16:00)	15.09. (16:00)		
Kardum Goleš Ivana	English language I	04.02. (11:00)	18.02. (11:00)	17.06. (11.00)	01.07. (11:00)	02.09. (11:00)	16.09. (11:00)		
Olivari Luka	Graphic communications	05.02. (16:00)	19.02. (16:00)	18.06. (16:00)	02.07. (16:00)	03.09. (16:00)	17.09. (16:00)		
Šego Darijo	Modern traffic systems	28.01. (17:30)	11.02. (17:30)	12.06. (10:00)	26.06. (10:00)	28.08. (16:00)	11.09. (16:00)		
Gaćina Nikolina	Knowledge of goods	30.01. (10:00)	13.02. (10:00)	13.06. (10:00)	03.07. (10:00)	27.08. (10:00)	10.09. (10:00)		
Nimac Krešimir	Traffic law	27.01. (15:15)	10.02. (15:15)	09.06. (15:15)	23.06. (15.15)	25.08. (15:15)	08.09. (15:15)		
I. STUDY YEAR (II. semester)									

		04.02.	18.02.	17.06.	01.07.	02.09.	16.09.
Beljo Ivana	Mathematics II	(09:00)	(09:00)	(09:00)	(09:00)	(09:00)	(09:00)
Olivori Lulvo	Taskaisel masharing U	03.02.	17.02.	16.06.	30.06.	01.09.	15.09.
Olivari Luka	Technical mechanics II	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)
Kardum Goleš Ivana	English language II	04.02.	18.02.	17.06.	01.07.	02.09.	16.09.
Karduni Goles Ivana		(11:00)	(11:00)	(11.00)	(11:00)	(11:00)	(11:00)
Klarin Zvonimir	Informatics	05.02.	19.02.	11.06.	25.06.	27.08.	10.09.
	mormates	(10:00)	(10:00)	(10:00)	(10:00)	(10:00)	(10:00)
Radić Lakoš Tanja	Traffic and ecology	28.01.	11.02.	17.06.	01.07.	02.09.	16.09.
Radic Lakos Talija	Traine and ecology	(15:00)	(15:00)	(15:00)	(15:00)	(15:00)	(15:00)
Šego Darijo	Traffic logistics	28.01.	11.02.	12.06.	26.06.	28.08.	11.09.
Sego Dalijo	Traine logistics	(17:30)	(17:30)	(10:00)	(10:00)	(17:30)	(17:30)
Mileta Danijel	Basics of electrical engineering and electronics	27.01.	10.02.	09.06.	23.06.	25.08.	08.09.
Wineta Danijei	basies of electrical engineering and electronics	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)
II. STUDY YEAR (III.	semester)		1	•	1		
Beljo Ivana	Operational research in traffic	04.02.	18.02.	17.06.	01.07.	02.09.	16.09.
Beijo Ivana		(09:00)	(09:00)	(09:00)	(09:00)	(09:00)	(09:00)
Olivari Luka	Basics of mechanical engineering	03.02.	17.02.	16.06.	30.06.	01.09.	15.09.
Onvari Daka		(16:00)	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)
Kardum Goleš Ivana	English language III	04.02.	18.02.	17.06.	01.07.	02.09.	16.09.
		(11:00)	(11:00)	(11.00)	(11:00)	(11:00)	(11:00)
Slavulj Marko	Urban mobility	30.01.	13.02.	18.06.	02.07.	28.08.	11.09.
Slavalj Marko		(17:30)	(17:30)	(10:00)	(10:00)	(16:00)	(16:00)
Šego Darijo	Traffic corridors and merchandise flows	30.01.	13.02.	18.06.	02.07.	28.08.	11.09.
	Tarrie conneors and merchandise news	(17:30)	(17:30)	(10:00)	(10:00)	(16:00)	(16:00)
Poljičak Ana-Mari	Internal transport and storage	05.02.	19.02.	09.06.	23.06.	25.08.	08.09.
	internal transport and storage	(11:00)	(11:00)	(11:00)	(11:00)	(11:00)	(11:00)
Šego Darijo	Logistics and supply chains	28.01.	11.02.	12.06.	26.06.	28.08.	11.09.

		(17:30)	(17:30)	(10:00)	(10:00)	(17:30)	(17:30)
II. STUDY YEAR (IV.	semester)						
Dell'a Issue		04.02.	18.02.	17.06.	01.07.	02.09.	16.09.
Beljo Ivana	Statistics in traffic	(09:00)	(09:00)	(09:00)	(09:00)	(09:00)	(09:00)
Olivari Luka	Theory of vehicle movement	05.02.	19.02.	18.06.	02.07.	03.09.	17.09.
Olivali Luka	Theory of vehicle movement	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)
Kardum Goleš Ivana	English language IV	04.02.	18.02.	17.06.	01.07.	02.09.	16.09.
		(11:00)	(11:00)	(11.00)	(11:00)	(11:00)	(11:00)
Slavulj Marko	Technology and organization of public city transport	30.01.	13.02.	18.06.	02.07.	28.08.	11.09.
	reenhology and organization of public erry transport	(17:30)	(17:30)	(10:00)	(10:00)	(16:00)	(16:00)
Poljičak Ana-Mari	Transshipment resources	05.02.	19.02.	09.06.	23.06.	25.08.	08.09.
	Transsinplient resources	(11:00)	(11:00)	(11:00)	(11:00)	(11:00)	(11:00)
Poljičak Ana-Mari	Freight-distributional centers and terminals	03.02.	17.02.	11.06.	25.06.	27.08.	10.09.
T OIJICAK 7 Ma Wian		(11:00)	(11:00)	(11:00)	(11:00)	(11:00)	(11:00)
Mečev Dijana	Economics of traffic	28.01.	11.02.	12.06.	27.06.	26.08.	09.09.
Wiecev Dijana		(17:00)	(17:00)	(17:00)	(17:00)	(17:00)	(17:00)
III. STUDY YEAR (V.	semester)						
Čana Darija	Infrastructures of road traffic	28.01.	11.02.	12.06.	26.06.	28.08.	11.09.
Šego Darijo	Infrastructures of foad traffic	(17:30)	(17:30)	(10:00)	(10:00)	(16:00)	(16:00)
Jurić Ivo	Resources and exploitation of resources of road traffic	05.02.	19.02.	18.06.	02.07.	03.09.	17.09.
Juile Ivo	Resources and exploitation of resources of road traffic	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)
Šego Darijo	Technology and organization of road traffic	30.01.	13.02.	18.06.	02.07.	28.08.	11.09.
Segu Dariju		(15:30)	(15:30)	(10:00)	(10:00)	(17:30)	(17:30)
Šego Darijo	Traffic techniques	28.01.	11.02.	12.06.	26.06.	28.08.	11.09.
Segu Dariju	Traine techniques	(17:30)	(17:30)	(10:00)	(10:00)	(16:00)	(16:00)
Mileta Danijel	Information systems in road traffic	27.01.	10.02.	09.06.	23.06.	25.08.	08.09.
wineta Danijei	Information systems in road traffic	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)	(16:00)

Šego Darijo	Transport geography	30.01.	13.02.	18.06.	02.07.	28.08.	11.09.										
Sego Darijo		(15:30)	(15:30)	(10:00)	(10:00)	(17:30)	(17:30)										
Doliziola Ano Mori	Traffic in tourism	03.02.	17.02.	11.06.	25.06.	27.08.	10.09.										
Poljičak Ana-Mari		(11:00)	(11:00)	(11:00)	(11:00)	(11:00)	(11:00)										
III. STUDY YEAR (VI. s	emester)						III. STUDY YEAR (VI. semester)										
Delitert Ang Mari	Safaty and motostian of the new part messages																
Poljičak Ana-Mari	Safety and protection of transport processes	03.02.	17.02.	11.06.	25.06.	27.08.	10.09.										

## 9. THE CURRICULUM OF THE COURSES

**Dear students**, below this plan are the **curricula of all courses** with general information, learning outcomes, themed units, evaluation of work, formation of grades, and mandatory and supplementary literature.



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

1. GENERAL INFORMATION ABOUT THE COURSE								
1.1. Course title	MATHEMATICS I	1.8. ISVU course code	270660 / 270661					
1.2. Course lecturer	Ivana Beljo, grad. eng. math., univ. spec. oecc., senior lecturer	1.9. MOZVAG course code	-					
1.3. Assistants and/or associates	Luca Olivari, master of math., title lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)					
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st level – materials available on-line, 0%					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1					
1.6. Study year	1 <sup>st</sup>	1.13. Modernization	□ yes X no					
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□					

2. COURSE DESCRIPTION						
2.1. Course objectives	The objective of the course is for students acquire knowledge and skills in analytical thinking, as well as logical reasoning and interpreting results for further education. The goal of the course is for students to be equipped, based on theoretical knowledge and case studies, to understand, comprehend, recognize, and apply various quantitative methods for solving specific problems and methods for optimizing such problems.					
2.2. Terms of course entry and required competences	our-year secondary education completed; qualification level 4.2 according to the CROQF.					
	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members					
2.3. Learning outcomes on the	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions					
study programme level	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: To solve problem	LO8: To solve problems in traffic by using analytical and / or graphical methods							
2.4. Expected learning outcomes on the course level	Learning outcomes a	Level of LO 1- remember 2- understand 3- application 4- analysis, 5- evaluation 6- synthesis	ing, ding, n,						
	-	asic operations on sets a				3,4	1		
		asic analysis of function		iable.		4, 5	5		
		he limes of the given fu				4	-		
	<ul><li>4. To derive the functions of one variable.</li><li>5. To apply functional analysis methods in transport problems solving.</li></ul>					4, 5			
	Constructive alligner	•	s in transpor	problems solving.			,		
	Thematic er	nsemble / Lecture Topic	LO of the course	Content / Teaching Method	Evaluation		Time needed		
2.5. Course content according to	<b>1.</b> Introduction in detailed plan.	nto the course and	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.			2 h		
detailed curriculum schedule	2. Sets. Sets of nu	mbers.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and o students know how to enum distinguish basic concepts r assemblies and perform basic o on sets.	erate and related to	4 h		
	<b>3.</b> Functions – bas functions.	ic terms, Elementary	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and o students know how to de distinguish elementary function	fine and	4 h		



		1			
				the composition of functions and	
				determine the inversion of functions.	
4.	Composition of the functions.	1	Attending lectures. Actively involving students through	In colloquium or written and oral exams students know how to define and distinguish elementary functions, solve	4 h
	Inverse function.	1	problem solving and discussion.	the composition of functions and determine the inversion of functions.	4 11
5.	Evenness and oddness of a function. Periodicity of a function. Domain of a function. Graph of a function	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define and distinguish elementary functions, solve the composition of functions and determine the inversion of functions.	4 h
6.	Growth/decline of a function. Concavity/convexity of a function	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define and distinguish elementary functions, solve the composition of functions and determine the inversion of functions.	4 h
7.	Limit of the function. Continuity of functions.	2, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to to calculate limits.	4 h
8.	Revision for colloquium. Colloquium. Derivatives.	1, 2, 3	Attendinglectures.Activelyinvolvingstudentsthroughproblem solving and discussion.	In colloquium or written and oral exams students know how to solve derivatives.	4 h
9.	Derivative of a function, interpretation. Differentiation of elementary functions.	4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve derivatives.	4 h
10.	Derivative of composition	4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve derivatives.	4 h
11.	Monotonicity and extrema of a function.	2, 4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to examine the basic properties of a function, to analyze the solutions obtained and to draw a graph of	4 h



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

3.1. Students' obligations are prescribed by the Study Regulations. It is recommended that students actively participate in classes, which includes engaging in discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email (<u>ivana.beljo@vus.hr</u>, <u>ana.sisak@vus.hr</u>). It is the responsibility of each student to stay informed about the conduct of classes. All announcements regarding the conduct or possible postponement of classes will be posted on the website of the Polytechnic of Šibenik or the course webpage, where all information about the course, as well as teaching materials and a list of literature, can also be found. Students can pass the final exam in the course in two ways: a) During the course through continuous student assessment (active participation in classes and two colloquiums). Students who do not meet some

3.



	of the learning out and oral parts).	comes are required to take	e the oral part of the example the oral part of the example.	n. b) During t	the course (	active participation in class	ses) and by taking the exam (written	
	Attendance	0,5	Written exam	3 (without colloquiur		Project		
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical work		
for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Essay		Report			Continuous examination	0,5	
	Collogunum	3,5 (without written and oral exam)	Seminar paper			Other		
	Class activity	0,5	Oral exam	0,5 (witho colloquiur		Other		
	The student's work	cload on all bases amount	s to 1 ECTS point for 30	) hours of wo	ork per sem	ester and is estimated as:		
3.3. Student workload	Obligation				Hours (estimate)			
	1. Attending classes and exercises					60		
	2. Preparation for the Colloquium / exam through self-study			/	90			
4. GRADING SYSTEM								
4.1. Grading seminar papers								
	Uns	atisfactory	Satisf	actory		Abo	ove average	
4.2. Grading colloquia/ written and oral exam		Does not know or apply concepts. Does not know xplain the contents of the	y difficulty imparts new knowledge, understands the material explains the terms		owledge, the terms	e, thoroughly explains the content of the material, and logically		
4.3. Final grade according to	Activities in class	s Preparation for te	eaching units; Understar	nding previou	is content; ]	Participation in solving tasl	ks together: $0 - 20$ points	
evaluation elements	Seminar papers				-			



	Colloquium/written exam	Preparation/learning; Scoring a	Preparation/learning; Scoring and grading according to correct answers in the test: 0 – 80 points (min 40 points)						
	Oral exam	Preparation/learning; additiona	I verification of unachieved learning outcomes						
		ired knowledge, skills and teaching + final exam)	Numerical grade	ECTS g	grade				
4.2. <b>F</b> 's 1 and 1 and 1's a f	9	0 - 100%	5 (excellent)	А					
4.3. Final grade according to absolute division	80	0 - 89,9%	4 (very good)	В					
	65	5 – 79,9%	3 (good)	С					
	50	0 - 64,9%	2 (satisfactory)	D					
5. ADDITIONAL INFORMATIC	ON ABOUT THE COURS	SE							
5.1. Compulsory literature (available in the library and via		Number of copies in the libraryNumber of copies in the media							
other media)	Pašagić, H., Ivanković, H	H., Ivanković, B., Kapetanović, N.: Mathematical methods in Traffic, Zagreb, 2004. 3							
5.2. Additional literature (at the moment of changes and/or amended of study programme)		in mathematics programming 1, Introduction to operations Rese	Zagreb, 2012. arch, McGraw Hill 8th ed. 2005, 8th Ed.						
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students' progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment surveys from employers and Alumni association								
5.4. Informing about the course and contacting the teacher	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 classes of possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).								



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

1. GENERAL INFORMATION	ABOUT THE COURSE		
1.1. Course title	TECHNICAL MECHANICS I	1.8. Course code in ISVU	270663 / 270664
1.2 Course lecturer	Luka Olivari, master of mech., senior lecturer	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	0.
1.6. Year of study	1 <sup>st</sup>	1.13. Modernization	X yes □ no
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□
2. COURSE DESCRIPTION			
2.1. Course objectives	1	al knowledge and practical examples to: be introduced to the acquired knowledge in solving appropriate tasks in the field f mechanics in practice.	<b>•</b>
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification le	vel 4.2 according to the CROQF.	
2.3. Learning outcomes on the	LO4: To apply knowledge from the field of natural and tec	chnical sciences to problems in road traffic.	
study programme level	LO8: To solve problems in traffic by using analytical and	or graphical methods.	
2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	Learning outcomes by Bloom: (maximum 2 werbs for LC	Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis,	



						<ul><li>5- evaluation,</li><li>6- synthesis.</li></ul>	
	1.	Differentiate between concepts, law mechanics.	vs, physical qu	antities, and units of measurement in the field	1 of technical	4	
	2.	Reduce a system of vector phys components.	ical quantitie	s and decompose vector physical quantitie	es into their	5, 5	
	3.	Free a rigid body from constraints a	nd formulate e	equilibrium equations.		6, 6	
	4.	Determine the center of gravity of c	omplex shape	S.		5	
	5.	Analyze the impact of friction on th	e equilibrium	of mechanical systems.		5	
	6.	Solve problems involving planar sol	lid beams.			6	
2.5. Course content according to detailed curriculum schedule	Constr	uctive allignement					
	No	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed
	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 and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	oral exam, concepts	uium or the written and students: differentiate from statics; solve problems from the it.	4 h
	2.	Physical Quantities and Units of Measurement in Technical Mechanics, Trigonometry	1, 2	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	oral exam, concepts numerical specified uni		4 h
	3.	Force and Force Representation, System of Forces, Reduction and Decomposition of Forces	1, 2	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	oral exam, concepts	uium or the written and students: differentiate from statics; solve problems from the it.	4 h



4.	Coplanar-Concurrent System of Forces	1, 2	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
5.	Newton's Laws, Principle of Inertia, Law of Proportionality of Force and Acceleration, Principle of Equality of Action and Reaction	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
6.	Six Axioms of Statics of Rigid Bodies	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
7.	Moment, Varignon's Theorem	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
8.	Types of Supports, Freeing Bodies from Constraints	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
9.	Equilibrium, Types of Equilibrium, Conditions of Equilibrium	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h



	10.	Graphostatics, Force Polygon, Culmann's and Ritter's Method	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h	
	11.	Center of Gravity of Complex Rigid Bodies	1, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h	
	12.	Friction in Mechanical Systems	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h	
	13.	Planar Solid Beams	1, 6	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h	
	14.	Diagrams of Internal Forces and Moments in Planar Solid Beams	1, 6	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h	
	15.	Review, recapitulation, and preparation for the exam.	1, 2, 3, 4, 5, 6	Listen to lectures and read literature. Prepare individually for the exam.	-	4 h	
3. EVALUATION OF STUDENT WORK							



	In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Full-time students are required to								
3.1. Student obligations	attend classes at least 70%, which is also a requirement for obtaining the lecturer's signature. Students are required to bring a calculator and other equipment								
	necessary for solving tasks and participating in lectures and exercises. Students who achieve the following during the course: from 0 to 49.9% of ECTS								
5.1. Student obligations	are graded F (fail) and must take and pass a written exam (test), more than 50% - students earn the right to take the final exam for the course. Students can								
	pass the final exam for the course in two ways: a) during the course by passing three colloquiums and the oral part of the exam; b) by passing the written								
	and oral parts of the exam.								
	Attending classes	2 V	Vritten exam	2 (without	Project				
3.2. Student work monitoring				colloquiums)					
(enter the share of ECTS credits	Experimental work	R	lesearch		Practical work				
for each activity so that the total	Essay	R	leport		Continuous check				
number of ECTS credits	Colloquiums	2 (without written exam) S	eminar paper		Field works or Study	orks or Study			
corresponds to the course credit					trips				
value)	Teaching activities	Т	'he oral part of	1	(other)				
			xam						
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:								
		Obligation		Hours (estimated)					
3.3. Student work-load	1. Attending classe	°S		60					
	2. Preparation for t	he Colloquium / exam through self	-study	60					
	3. Oral exam indiv	idual preparation		30					
	5. Orar examinary			50					
4. GRADING SYSTEM									
	Elements of evaluation Bad			Satisfying	Ab	Above average			
4.1. Evaluation of written exam	Physical quantities and	Nonstandard physical units have	e not Nonstar	ndard units have been conver	rted to Nonstandard un	Nonstandard units have been converted			
	their units of	been converted to basic or have	c or have been basic units with minor errors in			to base units without error.			
	measurement	asurement converted wrong. calculation.							



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



4.4. Formation of the final grade based on the absolute distribution	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				
	50-64,9%	2 (sufficient)		D				
5. ADDITIONAL INFORMATION ABOUT THE COURSE								
5.1. Compulsory literature (available in the library and via other media)	Title			Availability via other media				
	Đuranović S.: Book from course Tehnical mechanics	uranović S.: Book from course Tehnical mechanics, Polytechnic of Šibenik, Šibenik, 2015.						
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Teaching materials from the lectures and exercises Applied Sciences for the course Tehnical mechanics. Jurum Kipke, J., Wolf, H., Muftić O.: Mechanics in University of Zagreb, Zagreb 2009.	- 5	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 Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address 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 INFORMATION	1. GENERAL INFORMATION ABOUT THE COURSE							
1.1. Course title	ENGLISH LANGUAGE I	1.8. Course code in ISVU	129833 / 202067					
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	1.9. Course code in MOZVAG	-					
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 15 + 0 + 0)					
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>st</sup>	1.13. Modernization	X yes □ no					
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□					
2. COURSE DESCRIPTION								
2.1. Course objectives	2.1. Course objectives The basic personal pronouns and possessive pronouns, both in written and oral expression. The goal is also to expand the vocabulary related to the traffic, while grammar and newly acquired vocabulary are established and practiced in the exercises. Another goal of the course is to familiarize students with the basic parts of business writing. Foreign language teaching seeks to introduce students to new communication systems and facilitate their easier and more direct involvement in world events and to familiarize them with the elements of culture and civilization of English-speaking peoples. Learning a foreign language is in line with the desire to preserve the richness of diversity in a multilingual Europe, as well as to foster a culture of dialogue and civilization.							
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualifi	• -						
2.3. Learning outcomes on the	LO1: To apply and link professional terms from to in Croatian and English.	echnology and organization of road traffic in written and ora	communication with the professional public					
study programme level	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members.						
	LO3: To individually and responsibly search, inte	rpret and integrate the relevant literature needed to make dec	cisions.					



		ning outcomes accroding to the Blo	Level of LO: 1- remembering, 2- understanding 3- application, 4- analysis, 5- evaluation, 6- synthesis	, ,			
	1	<ol> <li>to understand, apply and link ba in written and oral communicat</li> </ol>		m the professional terminology of En	glish road traffic and use them	2, 3	
	2	2. to apply grammatical structures		assignments.		3	
	3	3. to interpret and use tenses in rea	al-life context			3, 4	
	4	to develop a shorter essay withi	n the topics o	f the course.		3	
	5	5. to reproduce an e-mail in Englis	sh.			3	
				the subjects of the course, to express	one own opinions.	6	
		7. to compare and evaluate differe				5	
		3. to analyse medium complex tex				4	
	9	D. to use part of the general langua	ige competent	cy at levels B1/B2.		6	
	Cons	tructive allignement					
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed
2.5. Course content according to detailed curriculum schedule	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
	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 applied grammatical structures are evaluated, understand, app from the professional termine road traffic and use them in	on texts and tasks ly and link terms blogy of English	4 h



				communication verb tenses are interpreted in a real linguistic context, use part of other language competences at B1 level.	
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 (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
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	4 h



-					
				the development of transport solutions to develop	
				a longer essay within course topics, comparing	
				and evaluating different solutions in the traffic of	
				other countries, analyze medium complex texts	
				and solve tasks, use part of other language	
				competences at B1 level.	
				In colloquium or written and oral exams the	
				applied grammatical structures on texts and tasks	
				are evaluated, verb tenses are interpreted in a real	
				linguistic context, can communicate in foreign	
	Kaaping Drankan Drivers Off		Listen to lectures and read	languages within the course topic, express their	
6.	Keeping Drunken Drivers Off The Road – Past And Perfect	1, 2, 3, 5,	literature. Use multimedia and	own opinions, present their own ideas related to	4 h
0.		6, 9	internet. Solve exercises.	the development of transport solutions to develop	4 11
	Tenses			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	
			Listen to lostenes and mod	applied grammatical structures on texts and tasks	
			Listen to lectures and read	are evaluated, verb tenses are interpreted in a real	
			literature. During lectures	linguistic context, can communicate in foreign	
			individually research the content	languages within the course topic, express their	
_		1, 2, 3, 5,	of this thematic field by searching	own opinions, present their own ideas related to	
7.	Types Of Drivers – Verb Tenses	6, 9	data bases, presentt acquired	the development of transport solutions to develop	6 h
			knowledge, express their own	a longer essay within course topics, comparing	
			ideas and ways of problem	and evaluating different solutions in the traffic of	
			solving. Brainstorming,	other countries, analyze medium complex texts	
			discussion. Solve exercises.	and solve tasks, use part of other language	
				competences at B1 level.	
	Marine Abart To a Mil	1 2 2 5		In colloquium or written and oral exams the	
8.	Moving About Towns – Verb	1, 2, 3, 5,	Listen to lectures and take part in	applied grammatical structures on texts and tasks	10 h
	Tenses I colloquium	6,9	discussion. Write the colloquium.	are evaluated, verb tenses are interpreted in a real	
	1	1		*	



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



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



1						
					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	
				Listen to lectures and read	applied grammatical structures on texts and tasks	
				literature. During lectures	are evaluated, verb tenses are interpreted in a real	
		"Jam Yesterday - Jam		individually research the content	linguistic context, can communicate in foreign	
		Tomorrow"; Passenger		of this thematic field by searching	languages within the course topic, express their	
	14.	Transportation – Tenses	1, 2, 3, 6,	data bases, presentt acquired	own opinions, present their own ideas related to	6 h
	14.	Revision, Only Stricker Traffic	9	knowledge, express their own	the development of transport solutions to develop	011
		Rules Can Prevent Accidents -		ideas and ways of problem	a longer essay within course topics, comparing	
		Articles		solving. Brainstorming,	and evaluating different solutions in the traffic of	
				discussion. Solve exercises.	other countries, analyze medium complex texts	
					and solve tasks, use part of other language	
					competences at B1 level.	
					In colloquium or written and oral exams the	
					applied grammatical structures on texts and tasks	
					are evaluated, verb tenses are interpreted in a real	
					linguistic context, can communicate in foreign	
			1 2 2 4		languages within the course topic, express their	
	15.	Devision II celle avium	1, 2, 3, 4,	Calue anonicae	own opinions, present their own ideas related to	10 h
	15.	Revision – II colloquium	5, 6, 7, 8, 9	Solve exercises.	the development of transport solutions to develop	10 11
			9		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.	
3. EVALUATION OF STUDEN	TS` WO	DRK				
	In acco	ordance with the Regulations on Stu	dying and the	e Regulations on Student Assessment	and Evaluation: for all full-time students attendance	e of at least
2.1 Studente' obligations	70% is	required. Part-time students are rec	quired to atter	nd classes at least 50%. The students`	acquired knowledge is tested during the course class	es. Special
3.1. Students` obligations	consid	eration is given to the student's ev	aluation duri	ng the course of the teaching proces	ss, with particular attention being paid to the stude	ent'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



4.2. Grading colloquia/ written and oral exam	Responds by me understanding. I	atisfactory mory, without a deeper Does not know or apply d concepts. Does not	Reproduces the basic con difficulty imparts in		Knowledge is at the le evaluation. Observes the pr	evel of analysis, synthesis and inciples, accurately and thoroughly e material, and logically connects					
4.1. Grading seminar papers											
4. GRADING SYSTEM											
	2. Prepara	tion for the Colloquium	exam through self-study		45						
3.3. Student workload	1. Attendi	ng classes and exercises			45						
			nitment		Hours (estimate)						
	Class activity	0,5	Oral exam ts to 1 ECTS point for 30 h	1	Other						
corresponds to the credit score of the course)	Colloquium	1 (without written exa	m) Seminar paper		Other						
number of ECTS points	Essay		Report		Continuous examination						
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total	Experimental work		Research		Practical work						
	Attendance	0,5	Written exam	1 (without colloqui	ia) Project						
	outcomes are: ess oneself about 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 utcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform neself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Šibenik University nd the e-learning page of the course, where all the information on the course as well as the teaching materials and the list of literature are also available.									
		valuation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the									

understands the material, explains the terms

76-86% of attendance

and concepts supported with examples.

70-75% of attendance

know how to apply or explain the

contents of the course with examples.

and explains the terms and concepts supported with examples.

Finds solutions that were not originally given. Notes

Maximum points

correlations with related material.

87-100% of attendance

evaluation elements

4.3. Final grade according to



	Active course attendance	3 points	7 points	20 points	20 points
	Seminar paper				
		2	3	4	5
	Colloquia/ Written exam	50-64,9%	65-79,9%	80-89,9%	90-100%
		25 points	30 points	35 points	40 points
	Oral exam	2	3	4	5
		25 points	30 points	35 points	40 points
		uired knowledge, skills and (teaching + final exam)	5 (excellent)		ECTS grade
4.2 Einel and according to		90 - 100%	4 (very good)		А
4.3. Final grade according to absolute division	80 - 89,9%		3 (good)		В
	(	65 - 79,9%		2 (sufficient) C	
		50 - 64,9%	5 (excellent)		D
		00 – 04,9%	5 (excellent)		U

## 5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Compulsory literature (available in the library and via	Title	Number of copies in the library	Availability via other media
other media)	Katja Bošković Gazdović: "English textbook of Transport I", Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2002. (selected chapters)	10	Х
5.2. Additional literature (at the moment of changes and/or amended of study programme)	<ul> <li>Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Department for traffic, Polytechnic of Rijeka, 2007.</li> <li>Adrian Pilbeam, Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010</li> <li>A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University</li> <li>A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University</li> </ul>	10	X (e-learning, handouts)



		A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University	
5.3. Quality assurance that ensure the acquir knowledge, skills and competences	uisition of	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping trace attendance and student activity during classes and provided information on students' progress through short colloquiums and homework, information further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligat as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.	n for tions
5.4. Informing about and contacting the te		It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classe possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during c 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 working days after receiving the e-mail).	s can class.



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

1. GENERAL INFORMATION	ABOUT THE COURSE					
1.1. Course title	GRAPHIC COMMUNICATIONS	1.8. Course code in ISVU	201132 / 202070			
1.2. Course lecturer	Luka Olivari, master of mech., senior lecturer	1.9. Course code in MOZVAG	-			
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)			
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	5			
1.6. Year of study	1 <sup>st</sup>	1.13. Modernization	X yes □ no			
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20%			
2. COURSE DESCRIPTION						
2.1. Course objectives	to read, understand and produce technical drawings,	etical knowledge, acquired skills and practical examples to: Gain use and understand the standards of drawing in technical drawin Auto-CAD computer program) when creating technical documer	gs, orthogonal projections, spatial			
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualificati	on level 4.2 according to the CROQF.				
	LO4: To apply knowledge from the field of natural an	nd technical sciences to problems in road traffic.				
2.3. Learning outcomes on the study programme level	LO7: To apply computer tools for analysis and comparison of data, and suggest an optimal solution in traffic process.					
	LO8: To solve problems in traffic by using analytical	LO8: To solve problems in traffic by using analytical and / or graphical method.				
	Learning outcomes by Bloom: (maximum 2 werbs f	Learning outcomes by Bloom: (maximum 2 werbs for LO)       Level of LO:         1- memory,       2- understanding,				



2.4. Expected learning outcomes on the course level (4-10 learning outcomes)						<ul> <li>3- application,</li> <li>4- analysis,</li> <li>5- evaluation,</li> <li>6- synthesis.</li> </ul>	
	1.	Differentiate concepts in graph				4	
	2.	Ĩ	5	d draw orthogonal projections based on the give	ven isometric view.	5, 5	
	3.	0 1		dy based on the given orthogonal projections.		5	
	4.	Distinguish the rules of technic	cal presentatio	on and apply them to the technical drawing.		5, 5	
	5.	Draw a technical drawing in th	ne AutoCAD c	computer program.		5	
2.5. Course content according to detailed curriculum schedule	Constr	uctive allignement					
	No	Thematic unit	LO of the course	Content/teaching methods	Ev	aluation	Time needed
	1.	Introductory presentation (introducing students to the content and obligations of the course). The importance of graphical communications. Short history and development of graphic communications	1	Listen to a lecture. By working independently on a computer, they become acquainted with the course content, obligations, literature and documents on the e-learning course page.	At the colloquium or the written and ora exam they define and explain the basic concepts. At the colloquium or the written and ora e exam: define and explain the basic	e and explain the basic	4 h
	2.	Technical letter, line types and widths, paper formats, scale and components of the technical drawing.	1, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical display. Independent exercise.		nd explain the basic ish between the rules of ut and apply them to the	4 h
	3.	Fundamentals of geometric structures.	1, 2, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	exam: define an concepts; draw based on a g	n or the written and oral nd explain the basic orthogonal projections iven isometric view; een the rules of the	4 h



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



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



	13.	AutoCAD, cre manipulation of c	ation and objects.	1, 4, 5		nd read literature. The e the rules of technical dent exercise.	At the colloquium or the wr exam: define and explai concepts; distinguish betwee the technical layout and appl technical drawing; draw drawing in an AutoCA program.	in the basic en the rules of ly them to the 4 a technical	4 h
	14.	AutoCAD, workshop drawin	self-made Ig.	1, 4, 5	Listen to a lecture and read literature. The 1, 4, 5 exercises demonstrate the rules of technical presentation. Independent exercise.		At the colloquium or the wr exam: define and explai concepts; distinguish betwee the technical layout and appl technical drawing; draw drawing in an AutoCA program.	in the basic en the rules of ly them to the a technical	4 h
	15.	Review, recapitu preparation for th		-	Listen to a lecture and prepare individually	d read literature. They for the exam.	-	4	4 h
3. EVALUATION OF STUDEN	T WOR	K							
3.1. Student obligations	attend of solving and mu	classes at least 70% g tasks and participa list take and pass a for the course in two	%, which is a ating in lectur written exam	lso a requiren es and exercis (test), more t	nent for obtaining the set. Students who achie han 50% - students ear	lecturer`s signature. St ve the following during n the right to take the	udent Performance: Full-time udents are required to bring e g the course: from 0 to 49.9% final exam for the course. Stu t of the exam; b) by passing th	equipment necessar of ECTS are graded idents can pass the	ry for ed fail e final
3.2. Student work monitoring	Attendi	ing classes	2		Written exam	2 (without colloquiums)	Project		
(enter the share of ECTS credits	Experii	mental work			Research		Practical work		
for each activity so that the total number of ECTS credits corresponds to the course credit value)	Essay				Report		Continuous check		
	Colloqu	uiums	2 (without v exam)	vritten	Seminar paper		Field works or Study trips		
	Teachii	ng activities			The oral part of exam	1	(other)		



	The student's workload on	all bases amounts to 1 ECTS point for 30	) hours of	work per semester and is estimated	d as:	
		Obligation	Hours (estimated)			
	1. Attending classe	S			60	
3.3. Student work-load	2. Preparation for t (drawing)	he Colloquium / exam through self-study	7		30	
	3. Preparation for t (AutoCAD)	he Colloquium / exam through self-study	,		30	
	4. Oral exam indivi	idual preparation			30	
4. GRADING SYSTEM						
	Elements of evaluation	Bad		Satisfying	Above average	
	Technical drawing	sloppy. Made on inadequate paper nur		g neatly crafted with a small of imprecise errors, a clear on between types of lines.	Drawing very neatly made without errors.	
4.1. Evaluation of written exam	Distinguish and apply the rules of technical drawing	Does not know the rules, does not apply or misapplies the elements of the technical representation.	Knows view, co	most of the rules of the technical prrectly applies the basic, and with histakes, the other elements of the	Knows the rules of the technical view, and correctly applies the elements of the technical view.	
	AutoCAD computer program	Does not knows interface or basic commands. It is not capable of drawing in a computer program.	comman them w create a	basic and some advanced nds in a computer program, uses ith minor errors. He is able to technical drawing in a computer h with a little help and tons.	Knows basic and advanced commands in a computer program, uses them without errors. Able to fully draw a technical drawing in a computer program.	
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 repro without knowled explains	oduces the basic concepts and difficulty imparts new dge, understands the material, s the terms and concepts supports ith examples. Knows the expert	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	



1						
				s: It n	upports them with examples. Finds olutions that were not originally given. t notes correlations with related naterial. Fluent in professional	
				te	erminology.	
	Colloquiums/	2	3	4	5	
4.3. Forming the final grade	Written exam	10-12 points	13-15 points	16-17 points	18-20 points	
according to the evaluation	Colloquiums/	2	3	4	5	
elements	AutoCAD	10-12 points	13-15 points	16-17 points	18-20 points	
	The oral part of exem2		3	4	5	
		10-12 points	13-15 points	16-17 points	18-20 points	
		d knowledge, skills and aching + final exam)	Numerical grade		ECTS grade	
4.4. Formation of the final grade	90 -	- 100%	5 (excellent)		А	
based on the absolute distribution	80 -	89,9%	4 (very good)		В	
distribution	65 -	79,9%	3 (good)		С	
	50 -	64,9%		D		
5. ADDITIONAL INFORMATI	ON ABOUT THE COU	RSE				
5.1. Compulsory literature (available in the library and via other modia)		Title		Number o copies in th library		
other media)		cal drawing in the image with utoCAD software 2008, MIŠ	9	City library City library		



5.2. Additional literature (at the       Teaching materials from the lectures and exercises on the e-learning system of the Šibenik University of Applied Sciences for the course. Opalić, M., Kljajin, M., Sebastijanović, S.: Technical drawing, Zrinski d.d., Čakovec/Slavonski       on-line (e-learning)         5.2. Additional literature (at the       Klem N., Koški Ž., Otković I.: Technical drawing and CAD, Faculty of civil engineering,       -							
Opalić, M., Kljajin, M., Sebastijanović, S.: Technical drawing, Zrinski d.d., Čakovec/Slavonski Brod, 2007. Klem N. Koški Ž. Otković L: Technical drawing and CAD. Faculty of civil engineering							
Brod, 2007. on-line (e-learning) Klem N. Koški Ž. Otković I.: Technical drawing and CAD. Faculty of civil engineering							
Klem N. Koški Ž. Otković I. Technical drawing and CAD. Faculty of civil engineering							
- I University of Ositek 2006							
moment of changes and/or Galeta T., Glazina V., Kljajin M.: AutoCAD Fundamentals of Technical Drawing, Faculty of							
amended of study programme) Galeta T., Glazina V., Kijajin M., AutocAD Fundamentals of Technical Drawing, Faculty of mechanical engineering, University of Osijek, Slavonski brod, 2005. On-line							
Herold Z .: Computer and Engineering Graphics, Faculty of mechanical and naval engineering, On-line							
University of Zagreb, Zagreb 2003.							
Budimir D .: Exercises from AutoCAD, Faculty of transport and traffic sciences, University of							
Zagreb, Zagreb 2010.							
5.2 Quality assurance methods The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping the	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of						
5.3. Quality assurance methods that ansure the assurance in the consistence of statement of statement work quality and the acquisition of incessary into weege and shifts will be ensure the assurance methods attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, informat	attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for						
that ensure the acquisition of further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and oblig	ations						
knowledge, skills and as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the survey is the survey of the survey is t	as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the						
competences Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.							
It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes or po	ossible						
5.4. Informing about the course adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can determine the second	ontact						
and contacting the course teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class	s. It is						
lecturer also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will be answered as soon as possible (no later that	in 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 ABOUT THE COURSE								
1.1. Course title	MODERN TRAFFIC SYSTEMS	1.8. Course code at ISVU	270665 / 270666					
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code at MOZVAG	-					
1.3. Assistants and/or associates	PhD Ana-Mari Poljičak, senior lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 30 + 0)					
1.4. Study program (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.					
1.6. Year of study	1 <sup>st</sup>	1.13. Modernization	X yes 🗆 no					
1.7. Credit point (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □					

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



	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.								
	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.								
	Learning outcomes according to Bloom's taxonomy:	Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis							
2.4. Expected learning outcomes	1. to enumerate and explain the elements and branches of the transport system.	1, 2							
on the course level	2. to demonstrate knowledge and understanding of course content by defining and describing an interdisciplinary approach to the transport system.	1, 2							
	3. to describe, compare and relate the technical and technological characteristics of the branches of transport and modern transportation technologies.	2, 4							
	4. to identify and evaluate the interdependence of the elements of the transport system.	5, 6							
	5. to use materials and tools to search scientific and professional literature in their native and English languages.	3							
	6. to present the acquired knowledge, ideas, problems and solutions independently and in a team.	3							

2.5. Course content according to detailed curriculum schedule	Constr	Constructive alignment							
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed			
	Introduction into the course and detailed plan.         1.         Definition of traffic.         Historical development of traffic branches.		-	They listen to a lecture. During the individual work on the computer, they are introduced to the course content and documents on the e-learning page of the course.	-	2 h			
		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	4 h				



1						
					system, and state the historical development of the elements and	
					branches of the transport system.	
				They listen to a lecture and read literature.	In colloquium or the written and oral	
				In the course of the seminar, they	exam they identify and explain the	
				individually explore the content of this	elements and technologies of maritime	
	2	Maritime traffic.	1 2 2 5		<u> </u>	4 h
	2.	Maritime traffic.	1, 2, 3, 5	topic area by searching the database, and on	transport, and define and describe the role of technical and technological	4 h
				the basis of it and the read literature, come	8	
				up with their own ideas, and ways to solve	characteristics of maritime transport in	
				problems.	the transport system.	
				They listen to a lecture and read literature.	In colloquium or written and oral exams	
				In the course of the seminar, they	they specify and explain the elements and	
	-			individually explore the content of this	technologies of inland waterway	
	3.	Inland waterways.	1, 2, 3, 5	topic area by searching the database, and on	transport, and define and describe the role	4 h
				the basis of it and the read literature, come	of technical and technological	
				up with their own ideas, and ways to solve	characteristics of maritime transport in	
				problems.	the transport system.	
				They listen to a lecture and read literature.	In colloquium or written and oral exams	
				In the course of the seminar, they	they identify and explain the types and	
			1, 2, 3, 4,	individually explore the content of this	operation of seaports, and define, list and	
	4.	Transportation	5, 6	topic area by searching the database, and on	describe transportation technologies and	4 h
		technologies.	5, 6	the basis of it and the read literature, come	explain the interdependence of all	
				up with their own ideas, and ways to solve	branches of transport. Seminar work is	
				problems.	done in groups with discussion.	
					In colloquium or written and oral exams	
					they identify and explain seaports, and	
	5	Study trip (port of Rijeka).	1, 2, 3, 4,	They listen to a lecture.	define and describe the role of seaports as	8 h
2	5.	Study trip (port of Kijeka).	5,6		collection points into which traffic flows	0 11
					from all traffic routes and means of	
					transport of different branches of traffic.	
			1 2 2 4	They listen to a lecture and read literature.	In colloquium or written and oral exams	
	6.	Road traffic.	1, 2, 3, 4,	In the course of the seminar, they	they specify and explain the elements and	4 h
			5,6	individually explore the content of this	technologies of road transport, and define	
		1				



1						
				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.	and describe the role of technical and technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion.	
	7.	Road traffic.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of road transport, and define and describe the role of technical and technological characteristics of road transport in the transport system. Seminar work is done in groups with discussion.	4 h
	8.	Rail traffic. 1st Colloquium	1, 2, 3, 4, 5, 6	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they specify and explain the elements and technologies of railway transport, and to define and describe the role of technical and technological characteristics of railway transport in the transport system. Seminar work in groups is prepared with discussion.	4 h
	9.	Rail traffic.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of 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 traffic.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come	In colloquium or written and oral exams they specify and explain the elements and technologies of air traffic, and define and describe the role of technical and technological characteristics of air traffic	4 h



1						
				up with their own ideas, and ways to solve problems.	in the transport system. Seminar work is done in groups with discussion.	
	11.	Postal traffic.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of postal traffic, and define and describe the role of technical and technological characteristics of postal traffic in the transport system. Seminar work is done in groups with discussion.	4 h
	12.	Telecommunication traffic.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of telecommunication traffic, and define and describe the role of technical and technological characteristics of telecommunications traffic in the transport system. Seminar work is done in groups with discussion.	
	13.	Pipeline transport. Cable car transport.	1, 2, 3, 4, 5, 6	They listen to a lecture and read literature. In the course of the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read literature, come up with their own ideas, and ways to solve problems.	In colloquium or written and oral exams they specify and explain the elements and technologies of pipeline and cableway traffic, and define and describe the role of technical and technological characteristics of pipeline and cableway traffic in the transport system. Seminar work is done in groups with discussion.	4 h
	14.	City traffic. 2nd Colloquium.	1, 2, 3, 4, 5, 6	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they identify and explain the elements and technologies of urban transport, and define and describe the role of urban transport in the transport system.	4 h
	15.	Concluding considerations.	6, 7	They listen to a lecture and prepare individually for the exam.	-	62 h



	Repeating for the exa	and preparing m.								
3. EVALUATION OF STUDEN	T WORK									
3.1. Students` obligations	Part-time students a have achieved duri academic year; fron extraordinary exam Students can take th	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: from 0 - 24.9% of ECTS they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; more than 50% students have the right to take the final exam. Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in class and passing exams (written and oral part of the exam).								
3.2. Monitoring student work	Attendance Experimental	1		ritten exam	1 (without colloquia)	Project				
(enter the share of ECTS credits for each activity so that the total number of ECTS points	work Essay			port		Practical work Continuous examination	1			
corresponds to the credit score of the course)	Colloquium	1 (without written exam)	Se	minar paper	0,5	Other				
	Class activity	0,5	Or	al exam	1	Other				
	The student's work	oad on all bases amo	ounts to 1 E	CTS point for 30 hour	rs of work per semester an	d is estimated as:	·			
		Ol	oligation			Hours (estimate)				
3.3. Student workload	1. Attendin	g classes				30				
	2. Creating	and Presenting semi	nar paper			30				
	3. Preparati	on for the Colloquiu	m / exam th	rough self-study		120				
4. GRADING SYSTEM										



	Element of evaluation	Bad			Satisfying		Above average	
	Organization	The paper is not organ order and lacks structur	-	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.		duction, and the c	The paper is well structured with a clear listinction between the introduction, he main body of the text and the ponclusion, which are logically interconnected.	
4.1. Grading of seminar work	Terminology, writing style	Words and expressions official terminology. T is not appropriate, the s long, of a modest voca frequent and repeate errors.	The writing style sentences are too abulary and with	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.		ne with one with our of the second se	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 ich and there are no grammatical errors.	
	Citing and referencing references	The sources are not li references do not fit the a cursory approach to topic.	e topic and show	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.		ces are a show a c	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed esearch approach.	
	Ba	ıd		Satisfying			Above average	
4.2. Grading of the colloquium / written and oral exam	It responds by memo understanding. Does no terms and concepts. Does or explain the content examples.	t know or apply basic s not know how to apply	difficulty impar	he basic concep ts new knowled plains the terms a examples.	ge, understands	and eval accurately of the m explains t with exar	ge is at the level of analysis, synthesis luation. It observes the legality, and thoroughly explains the content naterial, and logically connects and he terms and concepts that it supports mples. Finds solutions that were not given. It notes correlations with aterial.	
4.3. Forming the final grade	Active 70	-75% of the presence	76-86% of t	he presence	87-100% of	the presence	e Case studies resolved	
according to the evaluation	attendance	0 points	0 pc	oints	0 po	ints	0 points	
elements	Seminar paper	2	3		4		5	



		Made and handed over	Ma	de and handed over	Made and h	anded over	Mad	e and handed over
	Examination /	2	3		4		5	
	Written	50-64%		65-80%	81-9	0%	91-100%	
	examination	25-32 points		33-40 points	41-45	points		46-50 points
	Oral part of the	2		3	5			5
	exam	25-32 points		33-40 points	41-45	points		46-50 points
	-	of acquired knowledge, skills and tences (teaching + final exam)	1	Numerical gra	ıde		ECTS gra	de
4.4. Formation of final grade based on absolute distribution		90 - 100%		5 (excellent)	)		А	
	80 - 89,9%			4 (very good)			В	
		65 – 79,9%		3 (good)			С	
	50 - 64,9%			2 (sufficient)			D	
5. ADDITIONAL INFORMATI	ION ABOUT THE	COURSE						
5.1. Doquired literature		Titl	e				f copies in brary	Availability via other media
5.1. Required literature (available in the library and through other media)	Cerovac, V.: Technology and traffic safety, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2001. (selected chapters) Božičević, D., Kovačević, D.: Modern transport technologies, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2002.				3	No		
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Courses Lectures. Zelenika, R.: Traffic systems, Faculty of economics, University of Rijeka, Rijeka, 2001. Zelenika, R.: Multimodal traffic systems, Faculty of economics, University of Rijeka, Rijeka, 2006. Sussman, J. : Introduction to Transportation Systems, Artech House, United Kingdom, 2000.					3 ) )	No No Yes	



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



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

1. GENERAL INFORMATION	1. GENERAL INFORMATION ABOUT THE COURSE										
1.1. Course title	KNOWLEDGE OF GOODS	1.8. ISVU course code	187586 / 202074								
1.2. Course lecturer	PhD Nikolina Gaćina, senior lecturer	1.9. MOZVAG course code	-								
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 15 + 0)								
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> – materials available On-line, 0%								
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	2.								
1.6. Study year	1 <sup>st</sup>	1.13. Modernization	$\mathbf{X}$ yes $\Box$ no								
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□								

2. COURSE DESCRIPTION	
2.1. Course objectives	The goal is to provide students with theoretical knowledge and case studies: Defining the basic concepts of the science of knowledge of goods, Understanding the specificity of particular types of goods, their identification, conditions of packaging, transport and storage, and environmental friendliness; Understanding the need and importance of standardization and product quality, Understanding the importance and types of strategic goods, Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
	LO1: To apply and link professional terms from technologgy and organization of road traffic in written and oral communication with the profesional public in croation and English.
2.3. Learning outcomes on the	LO2: To organize and implement team work and critically judge the opinions and atitudes od team members.
study programme level	LO3: To individually and responsibly search, interpret and integrate the revevant literature needed to make decisions.
	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.



	LO10: To compare and choose technical and technollogical solutions in treffic and / or traffic logistics.								
	LO13: to track trends in the development of technique, technology and safety in traffic.								
	Learning outcomes towards Bloom's taxonomy: (up to two verbs per LO)	LO Level: 1- Recapture, 2- Understanding, 3- Application, 4- Analysis, 5- Evaluation, 6- Synthesis							
	1. Demonstrate knowledge and understanding of the content of the course by defining and describing the basic concepts of the science of knowledge of goods.	1, 2							
2.4. Expected learning outcomes on the course level	2. Categorize and compare the basic concepts of the science of knowledge of goods.	4, 5							
on the course level	3. Compare and distinguish product types, their identification, labeling, and transportation and storage conditions.	4, 5							
	4. Categorize and compare types of packaging material.	4, 5							
	5. Analyze and evaluate the specific characteristics and reasons for the application of particular packaging materials for different products.	5, 6							
	6. Distinguish and compare different processes of food preservation in relation to the longevity and preservation of the nutritional value of the product.	5, 6							
	7. Analyze and anticipate the importance of food and non-food commodities of today and today.	4, 5							
	8. Present the acquired knowledge, ideas, problems and solutions independently and in a team.	6							

2.5. Course content according to detailed curriculum schedule	Const	tructive alignment					
	No.	Thematic ensemble / Lecture Topic	LO of the course	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	
			The basics of the science of knowing goods. Defining basic concepts.	1, 2	They listen to a lecture and read literature.	At the colloquium or the written and oral exam: define, describe, categorize and compare the	4 h



				basic concepts of the science of knowledge of	
2.	Product identification. GS1.	1, 2, 3, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature.	goods. 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 their choice. List and analyze the primary functions of packaging material.	10 h
6.	Packaging features. Product Graphic Labeling.	1, 2, 3, 4, 5, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: define and classify the functions of packaging, evaluate the choice of packaging material with regard to its function, define, describe and analyze the graphic marking of products.	8 h



7.	Specific features of product storage and transportation.	1, 2, 3, 4, 5, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and describe the types of warehouses, storage and transport conditions, and evaluate the appropriate type of storage and transport depending on the type of product.	6 h
8.	Perishable products. Declaring food.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and describe the types of perishable products, their specificities and conditions of storage and transport, to analyze the basic declaration of food.	6 h
9.	Physical methods of food preservation.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and describe the types of physical methods of preservation, to analyze the applicability depending on the type of food products in terms of better preservation of nutritional value and longer shelf life, to analyze the advantages and disadvantages of individual physical methods. And evaluate combining different canning methods.	10 h
10.	Food preservation with natural and chemical preservatives. Combining canning types.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: define and describe natural and chemical preservatives, analyze applicability depending on the type of food products in terms of better preservation of nutritional value and longer shelf life, analyze the advantages and disadvantages of individual methods and evaluate the combination of different preservation methods.	6 h
11.	Polymeric materials.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define, describe and classify polymeric materials, describe their advantages and disadvantages and storage conditions.	10 h



	12.	Hazardous Substances.	1, 2, 3 5, 6, 7		They listen to a l a seminar paper, discussion, and	followed by a	they know: to dangerous su	At the colloquium or the written and orat they know: to define and classify the ty dangerous substances, to analyze the po danger of the same.		bes of 6 h
	13.	Transport and disposal of hazardous substances.	1, 2, 3 5, 6, 7		They listen to a l a seminar paper, discussion, and	followed by a	At the colloque they know: to of hazardous evaluate the d waste.	define and cl substances d	lassify the lab uring transpo	ort, to <b>6 h</b>
	14.	Strategic Goods. 2. Colloquium.	1, 2, 3 6, 7,		They listen to a l a seminar paper, discussion, and	followed by a	At the colloquium or the written and oral exam they know: to define and categorize strategic goods, to explain their importance.			
	15.	Concluding Considerations / Repetition and Exam Preparation.	-		They listen to prepare individ exam.			-		20 h
3. EVALUATION OF STUDEN	NT WO	RK								
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 is rated unsuccessful and cannot get ECTS credits and must re-enrol the subject in the next academic year; from 25 – 49,9% ECTS is rated inadequate and has to come out and pass the test (exam). A written exam can be held in a regular or extraordinary exam period; more than 50% ECTS credits - students have the right to access the final exam of the subject. Students can pass the final exam in two ways: a) during the course through continuous student attendance (active participation in the lessons, solving case studies, making and presenting the seminar paper and project, passing two colloquia); b) during the course (active participation in the lessons, solving case studies, creating and presenting the seminar paper and project) and passing the exam (written and oral exam).										
3.2. Monitoring student work	Atten	dance 0,25	W	ritten e	evam	2 (without colloquiums)	Project			
(enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score	Exper	Experimental work		Research			Prac	ical work		
	Essay	Essay		Report				inuous nination		
of the course)	Collo	quium 3 (without the write and oral exams)	tten Se	eminar	paper	0,75		r (inscribe)		



	Class activities		Oral exam		1 (without colloquiums)	Othe	r (inscribe)	
	The student's workload on all bases amounts to 1 ECTS point for 30 hours Commitment				s of work per semester and is estimated as: Hours (estimate)			
3.3. Student workload	1. Attending class		45					
	2. Creating and Presenting seminar paper				10			
	3. Preparation for the Colloquium / exam through self-study				65			
4. GRADING SYSTEM								
	Valuation Element	Poor			Satisfying		Abo	ove average
4.1. Seminar paper grading	Organization	The paper is not organized in a log order and its structure is lacking.		The paper is well structured with a clear distinction between the introduction, the main part of the text and the conclusion.		The paper is well-structured with a clear distinction between the introduction, the main part of the text and the conclusions that are perfectly logically linked to one another.		
	Terminology, writing style	Words and phras harmonized with offic Writing style is n sentences are too vocabulary, and freque grammatical mistakes.	official t is approp clear, th	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 termine understanding of writing style is ex clear and concise	cases are aligned with blogy and show an of their meaning. The scellent, the sentences are e, the vocabulary is rich grammatical errors.	
	Quoting and referencing	Sources are not specified at all. The references do not match the topic and show a superficial approach to the research topic.		Sources are listed, but incomplete and with errors. The references are appropriate for the subject and show a satisfactory research attitude.		consistent. The references are appropriate,		
	Poor		Satisfying			Above average		
4.2. Colloquium / exam grading	Give answer by n understanding. Does no apply the basic terms apply or explain the cont	Reproduces basic terms, without difficul transfers new knowledge, understands subje- matter, explains the terms and the notions the substantiate by examples.		ct evaluat at thorou	evaluation. It observes legitimacy, accurately and			



				or	-	d solutions that are not is a correlation with	
	Active participation	70 of attendance	71-80% of attendance	81-90% of a	attendance	91-100%	
	in the lessons	2 points	3 points	4 poi	nts	5 points	
		2	3			5	
4.3. Creating a final grade	Research paper	8 points	10 points	12 ро	ints	15 points	
according to evaluation		2	3	3 4		5	
elements	Colloquium / written exam	50-64,9%	65-79,9%	80-89	,9%	90-100%	
		25 points	35 points	40 po	ints	50 points	
	0.1	2	3	5		5	
	Oral exam	15 points	20 points	25 po	ints	30 points	
	-	opted knowledge, skills and (teaching + final exam)	Numerous grade		ECTS g	ECTS grade	
		90 - 100%	5 (excellent)		А		
4.4. Creating a final grade according to absolute allocation		80 - 89,9%	4 (very good)		В		
U		65 – 79,9%	3 (good)		С		
		50 - 64,9%	2 (sufficient)		D		
5. ADDITIONAL INFORMAT	ION ABOUT THE COU	JRSE					
5.1. Compulsory literature		Title	Number of copies i the library	n Availability via other media			
(available in the library and through other media)		wledge of goods. Internal script wledge of goods and quality ma	5 4	e-learning			



5.2. Additional literature (at the moment of changes and/or amended of study programme)	Andrijanić, I., Balen, M., Lazibat, T. (2001). Knowledge of merchandise in commerce. Mikrorad, Zagreb. (Chapters selected) Štrumberger, N. (2000). Handling of materials in traffic. Faculty of transport and traffic sciences, University of Zagreb, Zagreb. (Chapters selected)	4			
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be 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 obligation as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.				
5.4. information on the course and contact with the teacher	It is obligatory for every student to regularly inform about the course, teaching and teaching activities. All information about teaching or any delay in teaching will be published on the e-learning pages of the course and on the web pages of the Šibenik University. Students can contact the teachers during the consultation term (at least one hour per week), while brief questions and explanations can be addressed during classes. It is possible to ask questions by e-mail (from the official e-mail address from the domain @ vus.hr) that will be answered in a short time (no later than five working days from the receipt of e-mail).				



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

1. GENERAL INFORMATIONABOUT THE COURSE						
1.1. Course title	TRAFFIC LAW	1.8. Course code in ISVU	140781 / 202100			
1.2. Course lecturer	MSc Krešimir Nimac, title senior lecturer	1.9. Course code in MOZVAG	-			
1.3. Assistants and associates	PhD Nikola Mandić, associate collegue professor	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 15 + 0)			
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3			
1.6. Year of study	1 <sup>st</sup>	1.13. Modernization	X yes $\Box$ no			
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□			

2. COURSE DESCRIPTION	
2.1. Course objectives	The aim of the course is to acquaint students with the basic concepts of law in general, as well as all branches of traffic law with special emphasis on road law. In this way, students acquire basic knowledge about the system of traffic law and the relationship between specific modes of transport, as well as the activities necessary for the functioning of transport as a whole.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF
	LO1: Use and connect professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.
2.3. Learning outcomes on the	LO2: Organize and conduct teamwork, and critically judge the opinions and attitudes of team members.
study programme level	LO3: Independently and responsibly search, interpret and integrate the relevant literature needed for decision making.
	LO5: Apply basic legal and economic principles in the organization with socially responsible business in technical-technological entities.
	LO6: Analyze and present relevant facts from the traffic area needed to draw conclusions.



2.4. Expected learning outcomes	Learning outcomes according to the Bloom's taxonomy: (up to two verbs per LO)	Level of LO: 1- remembering 2- understanding 3- application 4- analysis 5- evaluation 6- synthesis
on the course level (4-10 learning outcomes)	1. Define basic concepts and concepts of law, and connect them with different branches of traffic.	1, 3
icarining outcomes)	2. Classify and analyze branches of transport, as well as administrative law and property legal regulation of all individual transport branches.	2,4
	3. Recommend measures to improve the road safety situation in the Republic of Croatia.	5
	4. Define trends in traffic law.	1
	5. Draw up a draft contract for the carriage of passengers, luggage or items in road transport.	6

	Constr	ructive alignment				
	No.	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed
2.5. Course content according to	1.	Introduction into the course and detailed plan.	-	Students listen to a lecture. In the course of seminary classes students are introduced to the course content and documents on the e-learning page of the course.	-	2 h
detailed curriculum schedule		FUNDAMENTALS OF LAW - concept and elements, legal rule and legal relationship	1	Students listen to a lecture, browse databases and read literature.	At the midterm or oral exam, they know how to define basic legal concepts, legal rule and legal relationship.	3 h
	2.	LEGAL ACTS - types of legal acts, Constitution, laws and bylaws, and international agreements	1	Students listen to a lecture. Browse databases and read literature.	At the midterm or oral exam, they know how to define a legal act, distinguish the types of legal acts, define the basic functions of the constitution and laws, and define the basic constitutional principles in the Republic of Croatia.Developed and	3 h



1						
					presented practical work (independent use of computer programs).	
	3.	ORGANIZATION OF STATE AUTHORITY - legislative, executive and judicial authorities, Constitutional Court of the Republic of Croatia	1	Students listen to a lecture and read literature.In seminar classes,independently and in a group, using the brainstorming method and the method of discussing different models of state organization.	At the midterm or oral exam, they know how to distinguish forms of government in the Republic of Croatia, define the theory of division of power, and know the structure and jurisdiction of the Constitutional Court.Prepared and presented practical work (independent use of computer programs and sources of legal practice).	4 h
	4.	CONCEPT, MEANING, SOURCES OF TRAFFIC LAW - concept, meaning and scope of traffic and traffic law, sources of traffic law	1, 2	Students listen to a lecture. Browse databases and read literature.	At the midterm or oral exam, they can explain the concept, meaning and scope of traffic, and enumerate and explain the sources of traffic law.Prepared and presented practical work (independent use of computer programs and sources of legal practice).	3 h
	5.	TRAFFIC LAW OF THE EUROPEAN UNION AND INTERNATIONAL TRAFFIC ORGANIZATIONS - institutions of the European Union, European law, legal regulation of transport in the European Union and international transport organizations	1	Students listen to lectures and read literature.In the seminar classes, individually and in groups, they analyze examples from the practice of European Union countries and draw conclusions about the application of legal regulations to a specific factual situation.	At the midterm or oral exam, they know the basic features of the structure of the European Union, the legal regulation of transport in the European Union, and the structure and competences of the basic international transport organizations.Prepared and presented practical work (independent use of computer programs and sources of legal practice of the European Union).	3 h
	6.	TRAFFIC INSURANCE - purpose and subject of insurance, types of insurance and insurance contract	1	Students listen to lectures and read literature.They use multimedia and networking.In seminar classes in group work, they analyze examples from the practice of insurance companies, and drawconclusions	At the midterm or oral exam, they can define the basic concepts related to traffic insurance, types of insurance as well as the characteristics of insurance contracts.Prepared and presented practical work (independent use of computer	3 h



1						
				about the application of legal regulations to a specific factual situation.	programs and sources of court and legal practice).	
	7.	AIR LAW - international conventions, international air traffic agreements, airports, air traffic, obligatory relations in air traffic	2, 4	Students listen to lectures and read literature.In seminar classes in group work, they analyze examples from practice and draw conclusions about the application of legal regulations to a specific factual situation.	At the colloquium or oral exam, they know how to define the legal regulation of international air traffic with the basic provisions of international conventions, and define institutes related to administrative and property regulation of air traffic in the Republic of Croatia with special emphasis on air transport contracts.Prepared and presented practical work (independent use of computer programs and sources of legal practice).	4 h
	8.	RAILWAY LAW - railway infrastructure, railway safety, contracts on railway transport, legal regulation of international railway transport	2, 4	Students listen to lectures and read literature.In the seminar classes, they analyze examples from practice independently and in a group and draw conclusions about the application of legal regulations to a specific factual situation.	At the colloquium or oral exam, they know how to define the manner of administrative regulation of railway transport in the Republic of Croatia, as well as property regulation with special emphasis on contracts for transport in railway transport.Prepared and presented practical work (independent use of computer programs and sources of legal practice).	4 h
	9.	ROAD LAW - transport of passengers and cargo, public roads, legal regulation of international road traffic, international conventions and organization of road traffic	2, 4	Students listen to lectures and read literature.In seminar classes, they browse databases individually and in groups with a special focus on public road management.	At the midterm or oral exam, they know how to define the basic concepts in road traffic, and the manner of administrative regulation of road traffic in the Republic of Croatia.Prepared and presented practical work (independent use of computer programs and sources of legal practice).	5 h
	10.	ROADTRANSPORTCONTRACTS - concept of transportcontract,elements,	2, 4, 5	Students listen to lectures, browse databases and read literature.At the seminar classes, they group up a	At the midterm or oral exam, they know how to define the essential features of a contract on road transport in accordance	4 h



		conclusion of contract, liability,		contract on the transport of	with the Civil Obligations Act of the	
		transport of goods and transport of		passengers and things.	Republic of Croatia.	
		passengers		pussengers and unings.	Prepared and presented practical work	
		passengers			(independent use of computer programs and	
					sources of legal practice).	
-					At the midterm or oral exam, they know	
				Students listen to lectures and read	how to define basic institutes related to road	
				literature. The seminar method uses	traffic safety in accordance with the Road	
				thebrainstorming method and the	Traffic Safety Act in the Republic of	
	11.	ROAD SAFETY	2, 3, 4	method of discussing legislation	Croatia.	3 h
				with special reference to young	Developed and presented practical work	
				drivers.	(independent use of computer programs and	
					sources of legal practice)	
-					At the midterm or oral exam, they know	
					how to define basic institutes in maritime	
		MARITIME LAW - ports,		Students listen to lectures and read	law in accordance with the Maritime Code	
		waterways, ship, ship's captain,		literature.In the seminar classes,	of the Republic of Croatia, with special	
	12.	rescue, ship collision, shipping	2, 4	they individually research the	emphasis on shipping contracts.Prepared	3 h
		contracts, international conventions		content of this thematic area by	and presented practical work (independent	
				searching the database.	use of computer programs and sources of	
					legal practice).	
-					At the midterm or written / oral exam, they	
					can define the basic concepts related to	
		POSTAL LAW - postal network,		Students listen to lectures and read	postal law, as well as the manner of	
		Postal Services Council, accession		literature.In seminar classes, they	administrative and property regulation of	
	13.	treaty, international postal traffic	2, 4	analyze examples from practice	postal traffic in the Republic of	3 h
		organizations		individually or in a group.	Croatia.Prepared and presented practical	
					work (independent use of computer	
					programs and sources of legal practice).	
-		TELECOMMUNICATION LAW -			At the colloquium or oral exam, they know	
		HAKOM, infrastructure,		Students listen to lectures, browse	how to define the basic concepts related to	
	14.	concessions, protection of service	2, 4	databases and read literature.	telecommunications law, as well as the	3 h
		users' rights, market competition			manner of administrative and property	
				1	1 1 9	



				-				
						regulation of telecommunication the Republic of Croatia.Prep presented practical work (indep of computer programs and source practice).	pared and bendent use	
	15. CONCLU PREPARA	,	-		o lectures and read tudents prepare the exam.			40 h
3. EVALUATION OF STUDEN	TS` WORK							
3.1. Students` obligations	<ul><li>70%. Part-time stu</li><li>who have achieved</li><li>academic year; fro</li><li>extraordinary exam</li><li>a) during the course</li></ul>	dents are required to attend of during the course: from 0 - om 25 - 49,9% are assessed hination period; more than 50 e of teaching through continu	classes at leas 24,9% ECTS by insufficio % students h uous monitor	st 50%. All stude: S credits are rated ent and must pass ave the right to tak ing of students (ac	nts must create, prese unsuccessful and car s the written exam ( the final exam. Stu ctive participation in	<i>uluation</i> : for all full-time students' ent and have a positively rated ser mot obtain ECTS credits, and mu- test). Written exam (test) can be dents can take the final exam in th teaching, preparation and presenta- tion of seminar work) and taking ex-	minar paper. S st re-enrol in e held in a reg te course in twa ation of semin	Students the next gular or vo ways: nar work
	Attendance	0,5	Writte	n exam		Project		
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Resear	rch		Practical work		
for each activity so that the total number of ECTS points	Esssay		Report	;		Continuous examination		
corresponds to the credit score	Colloquium (midte	rm) 2	Semina	ar paper	0,5	Other		
of the course)	Class activity		Oral ex	xam	2 (without colloquia/midterm)	Other		
	The student's work	load on all bases amounts to	1 ECTS poin	t for 30 hours of v	vork per semester and			
		Obligation	n			Hours (estimated)		
3.3. Student workload	1. Attending classes					35		
	2. Creating	and Presenting seminar pape	er			15		
	3. Preparat	ion for the Colloquium / example of the Colloquium / examp	m through sel	lf-study		40		



4. GRADUATE SYSTEM									
	The evaluation element	Unsatisfact	tory	Satisf	actory			Above average	
	Organization	The paper is not organi order and lacks structur	-	The paper is well str distinction between the main body of conclusion.	n the introdu	uction, dis	stinction ain body	is well structured with a clear between the introduction, the of the text and the conclusion, ogically interconnected.	
4.1. Grading seminar papers	Terminology, writing style	Words and expressions with official terminolo style is not appropriate are too long, of a mod and with frequent grammatical errors.	gy. The writing e, the sentences dest vocabulary	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 grapmatical errors		e with g style ture is tte and cle	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 references	The sources are not listed at all. T references do not fit the topic and she a cursory approach to exploring t topic.		how and with errors. The references are		nplete an an an an an ap co	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and show a detailed research approach.		
	Unsatis	sfactory		Satisfactory			Al	oove average	
4.2. Grading colloquia/ written and oral exam	understanding, does not terms and concepts, doe	resplain the contents of the course with		luces the basic co ulty imparts new material, explains th rting them with exam	knowledge, terms and	and evalua law, accu content of and expla them with	ation. Stu urately a of the man ains the te h example nally giver	he level of analysis, synthesis dent observes the principles of nd thoroughly explains the terial, and logically connects erms and concepts supporting es. Finds solutions that were n and notices correlations with	
		70-75% attendance	76-8	6% attendance	87-100% atten		ice	Solved case studies	
4.3. Final grade according to absolute division	Active attendance	2 points		4 points	7	points		3 points	
	Seminar paper	2		3	4			5	



		5 points	7 points	8 point	ts	10 points		
		2	3	4		5		
	Taking a colloquium/midterm	50-64,9%	65-79,9%	80-89,9	%	90-100%		
		25 points	30 points	35 poin	ıts	40 points		
	Oral anam	2	3	5		5		
	Oral exam	25 points	30 points	35 poin	its	40 points		
		ired knowledge, skills and eaching + final exam)	Numerical grade		ECTS grade			
	90-100%		5 (excellent)		А			
4.4. Final grade according to absolute division	80	0-89,9%	4 (very good)		В			
	65	-79,9%	3 (good)		С			
	50	0 - 64,9%	2 (sufficient)		D			
5. ADDITIONAL INFORMAT	ION ABOUT THE COU	RSE						
5.1. Compulsory literature		Number of copies in the library	Availability via other media					
(available in the library and via other media)		lav Horvat: Traffic law, School	5					
	•	law (book in electronic form), I						
5.2. Additional literature (at the	Aleksandra Vasilj, Biljan	leksandra Vasilj, Biljana Činčurak Erceg: Traffic law and insurance, Faculty of Law, University of Osijek,						
moment of changes and/or	Osijek, 2016.							
amended of study programme)	Teaching materials from	lectures						

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.



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



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

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

2. COURSE DESCRIPTION							
2.1. Course objectives	Introducing students to the fundamental concepts of linear algebra and functions of single variable, which they can apply in different courses. Adopting analytical skills, logical and critical thinking skills.						
2.2. Terms of course entry and required competences Four-year secondary education completed; qualification level 4.2 according to the CROQF.							
	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.						
2.3. Learning outcomes on the study programme level	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.						
study programme lever	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.						
	LO8: To solve problems in traffic by using analytical and / or graphical methods.						



1	1						-	-
	2.4. Expected learning outcomes on the course level	Lear	ning outcomes according to the Bloom`s . To solve integrals by applying the ap	-			Level of I 1- rememb 2- underst 3- applica 4- analysis 5- evaluat 6- synthes	pering, anding, tion, 5, ion,
		2	. To carry out fundamental operations	on matrices	and vectors.			4
		3	. To propose a method and solve syste	ms of linear	equations.		4	5, 4
		4	. To apply linear algebra and functiona	al analysis n	nethods in transport problems solvin	ng.		1, 5
		Cons	tructive allignement	LO of				
		no.	Thematic ensemble / Lecture Topic	the course	Content / Teaching Method	Evaluation		Time needed
		1.	Introduction into the course and detailed plan.	_	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.	-		2 h
	2.5. Course content according to detailed curriculum schedule	2.	Integrals	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and constudents know how to solve an		4 h
		<b>3.</b> Indefinite Integrals. Definite Integrals.		1	Attending lectures. Actively involving students through problem solving and discussion.	students know how to solve an indefinite		4 h
		4.	Substitution Rule and Integration By Parts	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and construction students know how to solve an integral using the method of su and partial integration.	indefinite	4 h



5.	Applications of Integration.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to analyze and sketch a graph of functions, and solve a definite integral.	4 h
6.	Applications of Integration. Revision for colloquium. Colloquium.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to analyze and sketch a graph of functions, and solve a definite integral.	4 h
7.	Matrices.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define matrices, perform basic computational operations with matrices.	4 h
8.	Determinants.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to calculate the determinants.	4 h
9.	The inverse matrix.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to calculate the inverse of a matrix	4 h
10.	Systems of linear equations.	4	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to recommend a method for solving a system of linear equations and solve a system and apply it to problems.	4 h
11.	Vectors.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define vectors, perform basic computational operations with vectors.	4 h
12.	Scalar and vector product.	3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define vectors, perform basic computational operations with vectors.	4 h



	13.	Vector and mixed vector product.	3	Attending involving problem so	lectures. Activel students throug lving and discussion	h students know how to	o define vectors,	4 h
	14.	Applications of linear algebra.	4	Attending involving problem so	lectures. Activel students throug lving and discussior	h method for solving a	to recommend a system of linear	4 h
15.		<b>15.</b> Final conclusions. Exam preparation.		Group pr	lectures. Activel students throug olving and discussion oblem solving an Exam preparation.	, h i. –		4 h
3. EVALUATION OF STUDENT			·					
3.1. Students` obligations	discuss ( <u>ivana.</u> regardi inform ways: a of the l	at obligations are prescribed by the Stu- sions, solving tasks, etc. Students who <u>beljo@vus.hr</u> , <u>ana.sisak@vus.hr</u> ). I fing the conduct or possible postponen ation about the course, as well as teach a) During the course through continuo learning outcomes are required to take al parts).	are unable to a ft is the respon- nent of classes hing materials ous student asse	attend classes nsibility of e will be posted and a list of l essment (acti	regularly should con ach student to stay ed on the website of literature, can also be ve participation in cl	informed about the conduct the Polytechnic of Šibenik found. Students can pass t asses and two colloquiums	ng consultation hou ct of classes. All a or the course webp he final exam in the ). Students who do	rs or via email nnouncements bage, where all course in two not meet some
3.2. Monitoring student work	Attend		Written exam		(without olloquium)	Project		
(enter the share of ECTS credits for each activity so that the total	Experi work	mental	Research			Practical work		
number of ECTS points corresponds to the credit score of	Essay		Report			Continuous examination	0,5	
the course)	Colloq	uium 3,5 (without written and oral exam)	Seminar paper			Other		



	Class activity	0,5	Oral exam	0,5 (without colloquium)	Other		
	The student's work	load on all bases amount Obliga	<u>+</u>	30 hours of work per sem	of work per semester and is estimated as: Hours (estimate)		
3.3. Student workload	1. Attendir	ng classes and exercises			60		
	2. Preparat	2. Preparation for the Colloquium / exam through self-study			90		
4. GRADING SYSTEM							
4.1. Grading seminar papers							
	Uns	atisfactory	Sati	sfactory	Abo	ve average	
4.2. Grading colloquia/ written and oral exam	understanding. D basic terms and c	mory, without a deeper boes not know or apply concepts. Does not know xplain the contents of the aples.	ory, without a deeper es not know or apply neepts. Does not know lain the contents of the		knowledge, thoroughly explains the content of the material, and logications the terms and explains the terms and concepts supported w		
	Activities in class	s Preparation for te	eaching units; Underst	Inderstanding previous content; Participation in solving tasks together: $0 - 20$ points			
4.3. Final grade according to	Seminar papers			-			
evaluation elements	Colloquium/writt exam	Preparation/learn	ing; Scoring and grad	rading according to correct answers in the test: $0 - 80$ points (min 40 points)			
	Oral exam	Preparation/learn	ing; additional verific	ation of unachieved learn	ing outcomes		
	-	f acquired knowledge, sk nces (teaching + final exa		Numerical grade	ECTS grade		
4.3. Final grade according to		90-100%		5 (excellent)	А		
absolute division		80-89,9%		4 (very good)	В		
		65 - 79,9%		3 (good)	С		



	50-64,9%	2 (satisfactory)		)					
5. ADDITIONAL INFORMATIO	5. ADDITIONAL INFORMATION ABOUT THE COURSE								
5.1. Compulsory literature (available in the library and via	Title	Number of copies in th library	Availability via other						
other media)	Marušić S.: Mathematics and textbook with resolved exa Beljo I., Olivari L.: Mathematics, Šibenik University of A		5	On-line					
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Teaching materials from lectures and exercises Bradić, T., Rojki, R., Pečarić, J., Strunje, M.: Mathematics for Faculty of Technology, Multigraph - Zagreb 1994.								
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	attendance and student activity during classes and provid further guidance to students will be provided in order to i as well as the methods of work and the required literatu	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 course work, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).								



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

1. GENERAL INFORMATION ABOUT THE COURSE							
1.1. Course title	TECHNICAL MECHANICS II	1.8. Course code in ISVU         270675 / 270676					
1.2 Course lecturer	Luka Olivari, master of mech., senior lecturer	1.9. Course code in MOZVAG	-				
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)				
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>st</sup>	1.13. Modernization	X yes □ no				
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements     Less					
2. COURSE DESCRIPTION							
2.1. Course objectives	1 I	al knowledge and practical examples to: be introduced to the er the application of acquired knowledge in solving appro- res for the application of mechanics in practice.	<b>•</b>				
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification le	vel 4.2 according to the CROQF.					
2.3. Learning outcomes on the	LO4: To apply knowledge from the field of natural and tec	hnical sciences to problems in road traffic.					
study programme level	LO8: To solve problems in traffic by using analytical and	or graphical methods.					
2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	Learning outcomes by Bloom: (maximum 2 werbs for LO)       Level of L         1- memory       2- underst         3- applica       4- analysis						



						5- evaluation,	
						6– synthesis.	
	1.	Differentiate concepts, physical qua	ntities, and un	its of measurement in the field of kinematics a	nd dynamics.	4	
	2.	•		ent types of motion of particles and rigid bodie		5, 5	
	3.	Classify different types of motion of motion.	f particles and	rigid bodies, and solve problems related to the	e geometry of	5, 5	
	4.	Identify the causes of motion and t principles of dynamics.	the effects of	force on a particle or rigid body using Newto	on's laws and	5	
	5.		ns of mechanic	cal energy using the laws of conservation and tr	ansformation	5, 5	
	<ul> <li>6. Differentiate types of collisions between two particles or material bodies, and calculate changes in momentum and energy.</li> </ul>					5, 5	
2.5. Course content according to detailed curriculum schedule	Constr	uctive allignement	-	-			
	No	Thematic unit	LO of the course	Content/teaching methods	]	Evaluation	Time needed
	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 and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	oral exam, concepts f	uium or the written and students: differentiate from statics; solve problems from the t.	4 h
	2.	Introduction to Kinematics of Particles and Rigid Bodies	1	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve <b>4</b> In numerical problems from the specified unit.		4 h
	3.	Linear Motion, Kinematic Diagrams for Linear Motion	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	oral exam, concepts f	uium or the written and students: differentiate rom statics; solve problems from the t.	4 h



4.	Circular Motion, Kinematic Diagrams for Circular Motion	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
5.	Variable Linear and Variable Circular Motion	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
6.	Curvilinear Motion in Plane and Space	1, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
7.	Review and recapitulation, preparation for the exam.	1, 2, 3	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
8.	Introduction to Dynamics of Particles and Rigid Bodies. D'Alembert's Principle	1, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
9.	Mechanical Work, Positive and Negative Work, Power, and Efficiency	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h



	10.	Forms of Mechanical Energy, Law of Conservation of Mechanical Energy	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	11.	Law of Kinetic Energy in Translation of Rigid Bodies	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	12.	Law of Kinetic Energy in Rotation of Rigid Bodies, Dynamic Moment of Inertia, Steiner's Theorem	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	13.	Impulse of Force, Momentum, Law of Momentum	1, 4, 6	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	14.	Law of Conservation of Momentum, Collisions, Energy Loss in Collisions	1, 4, 6	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
	15.	Review, recapitulation, and preparation for the exam.	1, 4, 5, 6	Listen to lectures and read literature. Prepare individually for the exam.	-	4 h
3. EVALUATION OF STUDEN	T WOR	K				



	In accordance with the Ru	lebook on Study and the Rulebook	on Assessment	t and Evaluation of Student	Performance: Full-time	students are required to		
	attend classes at least 70%, which is also a requirement for obtaining the lecturer's signature. Students are required to bring a calculator and other equipment							
3.1. Student obligations	necessary for solving tasks and participating in lectures and exercises. Students who achieve the following during the course: from 0 to 49.9% of ECTS							
5.1. Student obligations		st take and pass a written exam (tes						
	-	course in two ways: a) during the	course by passi	ng two colloquiums and the	e oral part of the exam;	b) by passing the written		
	and oral parts of the exam.							
	Attending classes	2 V	Vritten exam		Project			
3.2. Student work monitoring				colloquiums)				
(enter the share of ECTS credits	Experimental work	R	lesearch		Practical work			
for each activity so that the total	Essay	R	leport		Continuous check			
number of ECTS credits	Colloquiums	2 (without written exam) S	eminar paper		Field works or Study			
corresponds to the course credit					trips			
value)	Teaching activities	Т	he oral part of	1	(other)			
			xam					
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:							
		Obligation		Hours (estimated)				
3.3. Student work-load	1. Attending classe	S		60				
	2. Preparation for t	he Colloquium / exam through self	-study	60				
	3. Oral exam indiv	idual preparation		30				
		1 1						
4. GRADING SYSTEM								
	Elements of evaluation	Bad		Satisfying	ove average			
4.1. Evaluation of written exam	Physical quantities and	Nonstandard physical units have	e not Nonstar	ndard units have been conver	rted to Nonstandard u	nits have been converted		
	their units of	been converted to basic or have	been basic	units with minor error	rs in to base units w	ithout error.		
	measurement	converted wrong.	calculat	ion.				



	Structure, traceability,	The task is not properly structure	red, it	The task is say	tisfactorily structured,	The ta	ask is clearly structured, complete,	
	legibility and orderliness	is not traceable, and it is not read	dable.	traceable and read	able. The diagrams and	very 1	neat and legible. The diagrams are	
	of the procedure,	Diagrams and sketches are	non-	sketches are meaningful, neat with minor		completely accurate, clear and very		
	diagrams and sketches	existent, inaccurate, messy, un	nclear	errors.		neat.		
		and ambiguous.						
	Application of	Uses expressions that do not dea	scribe	Uses expression	s that describe the	Uses	expressions that describe the	
	appropriate equation	the problem specified, or incorrectly		problem in questi	on, accurately derives	proble	em in question, accurately derives	
	(formulas) and the final	expresses the physical unit from	m the	physical quantitie	s from the expression,	physi	cal quantities from expressions,	
	result.	expression. Numeric values ar	e not	incorporates num	erical values into the	lists u	inits of measure without errors, the	
		included in the expression. The	e end	expression with	smaller numbers, the	final 1	result is completely accurate.	
		result is incorrect.		final result has si	naller deviations from			
				the exact result.				
	Knowledge and	It responds by memory, with	out a	It reproduces the	e basic concepts and	Know	vledge is at the level of analysis,	
	expression.	· ·	deeper understanding. Does not know		without difficulty imparts new		synthesis and evaluation. Observes the	
		or apply basic terms and concepts.		knowledge, understands the material,		principles of physical laws, accurately		
		Does not know how to apply or		-	and concepts supports	and thoroughly explains the content of		
		explain the contents of the course with		-	les. Knows the expert	the material, and logically connects and		
4.2. Evaluation of oral exam		examples.		terminology.		-	ins the terms and concepts and	
							orts them with examples. Finds	
							ons that were not originally given.	
							otes correlations with related	
						mater	1	
						termi	nology.	
	Colloquiums/	2		3	4		5	
	Written exam							
4.3. Forming the final grade according to the evaluation		50-64,9%		65-79,9%	80-89,9%		90-100%	
elements		50-64,9 points	6	5-79,9 points	80-89,9 points		90-100 points	
	The oral part of exam	2		3	4		5	
		50-64,9 points	6	5-79,9 points	80-89,9 points		90-100 points	



	Percentage of acquired knowledge, skills and competencies (teaching + final exam)	Numerical grade		ECTS grade	
4.4. Formation of the final grade	90 - 100%	5 (excellent)		А	
based on the absolute distribution	80 - 89,9%	4 (very good)		В	
	65 – 79,9%	3 (good)		С	
	50-64,9%	2 (sufficient)		D	
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE				
5.1. Compulsory literature (available in the library and via other media)	Titl	Number of copies in the library	Availability via other media		
	Đuranović S.: Book from course Tehnical mechanic	uranović S.: Book from course Tehnical mechanics, Polytechnic of Šibenik, Šibenik, 2015.			
5.2. Additional literature (at the	Teaching materials from the lectures and exercises Applied Sciences for the course Tehnical mechanics	Feaching materials from the lectures and exercises on the e-learning system Šibenik University of Applied Sciences for the course Tehnical mechanics.			
moment of changes and/or amended of study programme)	Jurum Kipke, J., Wolf, H., Muftić O.: Mechanics in University of Zagreb, Zagreb 2009.	n traffic, Faculty of transport and traffic sciences,	5	-	
	Jecić S.: Mehanika (kinematika i dinamika), Tehnič		2	-	
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 possi adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can cont teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. If 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 fr 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 ABOUT THE COURSE							
1.1. Course title	ENGLISH LANGUAGE II	1.8. Course code in ISVU	187599 / 202076				
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	1.9. Course code in MOZVAG	-				
1.3. Assistants and/or associates	Ivana Jardas Duvnjak, professor, title lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 15 + 0 + 0)				
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>st</sup>	1.13. Modernization	X yes $\Box$ no				
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□				
2. COURSE DESCRIPTION							
2.1. Course objectives The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the adjective comparison, adverbs, modal verbs, transformation of direct into reported speech in the present. The aim is also to expand the vocabulary related to traffic, while exercises determine and practice grammar and new vocabulary. Another goal of the course is to write different kinds of business letters. By attending a foreign language classes, students are introduced with new communication systems, enabling their easier and more direct involvement in world events and getting acquainted with the elements of English culture and civilization of the English speaking world. Learning a foreign language is in line with the aspiration to preserve the richness of the diversity of multi-faceted Europe as well as with fostering the development of the culture of dialogue and civilization.							
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualifi	cation level 4.2 according to the CROQF, Completed course	e English language I				
2.3. Learning outcomes on the	LO1: To apply and link professional terms from te in Croatian and English.	echnology and organization of road traffic in written and ora	l communication with the professional public				
study programme level	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members					



	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.							
	Lear	ning outcomes accroding to th	e Bloom`s tax	onomy: (up to two verbs per LO)		Level of LO: 1- remembering 2- understandin 3- application, 4- analysis, 5- evaluation, 6- synthesis		
	1	. to understand and apply b	asic terms from	m the professional terminology of Eng	lish road traffic in English.	2, 3		
	2	2. to apply grammatical struct	tures in texts a	nd assignments.		3		
	3	3. to interpret and use tenses i	in real-life con	text.		3, 4		
	4	to develop an essay within	the topics of the	he course.		5, 6		
	5	5. to present own ideas for de	velopment of	traffic problems.		3		
	6. to communicate in a foreign language within the subjects of the course, to express one own opinions.					6		
	7. to compare and evaluate different traffic solutions.					5		
	8	3. to analyse medium complete	x texts and sol	ve tasks.		4		
	9	D. to use part of the general la	inguage compe	etency at levels B1.		6		
	Cons	tructive allignement						
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed	
2.5. Course content according to detailed curriculum schedule	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	
	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 and applied grammatical structures o are evaluated, understand, apply from the professional terminol road traffic and use them in y	n texts and tasks y and link terms logy of English	4 h	



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



					the development of transport solutions to develop	
					a longer essay within course topics, comparing	
					and evaluating different solutions in the traffic of	
					other countries, analyze medium complex texts	
					and solve tasks, use part of other language	
					competences at B1 level.	
					In colloquium or written and oral exams the	
					applied grammatical structures on texts and tasks	
					are evaluated, verb tenses are interpreted in a real	
					linguistic context, can communicate in foreign	
		RAIL TRAFFIC IN		Listen to lectures and read	languages within the course topic, express their	
	6	EUROPE – Expressing	1, 2, 3, 5,	literature. Use multimedia and	own opinions, present their own ideas related to	4 h
	6.	habit	6, 9	internet. Solve exercises.	the development of transport solutions to develop	4 11
		naon			a longer essay within course topics, comparing	
					and evaluating different solutions in the traffic of	
					other countries, analyze medium complex texts	
					and solve tasks, use part of other language	
					competences at B1 level.	
					In colloquium or written and oral exams the	
					applied grammatical structures on texts and tasks	
				Listen to lectures and read	are evaluated, verb tenses are interpreted in a real	
				literature. During lectures	linguistic context, can communicate in foreign	
				individually research the content of	languages within the course topic, express their	
	7.	Traffic in the USA – Tenses	1, 2, 3, 5,	this thematic field by searching data	own opinions, present their own ideas related to	6 h
	/.	Traine in the OSA – Tenses	6, 9	bases, presentt acquired knowledge,	the development of transport solutions to develop	0 11
				express their own ideas and ways of	a longer essay within course topics, comparing	
				problem solving. Brainstorming,	and evaluating different solutions in the traffic of	
				discussion. Solve exercises.	other countries, analyze medium complex texts	
					and solve tasks, use part of other language	
					competences at B1 level.	
		Traffic for tomorrow –	1, 2, 3, 5,	Listen to lectures and take part in	In colloquium or written and oral exams the	
	8.	Tenses, I colloquium	1, 2, 3, 3, 6, 9	discussion. Write the colloquium.	applied grammatical structures on texts and tasks	10 h
			0, 9		are evaluated, verb tenses are interpreted in a real	



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



1						
	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 tasks, use part of other language competences at B1 level.	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.	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	4 h



					other countries, analyze medium complex texts and solve tasks, use part of other language	
					competences at B1 level.	
	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 colloquium	1, 2, 3, 4, 5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	10 h
3. EVALUATION OF STUDENTS` WORK						
3.1. Students' obligations In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%. The students' acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final						



	evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the written part of the final exam and is obliged to take the oral exam only. The final exam consists of a written and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform oneself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Šibenik University and the e-learning page of the course, where all the information on the course as well as the teaching materials and the list of literature are also available.								
3.2. Monitoring student work	Attendance Experimental	0,5	Written exam Research	1 (without colloqu	ia) Project Practical work				
(enter the share of ECTS credits for each activity so that the total number of ECTS points	work Essay		Report		Continuous examination				
corresponds to the credit score of the course)	Colloquium	1 (without written exam)	Seminar paper		Other				
	Class activity	0,5	Oral exam	1	Other				
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:								
3.3. Student workload			nitment		Hours (estimate)				
5.5. Student workload	1. Attending classes and exercises				45				
	2. Preparation for the Colloquium / exam through self-study				45				
4. GRADING SYSTEM									
4.1. Grading seminar papers	-								
	Unsa	tisfactory	Satisfacto	ry		e average			
4.2. Grading colloquia/ written and oral exam	Responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.		e, thoroughly explains the content of the material, and logically				



	Active course	70-75% of attendance	76-86% of attendance	87-100% of attendance	Maximum points	
	attendance	3 points	7 points	20 points	20 points	
	Seminar paper					
4.3. Final grade according to evaluation elements		2	3	4	5	
	Colloquia/ Written exam	50-64,9%	65-79,9%	80-89,9%	90-100%	
		25 points	30 points	35 points	40 points	
	0.1	2	3	4	5	
	Oral exam	25 points	30 points	35 points	40 points	
		knowledge, skills and competences hing + final exam)	Numerical grade	E	CTS grade	
		90 - 100%	5 (excellent)		A B	
4.3. Final grade according to absolute division		80-89,9%	4 (very good)			
		65 - 79,9%	3 (good)		С	
		50-64,9%	2 (sufficient)		D	
5. ADDITIONAL INFORMAT	TON ABOUT THE COUL	RSE	·			
5.1. Compulsory literature		Title		Number of		

5.1. Compulsory literature (available in the library and via	Title	Number of copies in the library	Availability via other media
other media)	Katja Bošković Gazdović: "English textbook of Transport I", Faculty of transport nad traffic sciences, University of Zagreb, Zagreb, 2002. (selected chapters)	10	Х
5.2. Additional literature (at the moment of changes and/or amended of study programme)	<ul> <li>Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Department for traffic, Polytechnic of Rijeka, 2007.</li> <li>Adrian Pilbeam, Nina O'Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010</li> </ul>		X (e-learning, handouts)



	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	
5.3. Quality assurance methods	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track	of
that ensure the acquisition of	attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information	for
knowledge, skills and	further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligation	ons
<b>U</b>	as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from	the
competences	Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.	
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students of contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during cla 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 f working days after receiving the e-mail).	can ass.



PK-SP-2. Description of the new course or the course that has been supplemented and / or amended or updated.

1. GENERAL INFORMATION ABOUT THE COURSE								
1.1. Course title	INFORMATICS	1.8. Course code in ISVU	270677 / 270678					
1.2. Course lecturer	Zvonimir Klarin, master of inf., lecturer	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 (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>st</sup>	1.13. Modernization	X yes □ no					
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□					

2. COURSE DESCRIPTION					
2.1. Course objectives	To provide students with a fundamental understanding of the role and organization of information systems, the application of (IT) in business, and the acquisition of practical skills in using essential office tools. Students will gain basic technical knowled well as the skills to understand and utilize modern information and communication technologies. Emphasis is placed on the practice knowledge to prepare students for challenges in a professional environment.	edge in the field of IT, as			
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.				
	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.				
2.3. Learning outcomes on the	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.				
study programme level	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 accroding to the Bloom's taxonomy: (up to two verbs per LO)	Level of LO:			



		1- remembering, 2- understanding,
2.4. Expected learning outcomes on the course level		<ul> <li>3- application,</li> <li>4- analysis,</li> <li>5- evaluation,</li> <li>6- synthesis</li> </ul>
	1. Evaluate key aspects of information technology, computer architecture, and operating systems.	4
	2. Apply basic and advanced functions of Microsoft Office suite for business communication and organization.	3
	3. Create documents, presentations, and diagrams using appropriate tools.	4
	4. Manage email and calendar in a business environment.	4
	5. Apply functions and formulas in spreadsheets for data analysis and visualization.	3
	6. Create simple databases and use queries and reports for data analysis.	5

	Constructive allignement							
2.5. Course content according to detailed curriculum schedule	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed		
	1.	Introduction to the course and detailed syllabus. Exercises: Familiarization with the e-learning system and webmail.	-	Attend lectures. Work on the computer to familiarize themselves with the course content and documents on the e- learning platform.	-	2 h		
	2.	Introduction to information technology, history, and basics of computer architecture. Exercises: MS Word – Creating and formatting a seminar paper.	1, 2	Attend lectures and read literature. Work on the computer.	In the midterm or written and oral exam, they know how to create and format a seminar paper in MS Word.	4 h		
	3.	Operating systems, software installation and management. Exercises: MS Word – Using styles and templates.	1, 2	Attend lectures and read literature. Work on the computer.	In the midterm or written and oral exam, they know how to use styles and templates in MS Word.	4 h		



	4.	Cloud computing technologies and their application. Exercises: MS Word – Advanced formatting and working with images.	1, 2	Attend lectures and read literature. Work on the computer.	In the midterm or written and oral exam, they know how to use advanced formatting and work with images in MS Word.	4 h
	5.	Basics of creating presentations. Exercises: MS PowerPoint – Creating a presentation by editing the slide master.	2, 3	Attend lectures and read literature. Work on the computer.	In class/exercises and the oral exam, they know how to create a presentation by editing the slide master in MS PowerPoint.	4 h
	6.	Effective management of business communication and organization. Exercises: MS Outlook – Managing email and calendar.	2, 4	Attend lectures and read literature. Work on the computer.	In class/exercises and the oral exam, they know how to manage email and calendar in MS Outlook.	4 h
7		Introduction to diagram creation tools. Exercises: MS Visio – Creating a flowchart.	2, 3	Attend lectures and read literature. Work on the computer.	In class/exercises and the oral exam, they know how to create a flowchart using MS Visio.	4 h
	8.	Preparation for the midterm exam. Midterm Exam 1.	1, 2, 3, 4	Attend lectures and read literature. Work on the computer.	The midterm exam is taken on the computer.	30 h
	9.	Introduction to creating and formatting spreadsheets.Exercises: MS Excel – Creating and formatting Excel spreadsheet.	2, 5	Attend lectures and read literature. Work on the computer.	In the midterm or written and oral exam, they know how to create and format a worksheet in MS Excel.	4 h
	10.	Using formulas and functions in spreadsheets. Exercises: MS Excel – Applying formulas and functions.	2, 5	Attend lectures and read literature. Work on the computer.	In the midterm or written and oral exam, they know how to apply basic functions and formulas in MS Excel.	4 h
	11.	Data analysis and organization in spreadsheets. Exercises: MS Excel – Sorting, filtering, and analyzing data.	2, 5	Attend lectures and read literature. Work on the computer.	In the midterm or written and oral exam, they know how to sort, filter, and analyze data in MS Excel.	4 h



	12.	Datavisualizationinspreadsheets.Exercises:MSExcel – Creatingchartsbased on worksheet data.	2, 6	Attend lectures Work on the con	and read literature. nputer.	In the midterm or written a they know how to create c worksheet data in MS Excel	harts based on	4 h
	13.	Introduction to databases. Exercises: MS Access – Creating a simple database.	2, 6	Attend lectures and read literature.		In the midterm or written and oral exam, they know how to create a simple database in MS Access.		4 h
	14.	Using queries and reports in databases. Exercises: MS Access – Using queries and reports.	2, 6	Attend lectures Work on the con	and read literature. nputer.	In the midterm or written and oral exam, they know how to use queries and create reports in MS Access.		4 h
	15.Final considerations/Review and preparation for the midterm and/or final exam. Midterm Exam 2.Attend lectures and prepare individually for the exam. Take the exam on the computer.		The midtern evan is taken on the		40 h			
3. EVALUATION OF STUDEN	TS` W	ORK						
3.1. Students' obligations	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. Part-time students are required to attend classes at least 50%. All students are required to carry USB memory stick and their <u>AAI@EduHr</u> password. Students who have during the course achieved: from 0 - 24,9% ECTS credits are rated unsuccessful and cannot obtain ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by 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 two colloquia); b) by passing the exam (written and oral part of the exam).							
	Atten	dance	Writ	ten exam	2 (without colloquia)	Project		
3.2. Monitoring student work (enter the share of ECTS credits	Exper work	rimental	Rese	earch		Practical work		
for each activity so that the total number of ECTS points	Essay	,	Repor			Continuous examination		
corresponds to the credit score of the course))	Collo	quium 2 (without written exam)	Sem	inar paper		Other		
	Class	activity 1	Oral	exam	1	Other		



	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:						
3.3 Student workload		Commitment		Hours (estimate)			
	1. Attendir	g classes and exercises		45			
	2. Preparat	2. Preparation for the Colloquium / exam through self-study			75		
4. GRADING SYSTEM							
4.1. Grading seminar papers	-						
	τ	Jnsatisfactory	Satisfactory		Above average		
4.2. Grading colloquia/ written and oral exam	Responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.		of the material, and logically connects and		
	Activities in	70-74,9% of attendance	75-79,9% of attendance	80-89,9% of attendance		90-100% of attendance	
	class	2 points	5 points	10 p	oints	20 points	
	Colloquia/ Written exam	2	3	4		5	
4.3. Final grade according to evaluation elements		50-64,9%	65-79,9%	80-89,9%		90-100%	
		25 points	30 points	35 p	oints	40 points	
	01	2	3	5		5	
	Oral exam	25 points	30 points	35 points		40 points	
4.4. Final grade according to absolute division	Percentage of acquired knowledge, skills and competences (teaching + final exam)		Numerical grade	ECTS g		TS grade	
		90 - 100%	5 (excellent)		А		



	80 - 89,9%	4 (very good)	В			
	65 – 79,9%	3 (good)				
	50 - 64,9%	2 (sufficient)		D		
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE					
5.1. Compulsory literature (available in the library and via	Tit	ile		Number of copies in the library	Availability via other media	
other media)		0). Learn Microsoft Office 2019: A comprehensive guide to getting started with nt, Excel, Access, and Outlook. Birmingham: Packt Publishing Ltd.			-	
5.2. Additional literature (at the moment of changes and/or	<ol> <li>Habraken, J. (2021). Microsoft Office inside ou Microsoft Press.</li> </ol>	-				
amended of study programme)	2. Brookshear, J. G., & Brylow, D. (2019). Comp Pearson.	5	-			
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquis attendance and student activity during classes and p further guidance to students will be provided in order as well as the methods of work and the required lift Croatian employment service on the annual state of	rovided information on students` pr er to increase the efficiency of their rerature. Indicators of quality assure	ogress through s work. Students v ance system: Stu	hort colloquiums and hom vill be informed about thei dent survey, monitoring c	work, information for rights and obligations	
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).					



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

1. GENERAL INFORMATION ABOUT THE COURSE									
1.1. Coures title	TRAFFIC AND ECOLOGY	1.8. ISVU course code	201135 / 202080						
1.2. Coures lecturer	MSc Tanja Radić Lakoš, senior lecturer	1.9. MOZVAG course code	-						
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 15 + 0)						
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> – materials available On-line, 0%						
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.						
1.6. Study year	1 <sup>st</sup>	1.13. Modernization	$\Box$ yes <b>X</b> no						
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%□More than 20 %□						

2. COURSE DESCRIPTION	
2.1. Course objectives	The aim is that student, based on theoretical knowledge and case studies, be able to: Define basic ecological and environmental concepts; Understand problems in their own environment (in traffic and / or in the work environment) to independently manage the environment in a way that minimally affects the state and components of the environment in terms of sustainable development; Learn to identify the damage that traffic or traffic system participants can cause to natural ecosystems; Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
2.3. Learning outcomes on the	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.
study programme level	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.
	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.



	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.								
	LO11: To identify, predict and propose solutions in road traffic technology and technique.								
	LO13: To track trends in the development of technique, technology and safety in traffic.								
	Learning outcomes towards Bloom's taxonomy: (up to two verbs per LO)	LO Level: 1- Recapture, 2- Understanding, 3- Application, 4- Analysis, 5- Evaluation, 6- Synthesis							
2.4. Expected learning outcomes	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							
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).	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							

	Cons	Constructive alignment									
	No	Thematic ensemble / Lecture	LO of the	Content / Teaching Method	Evaluation	Time					
2.5. Course content according to	INU	Торіс	Course	Content / Teaching Wrethod	Evaluation	needed					
2.5. Course content according to detailed curriculum schedule	1. Introduction to the course and a detailed performance plan			Listen to the lecture. On seminary							
detailed curriculum schedule				teaching, by independent work on the							
			-	computer students get acquainted with	-	2 h					
			course content and documents on the e-								
				learning course page.							



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	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 members of the nutrition chain, and distinguish organisms with regard to the trophy.	4 h
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	10 h



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					of the environment. Created mental	
					map. Solved case study.	
	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 seminar paper (by independent use of computer programs).	10 h
	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 $\lambda$ -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	In a colloquy or written and oral exam they can define and describe the material, role and mode of catalyser and $\lambda$ probes, enumerate and describe	10 h



			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.	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).	
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 the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam they can define and describe the types of fossil fuels and RES and choose and comment on the most environmentally acceptable solution. Created and Presented seminar paper (by independent use of computer programs).	4 h
9.	Road traffic and energy consumption. Ecological efficiency in Traffic.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam students can define and describe ecological efficiency, to analyse and compare energy consumption in traffic in the historical and contemporary context, to propose and use measures to reduce energy consumption in road traffic and increase energy efficiency, critically evaluate the most appropriate solution. Created and Presented seminar paper (by independent use of computer programs).	6 h



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



1									
					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 STUDENT WORK									
3.1. Students` obligations	In accordance with the Book of Rules and the Rulebook on Student Assessment and Evaluation: for all regular students attend at least 70% attendance. Part-time students have the obligation to attend at least 50% of lectures. All students must create, present and positively colloquy seminar paper. Students who have during the course achieved: from $0 - 24,9\%$ ECTS credits- is rated unsuccessful and cannot get ECTS credits and must re-enrol the subject in the next academic year; from $25 - 49,9\%$ ECTS credits - is rated inadequate and has to come out and pass the test (exam). A written exam can be held in a regular or extraordinary exam period; more than 50% ECTS credits - students have the right to access the final exam of the subject. Students can pass								



		the final exam in two ways: a) during the course through continuous student attendance (active participation in the lessons, creating mental map, solving case studies, making and presenting the seminar paper and passing two colloquia); b) during the course (active participation in the lessons, creating mental map.							
	map, solving case studies, creating and presenting the seminar paper) and passing the exam (written and oral exam).								
	Attendance		Written exam	2 (by submitting both colloquiums the student is relieved of an written examination)	Project				
3.2. Monitoring student work	Experimental work		Research		Practical work				
(enter the share of ECTS credits	Essay		Report		Continuous examination	n			
for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Colloquium	3 (by submitting both colloquiums the student is relieved of a written and oral examination)	Seminar paper	0,5	Other (inscribe)				
	Class activities	0,5	Oral exam	1 (by submitting both colloquiums the student is relieved of an oral examination)	Other (inscribe)				
	The student's workload	l on all bases amounts to 1	ECTS point for 30 hour	rs of work per semester an	d is estimated as:				
		Commitment	ţ	Hours (estimate)					
3.3. Student workload	1. Attending cl	asses			45				
	2. Creating and	Presenting seminar paper	r		10				
	3. Preparation	for the Colloquium / exam	through self-study		65				
4. GRADING SYSTEM	<u> </u>								
4.1. Seminar paper grading	Valuation Element	Poo	r	Satisfying	Satisfying Above average				



	Organization		The paper is not organized in a logical order and its structure is lacking.		The paper is well structured with a clear distinction between the introduction, the main part of the text and the conclusion.		e paper is well-structured with a clear tinction between the introduction, the in part of the text and the conclusions t are perfectly logically linked to one other.
	Terminology, writing style style v		Writing style is not appropriate, sentences are too long, modest		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.		ords and phrases are aligned with icial terminology and show an lerstanding of their meaning. The ting style is excellent, the sentences are ar and concise, the vocabulary is rich I there are no grammatical errors.
	Quoting an referencing	d references do not mate	Sources are not specified at all. The references do not match the topic and show a superficial approach to the		Sources are listed, but incomplete and with errors. The references are appropriate for the subject and show a satisfactory research attitude.		arces are accurate, complete and asistent. The references are appropriate, ir list is "rich" and comprehensive and ows a robust research approach.
	P	oor		Satisfying			Above average
4.2. Colloquium / exam grading		not know and does not s and concepts. Cannot	transfers new k	sic terms, withou nowledge, understa the terms and the examples.	ands subject	evaluation. I thoroughly e logically linh that it encap	is at the level of analysis, synthesis and It observes legitimacy, accurately and explains the content of the subject, and ks and explains the terms and concepts psulates. Find solutions that are not given. There is a correlation with subjects.
	Active participation in the	70-75% of attendance	76-86%	76-86% of attendance		of attendance	e Created mental map. Solved case study.
	lessons	2 points	4	points	7	points	3 points
4.3. Creating a final grade according to evaluation	Seminar paper	2		3	4		5
elements	Seminar paper	5 points	7	points	8	points	10 points
	Colloquium /	2		3		4	5
	written exam	50-64,9%	65	5-79,9%	80	)-89,9%	90-100%



		25 points	30 points	35 poi	nts	40 points
	Oral exam	2	3	5		5
	Orar exam	25 points	30 points	35 poi	nts	40 points
		ted knowledge, skills and compe eaching + final exam)	tences	rous grade	ECTS	grade
		90 - 100%	5 (e	xcellent)	A	L .
4.4. Creating a final grade according to absolute allocation		80-89,9%	4 (v	ery good)	E	3
		65 – 79,9%	3	(good)	(	
		50-64,9%	2 (s	ufficient)	Γ	)
5. ADDITIONAL INFORMATI	ION ABOUT THE C	DURSE				
		Title	Number of copies in the library	Availability via other media		
5.1. Compulsory literature (available in the library and through other media)	Space Platoon - A F COM (2011) 144 fin	and Council of the European Un coad to a Comprehensive Transp al, 2011. and environment, Faculty of tran	5	Available On-line		
	_	ronmental management in Touris		Available On-line		
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Glavač, V.: Introduct	ironmental management, Polytec ion to global ecology, Croatia Un and environmental, Kigen, Zagr	5 2	Available On-line		
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track o attendance and student activity during classes and provided information on students' progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.					



5.4. information on the course	It is obligatory for every student to regularly inform about the course, teaching and teaching activities. All information about teaching or any delay in	
	ion on the course	teaching will be published on the e-learning pages of the course and on the web pages of the Šibenik University. Students can contact the teachers during
	with the teacher	the consultation term (at least one hour per week), while brief questions and explanations can be addressed during classes. It is possible to ask questions
and contact w	with the teacher	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 INFORMATION	ABOUT THE COURSE		
1.1. Course title	TRAFFIC LOGISTIC	1.8. Course code in ISVU	140773 / 202084
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30+0+30+0)
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>st</sup>	1.13. Modernization	X yes □ no
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□
2. COURSE DESCRIPTION			
2.1. Course objectives		vledge and case studies: learn about the elements of the logis e, transportation, and traffic, mastering the modern logistics	
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification le	evel 4.2 according to the CROQF.	
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from technolog public in Croatian and English.	y and organization of road traffic in written and oral commu	nication with the professional
	LO2: To organize and implement team work, and criticall	y judge the opinions and attitudes of team members.	
	LO3: To individually and responsibly search, interpret and	l integrate the relevant literature needed to make decisions.	
	LO5: To apply basic legal and economic principles in orga	anization with socially responsible management in technical-	technological subjects.
	LO6: To analyze and present relevant facts from the field	of traffic needed to reach conclusions.	
	LO7: To apply computer tools for analysis and compariso	n of data, and suggest an optimal solution in traffic process,	
	LO9: To assess and organize processes in the area of road	traffic and/or traffic logistics.	



	L011	: To identify, predict and propose sol	utions in road	traffic technology and technique.					
	LO12	: To set up a minor traffic process and	d critically eva	aluate it.					
	L013	LO13: To track trends in the development of technique, technology and safety in traffic.							
		ning outcomes by Bloom: (maximum	-			Level of LO:			
<ul><li>2.4. Expected learning outcomes on the course level (4- 10 learning outcomes)</li></ul>	Lear	1-1 2-4 3-4 4-6 5-6							
	1	. Define and differentiate basic terr	ns and division	n in logistics, warehousing, and freight forwardi	ng.	1, 2			
	2	. Analyze and extract information a	and communic	ation technologies in transport logistics.		4, 2			
	3	. Select, evaluate and categorize ser	rvices in the w	varehouse business.		3, 5			
	4	5, 4							
	<ol> <li>Compare and connect ways of transportation of products, organization of distribution and performance of city logistics.</li> </ol>								
	6	. Propose ways of doing urban logi	stics, handling	of products and reduction of inventory costs.		6			
	7	. Use materials and tools to search	the scientific a	and professional literature in their native and Eng	glish languages.	3			
	8	Present the acquired knowledge, i	deas, problem	s, and solutions independently and in a team.		6			
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement							
	No	Thematic unit	LO of the course	Content/teaching methods	Eva	aluation	Time needed		
	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.	The term of logistics (term, developmental factors, elements of	1, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually explore	-	im or the written and dents know how to	4 h		



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



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	Freight terminals and Freight-		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. They use multimedia and network. They listen to a lecture and read literature. At the	and forklifts for the storage of products and internal transport. Seminar paper created and presented (by computer programs). At the colloquium or the written and oral exam, students can define the basic terms of the Freight terminals	
6.	transportation centers (concept and division, development goals of Freight-transportation center, functions, services, 3PL)	1, 3, 6, 7	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.	and the Freight-transportation centers. Distinguish between Freight-transport centers by size and location. Select and categorize services provided at terminals and centers. Seminar paper created and presented (by computer programs).	4 h
7.	Information and communication system in the function of logistics (elements, methods of communication, modern computer programs, warehouse management system)	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.	At the colloquium or the written and oral exam, students can distinguish between information and communication technologies 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).	4 h
8.	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	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	4 h



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



			knowledge and presents their own ideas, and ways to solve problems.	the pallet. Seminar paper created and presented (by computer programs).	
12	Distribution and ordering of goods (concept, purpose, and structure of the distribution system, distribution networks, costs in distribution, term of the order, processes in ordering)	4, 6, 7	They use multimedia and network. They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or the written and oral exam, students can define the terms of order and distribution. Propose the ways of orders in case of missing products. Determine the difference between physical distribution and distribution channels. Compare and explain distribution network concepts. Identify distribution costs. Seminar paper created and presented (by computer programs).	4 h
13	City logistics (concept, task, and goal of city logistics, initiatives, the structure of city logistics system, optimization of logistics flows)	4, 5, 6, 7	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or the written and oral exam, students can define the concept and the goal of city logistics. Distinguish and isolate participants in city logistics. Categorize flows of products in city logistics. Identify means of transport. Suggest city logistics concepts. Identify the advantages and disadvantages of optimizing the flow of products. Seminar paper created and presented (by computer programs).	4 h
14	Study trip to KONZUM or LIDL Logistics-distribution center (located in Dugopolje and Perušić).	1, 3, 4, 5	_	On a study tour, students will be able to define and differentiate basic terms and divisions in logistics, warehousing, and freight forwarding. Select, evaluate and	8 h



								products. Suggest manipulation with the	and connect ct transport, stribution of ways of e products and	
	15.	Final consider and preparing fo	erations/Repeating r the exam.	-	They listen to a c individuals for the		lecture and prepare	reducing inventory co	sts.	62 h
3. EVALUATION OF STUDEN	T WO	RK								
<ul><li>3.1. Student obligations</li><li>3.2. Student work monitoring (enter the share of ECTS credits</li></ul>	Part-ti have a acade or ext ways: exam	ime students are r achieved during t mic year; from 25 raordinary exam j	equired to attend a he course: from 0 - 49,9% are assess period; more than 5 rse of teaching thro	class of at le - 24,9% EC sed by insuff 50% - studen	ast 50%. All students IS credits are rated u cient and must pass a ts have the right to ta	must of insucce nd pass ke the	create, present and p essful and cannot ea s the written exam (t final exam. Students	all full-time students at ositively colloquy semin rn ECTS credits, and n est). Written exam (test s can take the final exam n classes and through tw Project	nar papers. Stud nust re-enroll in ) can be held in n from the cour	lents who n the next a regular rse in two
for each activity so that the total	Exper	imental work			Research			Practical work		
number of ECTS credits corresponds to the course credit	Esaay				Report			Continuous check		
value)	Collo	quiums	1 (without writte exam)	en part of	Seminar paper		0,5	(other)		
	Teach	ing activities	1		The oral part of exam	n	0,5	(other)		
3.3. Student work-load	The st	tudent's workload			point for 30 hours of	work p	per semester and is e	stimated as:		
	Obligation     Hours (estimate)						ļ			
		1. Attending cla	sses					30		
		2. Creating and	Presenting seminar	paper				30		
		3. Preparation f	or the Colloquium	exam throug	gh self-study			60		



4. GRADING SYSTEM						
4.1. Evaluation of seminar paper	Elements of evaluation	Bad	Satisfyin	g	Abov	ve average
	Organization	The paper is not organized in a logical order and lacks structure.	The paper is well structudistinction between the intribody of the text and the contribution of text and text and the contribution of text and text	oduction, the main	distinction betwee	structured with a clear n the introduction, the text and the conclusion, interconnected.
	Terminology, 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.	Words and expressions official terminology. The appropriate, the sentence the vocabulary is appropri few grammatical errors.	writing style is structure is clear,	official terminolounderstanding of the style is excellent, the style is excellent, the style is excellent and the style is excellent.	eir meaning. The writing se sentences are clear and lary is rich and there are
	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.	with errors. The references are relevant to the		The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.	
4.2. Gradeing of the		Bad	Satisfyin	g		ve average
colloquium/written and oral exam	It does not know or appl	, without a deeper understanding. y basic terms and concepts. It does y or explain the contents of the	It reproduces the basic con difficulty imparts ne understands the material, e and concepts that it suppor	ew knowledge, explains the terms	synthesis, and eva legality, accurately the content of the connects and explai that it supports	the level of analysis, luation. It observes the and thoroughly explains material, and logically ns the terms and concepts with examples. Finds not originally given. It rith related material.
4.3. Forming the final grade according to the evaluation	Active attendance on class	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created, Case studies resolved
elements		2 points	4 points	7 p	ooints	3 points



	Sominor nonor	2	3		4	5
	Seminar paper	5 points	7 points	8	points	10 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	25 points	30 points	35	points	40 points
		2	3		5	5
	Oral part of exam	25 points	30 points	35	points	40 points
4.4. Formation of the final grade based on the absolute	U U U U U U U U U U U U U U U U U U U	uired knowledge, skills and (teaching + final exam)	Numerical grade	e	EC	TS grade
distribution	90 - 100%		5 (excellent)		А	
	80 - 89,9%		4 (very good)			В
	65 – 79,9%		3 (good)		С	
	50 - 64,9% 2 (su		2 (sufficient)			D
5. ADDITIONAL INFORMAT	ION ABOUT THE COU	JRSE				
5.1. Compulsory literature (available in the library and via		Title		Nun	ber of copies in the library	Availability via other media
other media)		R., Šafran M.: Freight Forwarding	-	y of	-	City of Sibenik library
		iences, University of Zagreb, Zagre		•	-	PDF (Internet website)
		ht-transport Centers, Faculty of Transport Centers)	versity	2		
	of Zagreb, 2013 (selected chapters) Zelenika R.: Logistics Systems, University of Rijeka, Faculty of Economics, Rijeka, 2005 (selected chapters) Bloomberg D.: Logistics, MATE, Zagreb School of Economics and Management, Zagreb, 2006 (selected chapters)				-	City of Sibenik library



5.2. Additional literature (at the	Teaching materials from lectures and seminars on the e-Learning system of the Sibenik		e-learning system		
moment of changes and/or	University of Applied Sciences for the mentioned course.		City of Sibenik library		
amended of study programme)	Zelenika R.: Transport Systems, University of Rijeka, Faculty of Economics, Rijeka, 2001.	City of Sidellik Ildrary			
	Zelenika R.: Transport and freight forwarding business, University of Rijeka, Faculty of		City of Sibenik library		
	Economics, Rijeka, 2001.		Internet website		
	Logistics <u>www.logistika.com.hr</u>		internet website		
5.3. Quality assurance methods	The control of students' work quality and the acquisition of necessary knowledge and skills will be en	sured through interactive v	work. By keeping track of		
that ensure the acquisition of	attendance and student activity during classes and provided information on students` progress through	h short colloquiums and ho	mework, information for		
knowledge, skills and	further guidance to students will be provided in order to increase the efficiency of their work. Student	ts will be informed about th	eir rights and obligations		
competences	as well as the methods of work and the required literature. Indicators of quality assurance system: S	Student survey, monitoring	g of annual data from the		
	Croatian employment service on the annual state of student employment, surveys from employers and	d Alumni association.			
5.4. Informing about the course	It is the responsibility of each student to be regularly informed about the course, the coursework, and c	lassroom activities. All noti	ices of classes or possible		
and contacting the course	adjournment will be published in a timely manner on the e-learning site of the course and on the web	osite of the Šibenik Univers	sity. Students can contact		
lecturer	teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is				
	also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will be answered as soon as possible (no later than five				
	working days after receiving the e-mail).				



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

1. GENERAL INFORMATION	ABOUT THE COURSE				
1.1. Course title	BASICS OF ELECTRICAL ENGINEERING AND ELECTRONICS	1.8. Course code in ISVU	201136 / 202078		
1.2. Course lecturer	MSc Danijel Mileta, title senior lecturer	1.9. Course code in MOZVAG	-		
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)		
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%		
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3		
1.6. Year of study	1 <sup>st</sup>	1.13. Modernization	X yes □ no		
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□		
2. COURSE DESCRIPTION					
2.1. Course objectives	The main objective of the course is to familiarize students	with basic knowledge in the field of electrical engineering an	nd electronics.		
2.2. Terms of course entry and required competences	Four-year secondary education completed; Possession of a	Level 4.2 qualification according to the CROQF.			
2.3. Learning outcomes on the	IU4: Apply knowledge of natural and technical sciences to	o road transport problems.			
study programme level	IU8: Solve traffic problems using analytical and / or graph	ical methods.			
2.4. Expected learning outcomes on the course level (4- 10 learning outcomes)	Learning outcomes by Bloom: (maximum 2 werbs for LO	))	Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation,		



1						6- synthesis.	
	1	. Set and calculate basic equations	of simple circu	uits and magnetic circuits.		3	
	2	Draw or sketch schematics of basis	4, 3				
	3	Identify and compare electrical an	d magnetic pł	nenomena.		2, 4	
		. Describe electronic components a	<u> </u>			1	
		5. Predict the results of electrical and				5	
		5. Solve simple tasks in the field of e				3	
2.5. Course content according to		tructive allignement				3	
detailed curriculum schedule	Cons	tructive amgnement					
	No	Thematic unit	LO of the	Content/teaching methods	Eva	luation	Time
			course				needed
		· Introduction to the course and detailed curriculum.		Students listen to a lecture. On the computer,			2 h
	1.		-	- they are introduced to the course content and documents on the e-learning course page.		- 2 n	
2.	2.	Basics of electricity	3, 5	Students listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving.	exam they can basic concepts and phenomena or sketch the s	im, written and oral define and describe and identify causes of electricity, draw same, and solve or tasks in the field of	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.	exam they can basic concepts, phenomena of related phenome	im, written and oral define and describe identify the basic direct current and ena, draw or sketch simple tasks in the urrent.	4 h



1						
	4.	Simple DC circuits	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.	DC circuits	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 DC circuits, draw or sketch the same, and set and solve or calculate tasks on the topic of 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 basic concepts from the domain of luminaries.	1 h



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



	14.	Basic electronic	elements	2,4		lemonstrat	and read literature. te how to solve ving.	At the oral exam, the define and describe electronic elements.	•	2 h		
	15.	Repetition / Coll	oquium	1, 2, 3, 4, 5	Students listen to The exercises d tasks. Independen	lemonstrat	te how to solve	It is necessary to identi solve simple tasks from units 10-13.	•	4 h		
3. EVALUATION OF STUDEN	T WO	RK										
3.1. Student obligations	Part-t and c writte exam	ime students are re annot earn ECTS n exam (test). Wr . Students can take	equired to attend a c credits, and must r itten exam (test) ca e the final exam fro	lass of at least re-enroll in the an be held in a om the course	50%. Students who e next academic yea a regular or extraor	have achi ar; from 2 dinary exa ring the co	ieved during the cou 25 - 49,9% are asse am period; more th purse of teaching th	all full-time students' att rse: from 0 - 24,9% ECT ssed by insufficient and an 50% students have the rough continuous monite	<b>S</b> are rated uns must pass and he right to take	uccessfu pass the the fina		
3.2. Student work monitoring	Attending classes 1		1		Written exam		1	Project				
enter the share of ECTS credits	Exper	rimental work			Research			Practical work				
for each activity so that the total number of ECTS credits	Esaay	7	Report     Continuous check		Continuous check							
corresponds to the course credit	Collo	quiums	1		Seminar paper			(other)				
value)	Teach	ning activities			The oral part of exa	ım	1	(other)				
3.3. Student work-load	The s	tudent's workload	on all bases amoun	ts to 1 ECTS	point for 30 hours o	of work pe	er semester and is es	timated as:				
			Oblig	ation				Hours (estimate)				
		1. Attending cla	isses					60				
		2. Preparation f	or the Colloquium /	exam throug	h self-study			60				
4. GRADING SYSTEM												
4.1. Evaluation of seminar paper		Elements of evaluation	Bac	1		Satisfyi	ng	Above	e average			
	C	Organization	The paper is not logical order and l	-								



1					main body of the which are logically	text and the conclusion, interconnected.	
	Terminology, 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.	Words and expressions official terminology. The appropriate, the sentence the vocabulary is appropr few grammatical errors.	writing style is structure is clear,	Words and expressions are aligned wi official terminology and show a understanding of their meaning. The writin style is excellent, the sentences are clear an concise, the vocabulary is rich and there a 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 bu with errors. The references topic and show a sati attitude.	are relevant to the	consistently listed appropriate, their	ccurately, completely and d. The references are list is "rich" and shows a detailed research	
4.2. Gradeing of the colloquium/written and oral		Bad	Satisfying Above average			ve average	
exam	It does not know or appl	, without a deeper understanding. y basic terms and concepts. It does y or explain the contents of the	It reproduces the basic condifficulty imparts neuronation of the material, each and concepts that it support	ew knowledge, explains the terms	synthesis, and eva legality, accurately the content of the connects and explai that it supports solutions that were	the level of analysis, aluation. It observes the and thoroughly explains e material, and logically ins the terms and concepts with examples. Finds e not originally given. It with related material.	
4.3. Forming the final grade according to the evaluation	Active attendance on class	0-69,9% attendance	70-79,9% attendance	80-89,9%	attendance	90-100% attendance	
elements	Cluss	0 points	5 points	7 p	ooints	10 points	
	Colloquiums x2	2	3		4	5	
	Conoquiums x2	16 points	20 points	26 ]	points	30 points	
	W. W. A. C.	2	3		4	5	
	Written part of exam	50 - 64,9%	65 - 79,9% 80 -		89,9%	90 - 100%	



		15 points	20 points	25	j points	30 points		
		2	3		4	5		
	Oral part of exam	15 points	20 points	25	o points	30 points		
4.4. Formation of the final grade based on the absolute	•	quired knowledge, skills and s (teaching + final exam)	Numerical grad	de	EC	ECTS grade		
distribution		90 - 100%	5 (excellent)			А		
		80 - 89,9%	4 (very good)	)		В		
		65 - 79,9%	3 (good)			С		
		50 - 64,9%	2 (sufficient)			D		
5. ADDITIONAL INFORMATI	ON ABOUT COURSE							
5.1. Compulsory literature (available in the library and via		Title		Num	Number of copies in the libraryAvailability via other media			
other media)	Stanić, E.: "Basics of el	lectrical engineering", School book	, Zagreb		3			
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Kulišić, P. : "Physics 2 Pinter, V. : "Basics of e	", School book, Zagreb electrical engineering 1 and 2", Tecl	hnical book, Zagreb					
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 Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address 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 an amended and/or changed or modernized course.

1. GENERAL INFORMATION ABOUT THE COURSE								
1.1. Course title	OPERATIONAL RESEARCH IN TRAFFIC	1.8. ISVU course code	201138 / 202091					
1.2. Course lecturer	Ivana Beljo, grad. eng. math., univ. spec. oecc., senior lecture	1.9. MOZVAG course code	-					
1.3. Assistants and/or associates	PhD Ana Perišić, collegue professor	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 15 + 0 + 0)					
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st level – materials available on-line, 0%					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1					
1.6. Study year	2 <sup>nd</sup>	1.13. Modernization	$\Box$ yes X no					
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□					

2. COURSE DESCRIPTION	
2.1. Course objectives	The objective of the course is for students acquire knowledge and skills in analytical thinking, as well as logical reasoning and interpreting results for further education. The goal of the course is for students to be equipped, based on theoretical knowledge and case studies, to understand, comprehend, recognize, and apply various quantitative methods for solving specific problems and methods for optimizing such problems.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
2.3. Learning outcomes on the	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.
study programme level	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.
	LO7: To apply computer tools for analysis and comparison of data, and suggest an optimal solution in traffic process.



	LO8:	LO8: To solve problems in traffic by using analytical and / or graphical methods.							
2.4. Expected learning outcomes on the course level	Lear	ning outcomes according to the Bloom`	s taxonomy:	(up to two verbs per LO)		Level of I 1- rememb 2- underst 3- applica 4- analysi 5- evaluat 6- synthes	pering, anding, tion, s, ion,		
	1	. Formulate a mathematical model for	linear optim	nization problems.			6		
	2	. Solve optimization problem with gra	phical meth	od.			4		
	3	<ol> <li>Apply computer tools in solving line postoptimality analysis.</li> </ol>	ar programn	ning problems and recommend and	valorize the solution through		3, 5		
	4. Choose the appropriate algorithm and solve the problem on network.					3, 4			
	5	. Design a model for project managem	ent and reco	ommend optimal savings by cutting	the duration of activities.	(	5, 5		
				Constructive allignement					
	no.	Thematic ensemble / Lecture Topic	LO of the course	Content / Teaching Method	Evaluation		Time needed		
2.5. Course content according to detailed curriculum schedule	1.	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.	-		2 h		
	2.	Formulate a mathematical model	1	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mai model.	thematical	3 h		
	3.	Linear programming	1	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mat model.	thematical	3 h		



4.	Linear Programming Problems. Graphical solution	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to model a linear programming problem and sketch a graph and solve an optimization problem.	3 h
5.	Solving linear programming problems: The Simplex method. The Excel Solver	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to model the linear programming problem and solve the problem with the simplex method and using the Solver and recommend the optimal solution.	3 h
6.	Postoptimality analysis	1, 2, 3	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mathematical model and apply computer tools in solving linear programming problems and recommend and valorize the solution through postoptimality analysis.	3 h
7.	The Transportation problem.	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to define and describe the transport problem, distinguish between open and closed transport problem., and set the model.	3 h
8.	Northwest corner rule, Minimum prices method, Vogel's approximation method, Russel's approximation method	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve the transportation problem using the northwest corner rule, minimum prices method, and Vogel's and Russel's approximation methods.	3 h
9.	The Assignment Problem	1, 3	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve the transport problem and the assignment problem.	3 h
10.	An Overview of Various Applications of Linear Programming Methods in Practical Examples. Exam preparation	1, 2, 3	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mathematical model, apply computer tools in solving linear programming problems and	3 h
	5.         6.         7.         8.         9.	<ol> <li>Graphical solution</li> <li>Graphical solution</li> <li>Solving linear programming problems: The Simplex method. The Excel Solver</li> <li>Postoptimality analysis</li> <li>Postoptimality analysis</li> <li>The Transportation problem.</li> <li>Northwest corner rule, Minimum prices method, Vogel's approximation method, Russel's approximation method</li> <li>The Assignment Problem</li> <li>An Overview of Various Applications of Linear Programming Methods in Practical Examples.</li> </ol>	4.Graphical solution1, 25.Solving linear programming problems: The Simplex method. The Excel Solver1, 36.Postoptimality analysis1, 2, 37.The Transportation problem.1, 38.Northwest corner rule, Minimum prices method, Vogel's approximation method, Russel's approximation method1, 39.The Assignment Problem1, 310.An Overview of Various Applications of Linear Programming Methods in Practical Examples.1, 2, 3	4.Linear Programming Problems. Graphical solution1, 2involving students through problem solving and discussion.5.Solving linear programming problems: The Simplex method. The Excel Solver1, 3Attending lectures. Actively involving students through problem solving and discussion.6.Postoptimality analysis1, 2, 3Attending lectures. Actively involving students through problem solving and discussion.7.The Transportation problem.1, 3Attending lectures. Actively involving students through problem solving and discussion.8.Northwest corner rule, Minimum prices method, Vogel's approximation method1, 3Attending lectures. Actively involving students through problem solving and discussion.9.The Assignment Problem1, 3Attending lectures. Actively involving students through problem solving and discussion.10.An Overview of Various Applications of Linear Programming Methods in Practical Examples.1, 2, 3Attending lectures. Actively involving students through problem solving and discussion.	4.Linear Programming Problems. Graphical solution1, 2Attending involving students through problem solving and discussionstudents know how to model a linear programming problem and sketch a graph and solve an optimization problem.5.Solving problems: The Simplex method. The Excel Solver1, 3Attending involving students through problem solving and discussion.In colloquium or written and cral exams students know how to model the linear programming problem and solve the problem solving and discussion.6.Postoptimality analysis1, 2, 3Attending involving students through problem solving and discussion.Students whow how to model a linear graph and solve an optimization problem.7.The Transportation problem.1, 3Attending involving students through problem solving and discussion.Students whow how to define and describe involving students through problem solving and discussion.8.Northwest corner rule, Minimum prices method, Vogel's approximation method1, 3Attending involving students through problem solving and discussion.In colloquium or written and oral exams students know how to solve the transport and oral exams students know how to solve the transport problem, and set the model.9.The Assignment Problem1, 3Attending involving students through problem solving and discussion.In colloquium or written and oral exams students know how to solve the transport problem, and set model.10.An Overview of Various Applications of Linear Programming Methods in Practical Examples.1, 2, 311.



					recommend and valorize the solution	
					through postoptimality analysis.	
		Network Optimization Models. The		Attending lectures. Activ	ely Students will choose the appropriate	
	11.	shortest-path problem. The minimum	4	involving students throu	igh algorithm and solve the problem on	3 h
		spanning tree problem.		problem solving and discussion	on. network.	
		The maximum flow problem. The		Attending lectures. Activ	ely Students will choose the appropriate	
	12.	minimum cost flow problem.	4	involving students through	igh algorithm and solve the problem on	3 h
		minimum cost now problem.		problem solving and discussion	on. network.	
				Attending lectures. Activ	Students will design a model for project	
	13.	Project Management with	5	involving students through	management and recommend optimal	3 h
	13.	PERT/CPM	5	problem solving and discussion	Savings by cutting the duration of	5 11
				problem solving and discussion	activities.	
				Attending lectures. Activ	ely Students will propose optimal business	
	14.	Dynamic Programming	5	involving students through	igh decisions using dynamic programming	
				problem solving and discussion	on. methods.	
				Attending lectures. Activ	ely	
		Final conclusions.	1, 2, 3, 4,	involving students throu	ıgh	
15.	15.	Exam preparation.	1, 2, 3, <del>1</del> , 5	problem solving and discussi	on	3 h
		Exam preparation.	5	Group problem solving	and	
				discussion. Exam preparation		
	s' woi					

## 3. EVALUATION OF STUDENTS' WORK

3.1. Students` obligations	Student obligations are prescribed by the Study Regulations. It is recommended that students actively participate in classes, which includes engaging in					
	discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email					
	(ivana.beljo@vus.hr, ana.sisak@vus.hr). It is the responsibility of each student to stay informed about the conduct of classes. All announcements regarding					
	the conduct or possible postponement of classes will be posted on the website of the Šibenik University of Applied Sciences or the course webpage, where					
	all information about the course, as well as teaching materials and a list of literature, can also be found. Students can pass the final exam in the course in					
	two ways: a) during the course through continuous student assessment (active participation in classes and two colloquiums). Students who do not meet					
	some of the learning outcomes are required to take the oral part of the exam. b) during the course (active participation in classes) and by taking the exam					
	(written and oral exam).					
3.2. Monitoring student work	Attendance 0,5	0.5	W: the second	2 (without	Ducient	
(enter the share of ECTS credits		Written exam	colloquium)	Project		



for each activity so that the total number of ECTS points	Experimental work		Research		Practical work		
corresponds to the credit score of the course)	Essay		Report		Continuous examination	0,5	
	Colloquium	2,5 (without written and oral exam)	Seminar paper		Other		
	Class activity		Oral exam	0,5 (without colloquium)	Other		
	The student's wo	rkload on all bases amounts	to 1 ECTS point for 30	hours of work per sem	ester and is estimated as:		
	Obligation				Hours (estimate)		
3.3. Student workload	1. Attend	ling classes and exercises			45		
	2. Prepar	2. Preparation for the Colloquium / exam through self-study			65		
4. GRADING SYSTEM							
4.1. Grading seminar papers							
	Unsatisfactory		Satisfactory		Above average		
4.2. Grading colloquia/ written and oral exam	Responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.		Knowledge is at the level of analysis, synthesis and evaluation. Observes the principles, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts supported with examples. Finds solutions that were not originally given. Notes correlations with related material.		
4.3. Final grade according to evaluation elements	Activities in cla	Ass Preparation for te	Preparation for teaching units; Understanding previous content; Participation in solving tasks together: 0 – 20 points				
	Seminar papers	Seminar papers -					
	Colloquium/wr	itten	Preparation/learning; Scoring and grading according to correct answers in the test: 0 – 80 points (min 40 points)				
evaluation elements	exam	Preparation/learni	ng; Scoring and grading	according to correct a	inswers in the test: $0 - 80$ poi	nts (mm 40 points)	



4.3. Final grade according to absolute division	Percentage of acquired knowledge, skills and competences (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					
	50-64,9%	2 (satisfactory)	D					
5. ADDITIONAL INFORMATIO	5. ADDITIONAL INFORMATION ABOUT THE COURSE							
5.1. Compulsory literature (available in the library and via	Title				Availability via other media			
other media)	Pašagić, H., Ivanković, B., Kapetanović, N.: Mathematical methods in traffic, Zagreb, 2004.							
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Neralić, L.: Introduction to Mathematical Programming 1, Zagreb, 2012. Hillier F., Lieberman G.: Introduction to operations Research, McGraw Hill 8th ed. 2005, 8th Ed.							
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.							
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).							



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

1. GENERAL INFORMATION ABOUT THE COURSE						
1.1. Course title	BASICS OF MECHANICAL ENGINEERING	1.8. Course code in ISVU	270680 / 270681			
1.2. Course lecturer	Luka Olivari, master of mech., senior lecturer	1.9. Course code in MOZVAG -				
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)			
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	6.			
1.6. Year of study	2 <sup>nd</sup>	1.13. Modernization	X yes □ no			
1.7. Credit score (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□			
2. COURSE DESCRIPTION						
2.1. Course objectives	The aim of the course is to provide students with theoretical knowledge and practical examples: to introduce into the professional and scientific content of mechanical engineering; master the application of the acquired knowledge for solving practical tasks in the field of transport; adopts approaches, methods and procedures of mechanical engineering for solving problems.					
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.					
2.3. Learning outcomes on the	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.					
study programme level	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.					
	Learning outcomes by Bloom: (maximum 2 werbs for LO)       Level of LO:         1- memory,					



2.4. Expected learning outcomes						2- understanding,	
on the course level (4-10						3- application,	
learning outcomes)						4- analysis,	
						5- evaluation,	
						6- synthesis.	
	1.	Differentiate concepts, physica	ll quantities, a	nd units of measurement in the field of basic me	echanical engineering.	4	
	2.	Comment on the characteristry properties.	omment on the characteristics and properties of materials, as well as the procedures for testing material operties.				
	3.	Calculate material stress and d	5				
	4.	Dimension machine elements	5				
	5.	Formulate expressions for the systems.	6				
	6.	Differentiate the concepts and problem.	l laws of ther	modynamics, and select appropriate principle	s for solving a given	5, 5	
2.5. Course content according to detailed curriculum schedule	Constr	uctive allignement					
	No	Thematic unit	LO of the course	Content/teaching methods	Evalua	ation	Time needed
	1.	Introductory presentation (introducing students to the content and obligations of the course). Introduction to mechanical engineering, determining the shape and dimensions of machine parts, selection of materials.	1	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or exam, students: dif from statics; solve r from the specified un	ferentiate concepts numerical problems	4 h
	2.	Technical Materials, Material Structure, Material Properties	1, 2	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 exam, students: dif from statics; solve n from the specified un	ferentiate concepts numerical problems	4 h



3.	Types of Loads and Stresses, Deformations Due to Loading	1, 2, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
4.	Basics of Mechanical Properties Testing of Materials	1, 2, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
5.	<ul><li>σ-ε Diagram, Allowable</li><li>Stress and Safety Factor,</li><li>Stress Concentration</li></ul>	1, 2, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
6.	Moment of Resistance and Moment of Inertia of a Surface, Hardness and Hardness Testing	1, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
7.	Creep and Creep Testing, Toughness and Toughness Testing, Dynamic Endurance	1, 3, 4	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
8.	Classification of Machine Elements, Fasteners, Power and Motion Transmission Elements	1, 4, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
9.	Machine Elements: Springs, Shafts, Axles, Bearings	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h
10.	MachineElements:Couplings,GearTransmission,BeltTransmission,ChainTransmission	1, 5	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	4 h



	11.	Introduction to Thermodynamics, Kinetic Molecular Theory, State Variables		Listen to a lecture and exercises demonstrate Independent task s preparation for colloqu	how to solve tasks. e solving. Individual f	At the colloquium or the wr exam, students: differenti rom statics; solve numeri rom the specified unit.	iate concepts	4 h
	12.	Heat Conduction, Laws of Thermodynamics	1,6	Listen to a lecture and exercises demonstrate Independent task s preparation for colloqu	how to solve tasks. e solving. Individual f	At the colloquium or the wreat the colloquium or the wreat the students: differention of the statics; solve numerion the specified unit.	iate concepts	4 h
	13.	Equation of State of an Ideal Gas, Changes in Gas States	1, 6	Listen to a lecture and exercises demonstrate Independent task s preparation for colloqu	how to solve tasks. e solving. Individual f	At the colloquium or the wr exam, students: differenti rom statics; solve numeri rom the specified unit.	iate concepts	4 h
	14.	Cycle Processes, Internal Combustion Engine Cycle Processes		Listen to a lecture and exercises demonstrate Independent task s preparation for colloqu	how to solve tasks. e solving. Individual f	At the colloquium or the war exam, students: differenti from statics; solve numeri from the specified unit.	iate concepts	4 h
	15.	Review, recapitulation, and preparation for the exam.	1, 2, 3, 4, 5, 6	Listen to lectures a Prepare individually for		-		4 h
3. EVALUATION OF STUDEN	T WOR	K						
3.1. Student obligations	attend c necessa are grac pass the	accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Full-time students are required to tend classes at least 70%, which is also a requirement for obtaining the lecturer's signature. Students are required to bring a calculator and other equipment eccessary for solving tasks and participating in lectures and exercises. Students who achieve the following during the course: from 0 to 49.9% of ECTS e graded F (fail) and must take and pass a written exam (test), more than 50% - students earn the right to take the final exam for the course. Students can set the final exam for the course in two ways: a) during the course by passing two colloquiums and the oral part of the exam; b) by passing the writter and oral parts of the exam.						quipment of ECTS dents can
3.2. Student work monitoring (enter the share of ECTS credits	Attendi	ing classes 2		Written exam	2 (without colloquiums)	Project		
						<b>D</b>		

	I I I I I I I I I I I I I I I I I I I				
3.2. Student work monitoring	Attending classes	2	Written exam	2 (without	Project
(enter the share of ECTS credits				colloquiums)	
for each activity so that the total	Experimental work		Research		Practical work
number of ECTS credits	Essay		Report		Continuous check
corresponds to the course credit	Colloquiums	2 (without written	Seminar paper		Field works or Study
value)	-	exam)			trips



	Teaching activities	The oral part exam	of	1	(other)		
	The student's workload on	all bases amounts to 1 ECTS point for 30 Obligation	) hours of	f work per semester and is estimated as: Hours (estimated)			
	1. Attending classe	<u> </u>			60		
3.3. Student work-load		he Colloquium / exam through self-study	7			60	
	3. Oral exam indivi	idual preparation		30			
4. GRADING SYSTEM							
	Elements of evaluation	Bad		Satisfying		Ab	ove 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 without error.	
4.1. Evaluation of written exam		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.	problem physical incorpor expressi	expressions that descr in question, accurately l quantities from the exp rates numerical values ion with smaller numb sult has smaller deviation et result.	derives pression, into the ers, the	problem in que physical quant lists units of me	ons that describe the stion, accurately derives ities from expressions, easure without errors, the ompletely 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	without knowled	oduces the basic conce difficulty imparts dge, understands the s the terms and concepts	new material,	synthesis and e principles of p and thoroughly	at the level of analysis, valuation. Observes the hysical laws, accurately explains the content of d logically connects and



							1			
		explain the contents of the examples.	ne course with	them with example terminology.	s. Knows	the expert	supp solut It r mate	ains the terms and concepts and orts them with examples. Finds ions that were not originally given. notes correlations with related rial. Fluent in professional inology.		
	Colloquiums/									
	Written exam	2		3		4		5		
4.3. Forming the final grade according to the evaluation	Witten exam	50-64,9%		65-79,9%	80-	89,9%		90-100%		
elements		50-64,9 points	6	55-79,9 points	80-89	9,9 points		90-100 points		
	The oral part of exem	2	3		4			5		
		50-64,9 points		55-79,9 points	80-89	80-89,9 points		90-100 points		
	• 1	d knowledge, skills and ching + final exam)		Numerical grade		ECTS grade				
4.4. Formation of the final grade	90 -	100%	5 (excellent) A			А				
based on the absolute	80 -	89,9%	4 (very good) B			В				
distribution	65 –	79,9%		3 (good)				С		
	50 -	50 – 64,9% 2 (sufficient)				D				
5. ADDITIONAL INFORMATI	ON ABOUT THE COU	RSE				<b>I</b>				
5.1. Compulsory literature (available in the library and via other media)		Title				Number copies in t library	the	Availability via other media		
	Đuranović S., Olivari I Šibenik, 2021.	.: Basics of mechanical en	gineering II ec	lition, Polytechnic of	Šibenik,	-				
5.2. Additional literature (at the moment of changes and/or	U	m the lectures and exercise ciences for the course Basics		<b>U</b> .	Šibenik	-		on-line (e-learning)		
amended of study programme)	oniversity of Applied S	ciences for the course dasies		Engineering.		5		-		



	Vrhovski, D., Nikšić, M.: Mechanical engineering. Collection of solved tasks, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb, 2005.	10	_
	Perše, S., Višnjić. V.: Mechanical engineering in traffic, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb, 2005.		
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 a attendance and student activity during classes and provided information on students` progress throu further guidance to students will be provided in order to increase the efficiency of their work. Stude as well as the methods of work and the required literature. Indicators of quality assurance system Croatian employment service on the annual state of student employment, surveys from employers a	igh short colloqui nts will be inform : Student survey,	ums and homework, information for ed about their rights and obligations monitoring of annual data from the
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 adjournment will be published in a timely manner on the e-learning site of the course and on the w teachers during the consultation period (at least one hour per week), while for short questions and also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which we working days after receiving the e-mail).	ebsite of the Šibe explanations they	nik University. Students can contact v can be contacted during class. It is



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

1. GENERAL INFORMATION	ABOUT THE COURSE			
1.1. Course title	ENGLISH LANGUAGE III	1.8. Course code in ISVU	140775 / 202089	
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	1.9. Course code in MOZVAG	-	
1.3. Assistants and/or associates	Ivana Jardas Duvnjak, professor, title lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(15 + 30 + 0 + 0)	
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>nd</sup>	1.13. Modernization	X yes $\Box$ no	
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□	
2. COURSE DESCRIPTION				
2.1. Course objectives	creation and use of passives, causative construction is also to expand the vocabulary related to traffic, write different kinds of business letters. By attend easier and more direct involvement in world even	y related to road and postal traffic as well as predicted gran ons, mastery of conditional sentences, transformation of direc- while exercises determine and practice grammar and new v ing a foreign language classes, students are introduced with r ats and getting acquainted with the elements of English cultu- the aspiration to preserve the richness of the diversity of mu- vilization.	ct into reported speech in the past. The aim ocabulary. Another goal of the course is to new communication systems, enabling their and civilization of the English speaking	
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualifi	cation level 4.2 according to the CROQF, Completed course	English language II	
2.3. Learning outcomes on the	LO1: To apply and link professional terms from te in Croatian and English.	chnology and organization of road traffic in written and oral	communication with the professional public	
study programme level	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members.		



	LO3: 1	o individually and responsibly	search, interp	ret and integrate the relevant literature	needed to make decisions.			
	Lear	ning outcomes accroding to the	Bloom`s tax	onomy: (up to two verbs per LO)		Level of LO: 1- remembering 2- understandir 3- application, 4- analysis, 5- evaluation, 6- synthesis		
	1	1. to understand, apply and link terms from the professional terminology of English road traffic and use them in written and oral communication.						
	2	2. to apply grammatical structures in texts and assignments.						
	3	3. to interpret and use tenses in real-life context.						
	4. to develop a longer essay within the topics of the course.						5, 6	
	5. to present own ideas for development of traffic problems.						3	
	6			thin the subjects of the course, to expre	ss one own opinions.	6		
		to compare and evaluate diff		solutions.		5		
		<ul> <li>to analyse complex texts and</li> <li>to use part of the general land</li> </ul>		tency at levels R1/R2		6		
	<ul><li>9. to use part of the general language competency at levels B1/B2.</li><li>Constructive allignement</li></ul>				0			
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed	
2.5. Course content according to detailed curriculum schedule	<u> </u>		-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-		2 h	
	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 applied grammatical structures of are evaluated, understand, apply from the professional terminole	n texts and tasks and link terms	4 h	



				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		
			Listen to lectures and read literature.	languages within the course topic, express their		
2	The Age Of Bad Roads - The	1, 2, 3, 4,	Use multimedia and internet. Solve	own opinions, present their own ideas related to	41	
3.	Passive Voice	9	exercises.	the development of transport solutions to develop	4 h	
				a longer essay within course topics, comparing		
				and evaluating different solutions in the traffic of		
				other countries, analyze medium complex texts		
				and solve tasks, use part of other language		
				competences at B1 level.		
				In colloquium or written and oral exams the		
				applied grammatical structures on texts and tasks		
				are evaluated, verb tenses are interpreted in a real		
				linguistic context, can communicate in foreign		
				languages within the course topic, express their		
	Roads And The Church -		Listen to lectures and read literature.	own opinions, present their own ideas related to		
4.	The Passive Voice, Present	1, 2, 3, 9	Use multimedia and internet. Solve	the development of transport solutions to develop	4 h	
	times		exercises.	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.		
			<b>.</b>	In colloquium or written and oral exams the		4
		1 2 2 5	Listen to lectures and read literature.	applied grammatical structures on texts and tasks		
5.	Early Carriages - The		Use multimedia and internet. Solve	are evaluated, verb tenses are interpreted in a real	4 h	
	Passive Voice, Past times		exercises.	linguistic context, can communicate in foreign		
				languages within the course topic, express their		
			1			



20						
_					own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level. In colloquium or written and oral exams the	
	6.	Trade And Transport In The Turnpike Era - The Passive Voice, Future times	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	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.	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 colloquium	1, 2, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks	10 h



Image: Complement of transport solutions to1, 2, 3, 5, 6, 9Listen to lectures and read literature.In colloquium or written and oral examplied grammatical structures on texts a are evaluated, verb tenses are interpreted linguistic context, can communicate in languages within the course topic, expression own opinions, present their own ideas restricted to the development of transport solutions to the devel	ams the nd tasks in a real foreign ess their 6 h
9.The Satellite - The Infinitive and the Gerund1, 2, 3, 5, 6, 9Listen to lectures and read literature. Solve exercises.In colloquium or written and oral exa applied grammatical structures on texts a are evaluated, verb tenses are interpreted linguistic context, can communicate in languages within the course topic, expres own opinions, present their own ideas re the development of transport solutions to a longer essay within course topics, con and evaluating different solutions in the t other countries, analyze medium compl 	nd tasks in a real foreign ess their elated to develop mparing raffic of ex texts
are evaluated, verb tenses are interpreted linguistic context, can communicate in languages within the course topic, expres own opinions, present their own ideas re the development of transport solutions to a longer essay within course topics, cou and evaluating different solutions in the t other countries, analyze medium compl and solve tasks, use part of other la competences at B1 level.	foreign ess their elated to develop mparing raffic of ex texts



				and solve tasks, use part of other language	
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.	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	10 h
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.	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.	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	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop	4 h



				-		
				problem solving. Brainstorming,	a longer essay within course topics, comparing	
				discussion. Solve exercises.	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	
				Listen to lectures and read literature.	applied grammatical structures on texts and tasks	
				During lectures individually	are evaluated, verb tenses are interpreted in a real	
				research the content of this thematic	linguistic context, can communicate in foreign	
			1, 2, 3, 4,	field by searching data bases,	languages within the course topic, express their	
	14.	Scientific Road Making -	5, 6, 7, 8,	presentt acquired knowledge,	own opinions, present their own ideas related to	6 h
		Conditional Sentences	9	express their own ideas and ways of	the development of transport solutions to develop	
			-	problem solving. Brainstorming,	a longer essay within course topics, comparing	
				discussion. Solve exercises.	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	
			1, 2, 3, 4,		languages within the course topic, express their	
	15.	Revision – II colloquium	5, 6, 7, 8,	Solve exercises.	own opinions, present their own ideas related to	10 h
		-	9		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.	
3. EVALUATION OF STUDEN	TS` WO	ORK				
	Tra acti	endence mith the Deculet's set	. Ct. I.	d the Descriptions on Student A	and and Evolutions for all fall time at the traction	lanas of it
3.1. Students` obligations		•		•	nent and Evaluation: for all full-time students attend	
least 70% is required. Part-time students are required to attend classes at least 50%. The students` acquired knowledge is tested during the con-					se classes.	



	active participation the final evaluation from the written p learning outcomes inform oneself abo	pecial consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's ctive participation in teaching as well as his/her presentation of the written word that the student produces for homework. Of particular importance for he final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted rom 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 earning outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly aform oneself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Šibenik Iniversity and the e-learning page of the course, where all the information on the course as well as the teaching materials and the list of literature are also vailable.									
	Attendance	0,5	Written exam	1 (w	vithout colloquia)	Project					
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical work					
for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Essay		Report			Continuous examination					
	Colloquium	1 (without written exam)	Seminar paper			Other					
	Class activity	0,5	Oral exam	1		Other					
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:										
		Commi	itment		Hours (estimate)						
3.3. Student workload	1. Attendir	ng classes and exercises			45						
	2. Preparat	ion for the Colloquium /	45								
4. GRADING SYSTEM											
4.1. Grading seminar papers	-										
4.2. Grading colloquia/ written and oral exam	Unsa	tisfactory	Satisfact	ory		Above	average				



		TitleNumber of copies in the libraryAvailabilit other me					
5. ADDITIONAL INFORMAT	ION ABOUT THE COU	RSE					
		50-64,9%		2 (sufficient)		D	
		65 - 79,9%		3 (good)		С	
bsolute division		80-89,9%		4 (very good)	В		
4.3. Final grade according to		90-100%		5 (excellent)	A		
	-	quired knowledge s (teaching + final		Numerical grade	I	ECTS grad	de
	Oral exam	25 points		30 points	35 points		40 points
	Colloquia/ Written exam	2	,	3	4		5
		25 points		30 points	35 points		40 points
		50-64,9%		65-79,9%	80-89,9%		90-100%
.3. Final grade according to valuation elements		2		3	4		5
	Seminar paper						
	attendance	3 ро	ints	7 points	20 points		20 points
	Active course	70-75% of	attendance	76-86% of attendance	87-100% of attendance		Maximum points
	Responds by memory, understanding. Does no basic terms and conc know how to apply contents of the course y	t know or apply epts. Does not or explain the			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 concept supported with examples. Finds solutions that were no originally given. Notes correlations with related material.		



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



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

1. GENERAL INFORMATION ABOUT THE COURSE										
1.1. Course title	URBAN MOBILITY	1.8. Course code at ISVU	270682 / 270683							
1.2. Course lecturer	PhD Marko Slavulj, associate professor	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)							
<ul><li>1.4. Study program</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%							
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1.							
1.6. Year of study	2 <sup>nd</sup>	1.13. Modernization	$\mathbf{X}$ yes $\Box$ no							
1.7. Credit point (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%□More than 20 %X							

2. COURSE DESCRIPTION					
2.1. Course objectives	The aim is to provide students with basic knowledge about urban mobility planning and train them to collect and interpret traffic indicators necessary for the analysis of mobility in cities with a proposal for improvement measures.				
2.2. Terms of course entry and required competences	Hour-year secondary education completed: qualification level / 2 according to the CROOH				
	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public in Croatian and English.				
2.3. Learning outcomes on the	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.				
study program level	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.				
	LO5: To apply basic legal and economic principles in organization with socially responsible management in technical-technological subjects,				



	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.							
	LO11: To identify, predict and propose solutions in road traffic technology and technique,							
	LO12: To set up a minor traffic process and critically evaluate it,							
	LO13: Follow trends in technology, technology and traffic safety.							
	Learning outcomes according to Bloom's taxonomy:	Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis						
2.4. Expected learning outcomes	1. to define and describe the terminology of urban mobility.	1, 2						
on the course level	2. to explain and distinguish between mobility and accessibility.	2,4						
	3. to analyze and understand the concept of sustainable urban mobility planning.	4, 2						
	4. to distinguish between the advantages and disadvantages of different modes of travel.	4						
	5. to plan and evaluate sustainable urban mobility measures.	3, 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	tructive allignement				
25.0	2.5 Course content according	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time nedeed
	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



	Basic terminology of urban mobility.	1,6	Listen to lectures and read literature.	In colloquium or the written and oral exam they define and describe the basic terminology of urban mobility.	2 h
2.	Conceptual distinction between mobility and accessibility.	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 explain and differentiate between mobility and accessibility.	3 h
3.	Mobility and sustainability. Indicators of urban mobility.	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 explain sustainable mobility and specify and explain indicators of urban mobility.	3 h
4.	The concept of sustainable urban mobility planning.	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 understand the concept of sustainable urban mobility planning. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	3 h
5.	Legislation and guidelines for planning sustainable urban mobility.	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 content of guidelines for sustainable urban mobility planning and legislation. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	3 h
6.	Analysis of urban mobility.	1, 2, 3, 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 can analyze modes of urban mobility.	3 h



				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.	Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	
	7.	Development of a sustainable urban mobility strategy.	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 understand the importance of creating different scenarios and defining a common vision of sustainable urban mobility while monitoring selected indicators. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	3 h
٤	8.	Planning sustainable urban mobility measures. 1st Colloquium	1, 2, 3, 5, 6	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they know how to plan and evaluate sustainable urban mobility measures.	23 h
	9.	Pedestrian traffic.	1, 2, 3, 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 know how to state the users of walking as one of the modes of travel, make division of pedestrian areas, analyze the speed and flow of pedestrians, and explain the role of pedestrian traffic in sustainable urban mobility plans. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	3 h
	10.	Bicycle traffic.	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 state the division of cyclists, cycling infrastructure, cycling road capacities and explain the role of cycling in sustainable urban mobility plans. Seminar work is organized in groups, with discussion and	3 h



1						
					proposing measures for possibilities of improving urban mobility.	
	11.	Public transport and urban mobility.	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 modes of public transport and explain the role of public transport in sustainable urban mobility plans. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	3 h
	12.	Shared mobility.	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 can conclude how shared mobility fits into the context of the sharing economy, determine the advantages of shared mobility, analyze different modes of shared mobility, and recommend policies and business models that support shared mobility. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	3 h
	13.	Mobility and urban traffic safety.	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 can explain the role of road traffic safety as a basic element of sustainable urban mobility planning and the concept of a strong safety approach and state the principles of sustainable urban mobility planning in the context of road traffic safety. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving urban mobility.	3 h



1		1	-				
	14.	Sustainable urban logistics planning. 2nd Colloquium.	1, 2, 3, 4, 5, 6, 7	They listen to a individually for the	lecture and prepare e colloquium.	facilities for freight delive distribution strategies for urb the sustainable urban log	as created by environment ed in the ht transport, unnels and 23 h ery, freight pan logistics, gistics plan for better
	15.	Concluding considerations. Repeating and preparing for the exam.	6,7	They listen to a individually for the	lecture and prepare e exam.	-	38 h
3. EVALUATION OF STUDEN	NT WO	DRK					
3.1. Students` obligations	Part-t have year; exam can ta	cordance with the Rulebook on S time students are required to attent achieved during the course: from from 25-49.9% are assessed by in period; more than 50% students ake the final exam in the course es and two colloquiums); b) during	end a class of 10 - 24.9% of I nsufficient and s have the right in two ways:	at least 50%. All stud ECTS they are rated un d must pass and pass th at to take the final exa a) during the course	lents must create, present nsuccessful and cannot each he written exam (test). W am. Writing a seminar pa- of teaching through cost	t and positively colloquy semi arn ECTS credits and must re-en vritten exam (test) can be held in aper is a prerequisite for obtain ntinuous monitoring of student	nar paper. Students who nroll in the next academic n regular or extraordinary ning a signature. Students s (active participation in
	Atten	dance 1	Wr	itten exam	1 (without colloquia)	Project	
3.2. Monitoring student work (enter the share of ECTS credits	Exper work	rimental	Res	earch		Practical work	
for each activity so that the total number of ECTS points	Essay	,	Rep	port		Continuous examination	
corresponds to the credit score of the course)	Collo	quium 1 (without writte exam)	en Ser	ninar paper	1	Other	
	Class	activity	Org	1	1	Other	
Class activityOral exam1Other3.3. Student workloadThe student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:							



		Obligation			Hours (estimate)		
	1. Attending classe	'S			60		
	2. Creating and sol	ving the traffic process					15
	3. Preparation for the Colloquium / exam through self-study						45
4. GRADING SYSTEM					L		
	Element of evaluation	Bad			Satisfying		Above average
	Organization The paper is no order and lacks		ized in a logical re.	clear introdu	aper is well structured distinction between action, the main body of t e conclusion.	the	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.
4.1. Grading of seminar work	Terminology, writing style	Words and expressions low in line with official terminology. The writing style is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.		Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.		g style cture is ate and	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 li references do not fit the a cursory approach to topic.	topic and show	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.		es are	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.
	Ba	d		Satis	sfying		Above average
4.2. Grading of the colloguium / written and oral exam	It responds by memor understanding. Does not terms and concepts. Does or explain the contents examples.	know or apply basic not know how to apply	difficulty imparts new		e concepts and without knowledge, understands e terms and concepts that es. and evaluation. It observes the accurately and thoroughly explains the of the material, and logically connect explains the terms and concepts that it		ledge is at the level of analysis, synthesis evaluation. It observes the legality, tely and thoroughly explains the content e material, and logically connects and ns the terms and concepts that it supports examples. Finds solutions that were not



1								
						originally given. It n related material.	otes correlations with	
	Active	70-75% of the presence	76-3	36% of the presence	87-100% of the	e presence Ca	se studies resolved	
	attendance	0 points		0 points	0 point	ts	0 points	
4.3. Forming the final grade	Cominon nonon	2		3	4		5	
	Seminar paper	Made and handed over	Ma	de and handed over	Made and han	ided over Ma	de and handed over	
according to the evaluation	Examination /	2		3	4		5	
elements	Written	50-64%		65-80%	81-909	%	91-100%	
	examination	25-32 points		33-40 points	41-45 po	vints	46-50 points	
	Oral part of the	2		3	5		5	
	exam	25-32 points	33-40 points		41-45 po	vints	46-50 points	
	Percentage of adopted knowledge, skills and competences (teaching + final exam) 90 – 100% 80 – 89,9% 65 – 79,9% 50 – 64,9%			Numerous grade		ECTS grade		
				5 (excellent)		А		
4.4. Formation of final grade based on absolute distribution				4 (very good)		В		
				3 (good)	С			
				2 (sufficient)	D			
5. ADDITIONAL INFORMAT	ION ABOUT THE	COURSE						
5.1. Required literature (available in the library and		Titl	e			Number of copies in the library	Availability via other media	
through other media)		Rupprecht Consult - Forschung & Beratung GmbH, Guidelines for the Development and Implementation of a Sustainable Urban Mobility Plan, Second Edition. Cologne; 2019.				3	Yes	
5.2. Supplementary literature (at		hnology of public (urban) city tra	affic II,	Faculty of transport and	traffic sciences,	0	Yes	
the time of the submission of changes and / or additions to the		hnology of public (urban) city tr	affic I,	Faculty of transport and	traffic sciences,	0	No	
study program)	University of Zagr	eb, Zagreb, 2008				0		



	Enoch, M.: Sustainable Transport, Mobility Management and Travel Plans, Ashgate, England, Surrey, 2012	No
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 w students' attendance and activity in the classroom and information obtained about student progress through the midterm will provid for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligat methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual students, employer survey and Alumni Association.	e the information needed tions as well as working
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. possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can b 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 powerking days after receiving the e-mail).	University. Students can e contacted during class.



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

1. GENERAL INFORMATION	ABOUT THE COURSE		
1.1. Course title	TRAFFIC CORRIDORS AND MERCHANDISE FLOWS	1.8. Course code in ISVU	140771 / 202099
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	PhD Luka Vukić, assistant college professor	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 30 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>nd</sup>	1.13. Modernization	X yes □ no
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% X More than 20 % □
2. COURSE DESCRIPTION			
2.1. Course objectives		ge and case studies: become familiar with the creation and de World and Croatia, distinguish the main transport corridors	
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification lev	el 4.2 according to the CROQF.	
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from technology in Croatian and English.	and organization of road traffic in written and oral communi	cation with the professional public
	LO2: To organize and implement team work, and critically	judge the opinions and attitudes of team members.	
	LO3: To individually and responsibly search, interpret and	integrate the relevant literature needed to make decisions.	
	LO6: To analyze and present relevant facts from the field of	f traffic needed to reach conclusions.	
	LO10: To compare and choose technical and technological	solutions in traffic and/or goods flows.	
	LO12: To set up a minor traffic process and critically evaluate	ate it.	



	Learn	ning outcomes by Bloom: (maximum 2 w	verbs for LO)			Level of LO:	
2.4. Expected learning						1- memory,	
outcomes on the course level (4-						2- understanding,	
10 learning outcomes)						<i>3- application,</i>	
To rearring outcomes)						4- analysis,	
						5- evaluation,	
						6- synthesis.	
	1.	Present and comment on the historical	development	t of the traffic branches.		6, 3	
	2.	. List and explain the main factors for the	he creation an	d development of commodity flows.		1, 2	
	3.	. Analyze and evaluate world trade in g	oods.			4, 5	
	4.	Present and comment on the traffic co	nnection of th	ne Republic of Croatia.		6, 4	
	5.	. List and compare major transport corr	idors in Euroj	pe and the Republic of Croatia.		1, 2	
	6. Comment on the objective and strategy of the Marco Polo Program and the current White Paper EU about transport.						
	7.	3					
	8.	Present the acquired knowledge, ideas	, problems, a	nd solutions independently and in a team.		6	
2.5. Course content according to detailed curriculum schedule	Const	ructive allignement					
	No	Thematic unit	LO of the	Content/teaching methods	Eva	luation	Time
			course				needeo
				Listening to the lecture. In the course of			
		Introductory presentation (introducing		seminars, they are introduced to the course			
	<b>1.</b> students to the course content and - content and documents on the e-learning					-	2 h
		obligations)					
				independently on a computer.			
		Geo-traffic factors of formation and		They listen to a lecture and read literature.	-	m or the written and	
		location of commodity flows (General		At the seminar class, they individually		ents know how to	
	2.	geo-traffic factors, natural	2, 7, 8	explore the content of this topic area by		and distinguish the	6 h
	<i>–</i> ••	predispositions, socio-economic	2, 7, 0	searching the database, and on the basis of		the formation and	
		factors)		it and reading the literature, create a	development of	commodity flows	
						ral and socio-	



			knowledge and presents their own ideas, and ways to solve problems.	economic factors). Identify abbreviations of economic groups of the world. Seminar paper created and presented (by computer programs).	
3.	The development of transport on land (development of road, rail, and pipeline transport)	1, 3, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or written and oral exam students know to present and comment on the historical development of transport on land. Analyze and evaluate the merchandise trade in land traffic, in the world. Seminar paper created and presented (by computer programs).	6 h
4.	The development of transport on the water (history, World and European ports, shipping routes, ships for freight)	1, 3, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or the written and oral exam students know how to present and comment on the historical development of water traffic, the development of seaports. Analyze and evaluate the merchandise of trade in the world's water transport. Categorize seaports, regions, and routes. Seminar paper created and presented (by computer programs).	6 h
5.	The development of transport on the water (video films)	1, 3, 7, 8	They use multimedia and network. They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and	At the colloquium or written and oral exam students know present seaports in the world. Identify and distinguish terminals at the seaport. Analyze and evaluate the cargo traffic of the seaport. Categorize seaports, ships, regions, and routes.	6 h



			presents their own ideas, and ways to solve	Seminar paper created and presented	
			problems.	(by computer programs).	
6.	The development of traffic in the air (types of aircraft, aircraft manufacturers, airlines, airports and routes)	1, 3, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or written and oral exam students know to present and comment on the historical development of traffic in the air. Analyze and evaluate the merchandise in air traffic in the world. Categorize airports and airlines. Seminar paper created and presented (by computer programs).	6 h
7.	The development of traffic in the air (video film)	1, 3, 7, 8	They use multimedia and network. They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or written and oral exam students know the present airport in the world. Identify and distinguish the types and capacity of aircraft for passenger and cargo transportation. Analyze and evaluate continental air routes. Seminar paper created and presented (by computer programs).	6 h
8.	Transport corridors in Europe (Trans- European transport network, transport corridors in Western and Northern Europe, Pan-European transport corridors, pipeline corridors, inland waterways)	5, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or written and oral exam students know state and compare the main transport corridors in all parts of Europe and all branches of transport. Define the term of traffic corridor. List the countries through which each transport corridor passes. Seminar paper created and presented (by computer programs).	6 h
9.	Transport corridors in the Republic of Croatia (Geographical location, traffic	4, 5, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by	At the colloquium or the written and oral exam, students can identify and compare major traffic corridors in	6 h



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



1								
				knowledge and presents their own ideas,	Present, critically evaluate and			
				and ways to solve problems.	comment on the traffic connection			
					of the Republic of Croatia in all			
					branches of traffic. Seminar paper			
					created and presented (by computer			
					programs).			
				They use multimedia and network. They	At the colloquium or the written and			
				listen to a lecture and read literature. At the	oral exam, students can define the			
				seminar class, they individually explore the	goal and strategy of the Marco Polo			
		Marco Polo Program (program		content of this topic area by searching the	program. Distinguish activities			
	13.	objective, program activities, program	6, 7, 8	database, and on the basis of it and reading	Marco Polo. Critically evaluate the	4 h		
		projects)		the literature, create a seminar paper that	professional video films program.			
				presents the acquired knowledge and	Seminar paper created and presented			
				presents their own ideas, and ways to solve	(by computer programs).			
				problems.				
		European Union White Paper on		They listen to a lecture and read literature. At the seminar class, they individually	At the colloquium or written and oral exam, students define objective			
		Transport (White Paper titles, key		explore the content of this topic area by	and strategy of the current EU White			
		content areas, preparing the European		searching the database, and on the basis of	Paper on transport. Comment on EU			
	14.	transport area for the future, visions	6, 7, 8	it and reading the literature, create a	professional projects in the field of	6 h		
		for developing a competitive and		seminar paper that presents the acquired	transport. Seminar paper created and			
		sustainable transport system, strategy		knowledge and presents their own ideas,	presented (by computer programs).			
		- what needs to be done)		and ways to solve problems.	presented (by computer programs).			
	15.	Final considerations/Repeating and		They listen to a course lecture and prepare		40 h		
	15.	preparing for the exam.	-	individuals for the exam.	-	40 11		
3. EVALUATION OF STUDEN	NT WO	RK						
3.1. Student obligations	In acc	ordance with the Rulebook on Study and	the Ruleboo	k on Student Assessment and Evaluation: for a	ll full-time students' attendance of at le	east 70%.		
	Part-ti	ime students are required to attend a class	of at least 50	%. All students must create, present and positiv	vely colloquy seminar papers. Students v	who have		
	achiev	ved during the course: from 0 - 24,9% E	CTS credits a	are rated unsuccessful and cannot earn ECTS	credits, and must re-enroll in the next a	academic		
		ear: from 25 - 49.9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary						

year; from 25 - 49,9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the



	course of teaching through	continuous monitoring of studer	ts (active particip	ation in cl	asses and through t	wo exams); b) passing the	exam (written and oral	
	part of the exam).							
3.2. Student work monitoring	Attending classes	1	Written exam		1 (without	Project		
(enter the share of ECTS credits					colloqiums)			
for each activity so that the total	Experimental work		Research			Practical work		
number of ECTS credits corresponds to the course credit	Esaay		Report			Continuous check		
value)	Colloquiums	1 (without written part of exam)	Seminar paper		0,5	(other)		
	Teaching activities	1	The oral part o	of exam	0,5	(other)		
3.3. Student work-load	The student's workload on	all bases amounts to 1 ECTS po	int for 30 hours of	of work per semester and is estimated as:				
		Obligation				Hours (estimate)		
	1. Attending classes				30			
	2. Creating and Pro	esenting seminar paper	30					
	3. Preparation for the Colloquium / exam through self-study				60			

## 4. GRADING SYSTEM

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



		The second on a st lists d at all	The second and lists I have in		The common and a	
	Citing and referencing	The sources are not listed at all.	The sources are listed but incomplete and with		The sources are accurately, completely and	
	references	The references do not fit the	errors. The references are re	-	•	d. The references are
		topic and show a cursory	and show a satisfactory resea	arch attitude.	<b>.</b>	list is "rich" and
		approach to exploring the			comprehensive and shows a detailed	
		topic.			research approach.	
4.2. Gradeing of the		Bad	Satisfying		Above average	
colloquium/written and oral						
exam	It responds by memory, w	ithout a deeper understanding. It	It reproduces the basic concepts and without		Knowledge is at the level of analysis,	
	does not know or apply basic terms and concepts. It does		difficulty imparts new knowledge, understands		synthesis, and evaluation. It observes the	
	not know how to apply or e	explain the contents of the course	the material, explains the terms and concepts		legality, accurately and thoroughly explains	
	with examples.		that it supports with examples.		the content of the material, and logically connects and explains the terms and	
					concepts that it supports with examples. Finds solutions that were not originally	
					given. It notes correlations with related material.	
4.3. Forming the final grade	Active attendance on			07 1000/		Mental map created,
according to the evaluation elements	class	70-75% attendance	76-86% attendance 87-100%		case studies resolved	
		2 points	4 points	7 points		3 points
	Seminar paper	2	3	4		5
	Seminar paper	5 points	7 points	8 p	oints	10 points
	Colloquiums/ Written part of exam	2	3	4		5
		50 - 64,9%	65 - 79,9%	80 - 89,9%		90 - 100%
		25 points	30 points	35 points		40 points
		2	3	5		5
	Oral part of exam	25 points	30 points	35 points		40 points
	Percentage of acquired knowledge, skills and competencies (teaching + final exam)		Numerical grade		ECTS grade	



4.4. Formation of the final grade	90 – 100% 5 (excellent)		А		
based on the absolute distribution	80 - 89,9%	4 (very good)		В	
	65 – 79,9%	3 (good)		С	
	50 - 64,9%	2 (sufficient)		D	
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE		I		
5.1. Compulsory literature	Title		Number of copies in the	Availability via	
(available in the library and via			library other media		
other media)	Šego Darijo: Traffic corridors and merchandise flows, Script	t for internal use, Polytechnic of Sibenik,	-	e-learning system	
	Šibenik 2016.	nik 2016.		Internet website	
	Strategy for Transport Development of the Republic of Cro		Internet website		
	chapters)				
	World trade organization <u>http://www.wto.org/</u> (selected cha	-		Internet website	
	Transport in EU http://ec.europa.eu/transport/index_en.htm		Internet website		
	Central Bureau of Statistics of the Republic of Croatia https				
5.2. Additional literature (at the	Teaching materials from lectures and seminars on the e-Le	arning system of the Sibenik University	-	e-learning system	
moment of changes and/or	of Applied Sciences for the mentioned course.				
amended of study programme)	International trade statistics <u>https://www.trademap.org/Inde</u>	<u>x.aspx</u>	Internet website		
	UN agency for food http://www.fao.org/home/en/			Internet website	
5.3. Quality assurance methods	The control of students' work quality and the acquisition of		U		
that ensure the acquisition of	attendance and student activity during classes and provided				
knowledge, skills and	further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations				
competences	as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the				
5.4 Informing shout the second	Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.				
5.4. Informing about the course	It is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes or possible				
and contacting the course	adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact 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				
lecturer	possible to ask questions by e-mail (from the official e-mail				
	days after receiving the e-mail).	address hame@vus.nr), which will be an	iswered as soon as possible (no	o later than live working	
	uays and receiving the e-man).				



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

1. GENERAL INFORMATION ABOUT THE COURSE				
1.1. Course title	INTERNAL TRANSPORT AND STORAGE	1.8. Course code at ISVU	140768 / 202096	
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	1.9. Course code at MOZVAG	-	
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)	
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%	
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.	
1.6. Year of study	2 <sup>nd</sup>	1.13. Modernization	<b>X</b> yes $\Box$ 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	
2.1. Course objectives	The goal is to provide students with theoretical knowledge and case studies: Define the basic concepts of internal transport and storage; 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 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.
	LO8: To solve problems in traffic by using analytical and/or graphical methods.         LO9: To assess and organize processes in the area of road traffic and/or traffic logistics.
	LO10: To compare and choose technical and technological solutions in traffic and/or goods flows.



2.4. Expected learning outcomes on the course level		Level of LO:
		1- memory,
	Learning outcomes according to Bloom's taxonomy:	2- understanding,
	(maximum 2 werbs for LO)	3- application,
		4- analysis,
		5- evaluation,
		6- synthesis.
	1. define, describe and explain basic concepts in internal transport and storage.	1, 2
	2. distinguish and choose types of warehouses, equipment and means of internal transport and storage according to	2,5
on the course level	the type of goods.	
	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 internal transport and storage costs.	4
	6. define and calculate the required number of pallets and forklifts.	1, 3
	7. use materials and tools to search scientific and professional literature in their native and English languages.	3
	8. connect the technological processes of internal transport and storage in production.	6

	Constructive allignement					
2.5. Course content according to detailed curriculum schedule	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed
	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 explain and comment on the necessary expressions for the calculations.	At the colloquium or written and oral exam define basic terms in the internal transport and storage.	3 h



	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.	6 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.	12 h
	4.	Field teaching WINERY ŠIBENIK	3, 6, 7	They are listening to a lecture. (Tour of the winery and warehouse. Monitoring of the process of wine production and transshipment machinery used. Depalletizers in the production process. Monitoring of the process of preparation of goods for storage (palletizers) and the method of stacking goods in the warehouse. The method of experiential learning and learning by self-discovery is applied. The method of brainstorming and the method of discussing technological processes and transshipment mechanization in internal transport and storage are applied on the examples of expert visits.	At the colloquium or written and oral exam, they can explain the technological processes and equipment in production and storage. Calculate the degree of free storage area.	4 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 written and oral exam, they know how to define what warehouse equipment is, what it is used for and enumerate the technical- technological equipment of the	6 h



1						
					warehouse. They know how to calculate the area and volume of the ground floor warehouse and the area and free height of the warehouse floor at the floor warehouse.	
	6.	Field teaching PORT OF ŠIBENIK	3, 6, 7	They are listening to a lecture. (Tour of warehouses and docks, transhipment machinery, monitoring of storage and transhipment processes from railway wagons, trucks and ships). The method of experiential learning and learning by self-discovery is applied. The method of brainstorming and the method of discussing technological processes and transhipment mechanization in internal transport and storage are applied on the examples of expert visits.	At the colloquium or written and oral exam, they can describe and explain internal transport and storage, as well as equipment for transhipment and control of the amount of cargo. They know how to calculate the capacity of one-time storage of the warehouse and the total area of the warehouse.	4 h
	7.	Field teaching Impol-TLM Šibenik	3, 6, 7	They are listening to a lecture. (Tour of the factory and transhipment machinery. Introduction to the technological process of production, storage and warehousing of finished products and equipment). The method of experiential learning and self-discovery learning is applied. The method of brainstorming and the method of discussing technological processes and transshipment mechanization in internal transport and storage are applied on the examples of expert visits.	At the colloquium or written and oral exam, they can describe and explain the internal transport and storage in production, as well as the equipment and the method of controlling the quantity of goods. They know how to calculate the capacity of one-time storage of the warehouse and the total area of the warehouse.	4 h
	8.	Economics of internal transport and storage.	1, 4, 5	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, they know how to define the basic concepts for measuring and monitoring the performance of internal transport and storage operations, as well as the costs of internal transport and	6 h



9		1, 2, 3, 4, 5	They listen to lectures and read literature. They prepare individually for the colloquium.	storage by origin. They know how to calculate the required number and load capacity of a forklift.	27 h
1	Colloquium I. 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 the colloquium or written and oral exam, they know how to define the information and communication system in internal transport and storage and list its elements. List the positive effects of electronic communication in internal transport and storage and explain the role of the information system in business decisions. They know how to define the term warehouse design and list the key elements for designing the construction or adaptation of a warehouse. State the principles of storage operation and storage procedures. They know how to calculate the storage capacity and the intensity of storage operations.	7 h
1	<b>1.</b> 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, they know how to define, describe and differentiate the means for gripping, lifting, transferring, lowering and disposing of cargo. Know how to define, describe and differentiate means for internal transport of cargo and means for packing, unpacking and control of cargo. Calculate the required number of flat pallets.	12 h



	12.	Field teaching "MLINAR" factory in Šibenik	3, 6, 7	They are listening to a lecture. (Introduction to automation of technological processes. Storage of raw materials and storage of finished products). The method of experiential learning and self-discovery learning is applied. The method of brainstorming and the method of discussing technological processes and transshipment mechanization in internal transport and storage are applied on the examples of expert visits.	At the colloquium or written and oral exam, they can describe and explain internal transport and storage and production automation. Calculate how many goods may be stacked on a flat pallet.	4 h
	13.	Design of internal transport and storage.	2, 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 written and oral exam, they can enumerate and describe the activities in the design of internal transport and storage in production and public warehouses, and enumerate the methods of placing goods in the warehouse. Calculate the required number of box pallets and how many goods are in the box pallets.	5 h
	14.	Repetition and preparation for the colloquium. Colloquium II.	1, 2, 3, 4, 6	They listen to lectures and read literature. They prepare individually for the colloquium.	-	27 h
	15.	Concluding considerations. Repeating and preparing for the exam.	-	They listen to a lecture and prepare individually for the exam.	-	22 h
3. EVALUATION OF STUDENT	WOR	K				
3.1. Students` obligations	Part-t have next a	ime students are required to at achieved during the course: fro cademic year; from 25-49.9%	tend a class of a om 0 - 24.9% o - are assessed by	Rulebook on Student Assessment and Evaluation: at least 50%. All students must create, present and f ECTS credits - they are rated unsuccessful and y insufficient and must pass and pass the written ex lents have the right to take the final exam. Student	d positively colloquy seminar paper. Stude cannot earn ECTS credits and must re-enro cam (test). Written exam (test) can be held in	ents who oll in the n regular



	a) during classes throug classes) and taking exam		•	participa	ation in classes and t	wo colloquia)	); b) during classes (active participation in
	Attendance		Written exam	4 (	without colloquia)	Project	
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical v	work
for each activity so that the total number of ECTS points	Essay		Report			Continuou examination	
corresponds to the credit score of the course)	Colloquium 4 (v exa	vithout written m)	Seminar paper		Other		
	Class activity 0,5		Oral exam	0,5		Other	
	The student's workload	on all bases amounts	s to 1 ECTS point for 30	hours of	work per semester a	nd is estimate	ed as:
		Obliga	ution		Hours (estimated)		
3.3. Student workload	1. Attending cla	sses					60
	2. Preparation fo	or the Colloquium / e	exam through self-study				90
4. GRADING SYSTEM							
	Element of evaluation	n	Bad		Satisfying		Above average
	Organization	The paper is no order and lacks	t organized in a logical structure.	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.		ntroduction,	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.
4.1. Evaluation of a project assignment	Terminology, writin style	official termino is not appropriat long, of a mode	ressions low in line with logy. The writing style te, the sentences are too est vocabulary and with repeated grammatical	officia is appr clear, t	and expressions are l terminology. The v copriate, the sentence the vocabulary is app the few grammatical of	vriting style structure is ropriate and	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.

there are few grammatical errors.

rich and there are no grammatical

errors.



	Citing and references	C	The sources are not li references do not fit the a cursory approach to topic.	topic and	show	The sources and with err relevant to satisfactory re	rors. The topic	referent	ces are	and contrast and c	ources are accurately, completely consistently listed. The references ppropriate, their list is "rich" and rehensive and shows a detailed rch approach.
		Bad				Satisfying					Above average
4.2. Grading of the colloguium / written and oral exam	terms and concepts. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.			Knowledge is at the level of analysis, synthesis and evaluation. It observes the legality, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts that it supports with examples. Finds solutions that were not originally given. It notes correlations with related material.					
	Active	70-7	5% of the presence	76-86% of the presence		e presence	87-100	)% of th	e presence	e	Case studies resolved
	attendance		2 points		4 poi	nts		7 poir	ts		10 points
4.3. Forming the final grade	Examination /		2		3		4			5	
according to the evaluation			50-64,9%	65-79,9%		80-89,9%			90-100%		
elements	examination		25 points	30 points		35 points			40 points		
	Oral part of the		2		3		4			5	
	exam		25 points		30 po	ints		35 poi	nts		40 points
	Percentage of a	-	owledge, skills and com g + final exam)	petences		Numerous gra	ade			Η	ECTS grade
4.4. Formation of final and -		90	0-100%			5 (excellent	<b>(</b> )				А
4.4. Formation of final grade based on absolute distribution		80	) – 89,9%		4 (very good)		В				
		65	5 – 79,9%		3 (good)			С			
		50	) – 64,9%			2 (sufficient	t)		D		



5. ADDITIONAL INFORMATIC	N ABOUT THE COURSE						
	Title	Number of copies in the library	Availability via other media				
5.1. Required literature (available	Dundović Č., Hess S.: Internal transport and storage, Faculty of Maritime Studies, University of	3					
in the library and through other	Rijeka, Rijeka, 2007.						
media)	Miloš I.: Internal transport and storage, Polytechnic of Rijeka, Rijeka, 2003.	1					
	Boris Ribarić: Examples of solved tasks in the subject of handling machinery, Faculty of transport and	0					
	traffic sciences, University of Zagreb, Zagreb, 1994 (selected chapters)						
5.2. Supplementary literature (at							
the time of the submission of	Prikril B., Božičević D.: Transhipment and storage mechanization, Faculty of transport and traffic	6					
changes and / or additions to the	sciences, University of Zagreb, Zagreb, 1987.	0					
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 possible adjournment will be published in a timely manner on the e-learning site of the course and on t contact teachers during the consultation period (at least one hour per week), while for short questions as It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will working days after receiving the e-mail).	he website of the Šibenik nd explanations they can l	University. Students can be contacted during class.				



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

ABOUT THE COURSE		
LOGISTIC AND SUPPLY CHAINS	1.8. Course code in ISVU	214567 / 214568
Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code in MOZVAG	-
PhD Dijana Mečev, collegue professor Luka Olivari, master of mech, senior lecturer	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(45 + 0 + 15 + 0)
Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%
Obligatory	1.12. Number of course revisions	2
2 <sup>nd</sup>	1.13. Modernization	X yes □ no
5	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□
and overcome processes in supply chain which are relate modern logistics concepts and strategies.	ed to the storage, transport, purchase, stocks, retail, inventory	
in Croatian and English. LO2: To organize and implement team work, and critica LO3: To individually and responsibly search, interpret an LO5: To apply basic legal and economic principles in or	lly judge the opinions and attitudes of team members. nd integrate the relevant literature needed to make decisions. ganization with socially responsible management in technical-	
	LOGISTIC AND SUPPLY CHAINS         Darijo Šego, univ. spec. traff., senior lecturer         PhD Dijana Mečev, collegue professor         Luka Olivari, master of mech, senior lecturer         Professional undergraduate study of Traffic         Obligatory         2nd         5         The goal is to get students on the basis of theoretical know and overcome processes in supply chain which are relate modern logistics concepts and strategies.         Four-year secondary education completed; qualification         LO1: To apply and link professional terms from technolo in Croatian and English.         LO2: To organize and implement team work, and critical LO3: To individually and responsibly search, interpret an LO5: To apply basic legal and economic principles in organize	LOGISTIC AND SUPPLY CHAINS       1.8. Course code in ISVU         Darijo Šego, univ. spec. traff., senior lecturer       1.9. Course code in MOZVAG         PhD Dijana Mečev, collegue professor       Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)         Professional undergraduate study of Traffic       1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)         Obligatory       1.12. Number of course revisions         2nd       1.13. Modernization         5       1.14. Percentage estimate of course changes and/or supplements         The goal is to get students on the basis of theoretical knowledge and case studies: learn about the elements of the logistic and overcome processes in supply chain which are related to the storage, transport, purchase, stocks, retail, inventory and overlower processes and strategies.         Four-year secondary education completed; qualification level 4.2 according to the CROQF.         LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication



1								
	LO9:	To assess and organize processes in the	he area of roa	d traffic and/or traffic logistics.				
	LO11	: To identify, predict and propose solu	utions in road	traffic technology and technique.				
	LO12	: To set up a minor traffic process and	d critically eva	aluate it.				
	LO13	: To track trends in the development of						
	Learn	ning outcomes by Bloom: (maximum		Level of LO:				
2.4. Expected learning				1- memory,				
outcomes on the course level (4-						2- understanding,		
10 learning outcomes)						3- application,		
						4- analysis,		
						5- evaluation,		
						6- synthesis.		
	1	. Define and differentiate basic term	1, 2					
	2	. Identify, explain, and analyze flow		4, 2				
	3	. Organize the procurement process	and select the	e type of transportation for delivery.		6, 5		
	4	. Identify similarities and difference	es between sto	ck types and choose a strategy for inventory man	nagement.	4, 3		
	5	. Distinguish sales from demand and	d predict futur	e demand in the supply chain.		3, 5		
	6	. Indicate the participants and to dis	stinguish proce	esses in the system of reverse logistics.		1, 4		
	7	. Use materials and tools to search	ch the scienti	fic and professional literature in their native	and English	3		
		languages.						
	8	. Present the acquired knowledge, id	deas, problem	s, and solutions independently and in a team.		6		
2.5. Course content according to detailed curriculum schedule	Const	tructive allignement						
	No	Thematic unit	LO of the	Content/teaching methods		Evaluation	Time	
			course				needed	
				Listening to the lecture. In the course of				
		Introductory presentation		seminars, they are introduced to the course				
	1.	(introducing students to the course	-	content and documents on the e-learning page		-	2 h	
		content and obligations)		of the course by working independently on a computer.				
				tomp totil				



2.	The term of Logistics (term, developmental factors, elements of the logistics system, logistics system division)	1, 7, 8	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.	At the colloquium or the written and oral exam, students know how to define and distinguish basic concepts in logistics, types of logistics, and factors of logistics development. Seminar paper created and presented (by computer programs).	5 h
3.	The term of Supply chain (concept, jobs, goal, structure, information technologies, e- commerce)	1, 7, 8	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.	At the colloquium or the written and oral exam, students know how to define the basic terms of Supply chain. List the tasks that are performed in the supply chain. To divide the functional stages and cycles. Distinguish information technologies for the supply chain management. Explain E-commerce. Seminar paper created and presented (by computer programs).	5 h
4.	Purchase in the supply chain (goal, organization and processes, types of purchase, purchase system Just in time)	1, 3, 7, 8	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.	At the colloquium or the written and oral exam students know how to define the basic terms of purchase. Indicate the goal and purpose of the purchase. Distinguish and explain the processes in purchase. Explain the purchase system Just in time. Seminar paper created and presented (by computer programs).	5 h
5.	Inventories (stocks) in the supply chain (term, concept, function, types, management strategies, costs)	3, 4, 7, 8	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	At the colloquium or written and oral exam, they know the concept of stock. Explain the function of stocks in the supply chain. Distinguish and categorize stock types. List and	5 h



1						
				the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	comment on inventory management strategies. Categorize and break down inventory holding costs. Seminar paper created and presented (by computer programs).	
	6.	Demand management in the supply chain (role and cost forecasting, methods and factors for prediction)	2, 5, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or written and oral exam, they know how to identify and differentiate costs in forecasting demand. Analyze, compare and evaluate methods for forecasting demand. Critically judge types of demand. Seminar paper created and presented (by computer programs).	5 h
	7.	Logistics centers (term, concept, role in the supply chain, development goals, functions, types, warehouse management system)	1, 5, 7, 8	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.	At the colloquium or written and oral exam, they know how to define the term of Logistics Center. Explain the role of the logistics center in the supply chain. Distinguish and categorize the types of logistics centers. Highlight the advantages of using a warehouse management system. Identify and plan key business processes. Seminar paper created and presented (by computer programs).	5 h
	8.	Logistics centers (term, concept, role in the supply chain, development goals, functions, types, warehouse management system)	1, 5, 7, 8	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	At the colloquium or written and oral exam, they know how to define the term of Logistics Center. Explain the role of the logistics center in the supply chain. Distinguish and categorize the types of logistics centers. Highlight the	5 h



			presents the acquired knowledge and presents	advantages of using a warehouse	
			their own ideas, and ways to solve problems.	management system. Identify and	
				plan key business processes.	
				Seminar paper created and presented	
				(by computer programs).	
				At the colloquium or written and	
			They listen to a lecture and read literature.	oral exam, students know isolate	
			They use multimedia and network. At the	types of transportation in the supply	
	Transport in the supply chain		seminar class, they individually explore the	chain, in all branches of transport.	
9.	(road, rail, air, and internal	270	content of this topic area by searching the	Identify the advantages,	5 1
9.	transport and transmission, costs	3, 7, 8	database, and on the basis of it and reading	disadvantages and costs of	5 h
	in transport, shipping documents)		the literature, create a seminar paper that	transportation. Suggest the type of	
			presents the acquired knowledge and presents	transport for individual goods.	
			their own ideas, and ways to solve problems.	Seminar paper created and presented	
				(by computer programs).	
			They listen to a lecture and read literature.	On a colloquium or written and oral	
			They use multimedia and network. At the	exam, they know how to single out	
	Vehicle routing (practical		seminar class, they individually explore the	the types of transport in the supply	
10	application, classification, and	2 7 9	content of this topic area by searching the	chain, in all branches of traffic.	<b>5</b> 1
10.	elements of a vehicle directing	3, 7, 8	database, and on the basis of it and reading	Establish a practical application of	5 h
	problem)		the literature, create a seminar paper that	vehicle routing for the selected	
			presents the acquired knowledge and presents	route. Seminar paper created and	
			their own ideas, and ways to solve problems.	presented (by computer programs).	
			They listen to a lecture and read literature.	On a colloquium or written and oral	
	Route optimization (methods of		They use multimedia and network. At the	exam, optimization methods are	
	optimizing trajectory and		seminar class, they individually explore the	known. Compare, and establish	
11	reduction of transportation costs,	270	content of this topic area by searching the	similarities/differences in the	<i>_</i> .
11.	the complexity of problems, exact	3, 7, 8	database, and on the basis of it and reading	reduction in transportation costs.	5 h
	methods of solving, heuristics, and		the literature, create a seminar paper that	Seminar paper created and presented	
	memous of solving, neuristics, and		the interation of the seminar paper that		
	metaheuristics)		presents the acquired knowledge and presents	(by computer programs).	



1						
	12.	Logistics in retail (concept, types of stores, logistics processes in retail)	2, 6, 7, 8	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.	At the colloquium or written and oral exam, students know how to define the concept of trade and retail. Compare and comment on the largest retail chains. Identify and distinguish types of retail stores. Recognize and differentiate logistics processes in retail. Seminar paper created and presented (by computer programs).	5 h
	13.	Reverse logistics (concept, goal, carriers, recycling, design of return logistics system)	6, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or written and oral exam, students know how to define the concept of reverse logistics. List and distinguish the carriers of reverse logistics. Identify factors for designing a reverse logistics system. Recommend the best options for returning goods or products. Seminar paper created and presented (by computer programs).	5 h
	14.	Study trip to LIDL Logistics- distribution center (located in Perušić).	1, 2, 3, 5, 6	_	On a study tour, students will be able to define and differentiate basic terms and divisions in logistics, warehousing, and freight forwarding. Select, evaluate and categorize services in the warehouse business. Compare and connect modes of product transport, organization of distribution of products. Suggest ways of manipulation with the products and reducing inventory costs.	8 h



	15.	Final consider and preparing fo	erations/Repeating r the exam.	-	They listen to a individuals for the		lecture and prepare	-		80 h
3. EVALUATION OF STUDEN	T WO									
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 Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar papers. Student have achieved during the course: from 0 - 24,9% ECTS are rated unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic from 25 - 49,9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraord 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) durin course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (writte oral part of the exam).							lents who emic year; aordinary luring the		
3.2. Student work monitoring (enter the share of ECTS credits	Att	ending classes	1		Written exam		1 (without colloqiums)	Project		
for each activity so that the total	Exp	erimental work			Research			Practical work		
number of ECTS credits corresponds to the course credit		Essay			Report	Report		Continuous check		
value)	(	Colloquiums	1 (without writte exam)	-	Seminar paper 0,5		0,5	(other)		
	Tea	ching activities	1		The oral part of ex	kam	0,5	(other)		
3.3. Student work-load	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:									
	Obligation					Hours (estimate)				
	1. Attending classes					45				
		2. Creating and	Presenting seminar	r paper		15				
		3. Preparation f	or the Colloquium	/ exam throug	h self-study	90				
4. GRADING SYSTEM										
4.1. Evaluation of seminar paper		Elements of evaluation	Bac	d		Satisfyi	ing	Above average		
	(	Organization	The paper is not logical order and	-	e. distinction betw	veen the	ctured with a clear e introduction, the nd the conclusion.	introduction, the distinction between the introduction,		



					body of the text and t logically interconnecte	the conclusion, which are d.
	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.	Words and expressions ar official terminology. The appropriate, the sentence clear, the vocabulary is a there are few grammatical	writing style is e structure is ppropriate and	Words and expression terminology and show meaning. The writing	s are aligned with official an understanding of their g style is excellent, the concise, the vocabulary is
	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.	with errors. The references are relevant to		The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.	
4.2. Gradeing of the		Bad	Satisfying		Above	e 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.	
4.3. Forming the final grade according to the evaluation	Active attendance on class	70-75% attendance	76-86% attendance	87-10	00% attendance	Mental map created, Case studies resolved
elements		2 points	4 points		7 points	3 points
	Sominor popor	2	3		4	5
	Seminar paper	5 points	7 points		8 points	10 points
	Colloquiums/	2	3		4	5
	Written part of exam	50 - 64,9%	65 - 79,9%	8	80 - 89,9%	90 - 100%



		25 points	30 points		35 points	40 points	
		2	3		5	5	
	Oral part of exam	25 points	30 points		35 points	40 points	
4.4. Formation of the final grade based on the absolute	•	dopted knowledge, skills and s (teaching + final exam)	Numerous grade	9	ECTS grade		
distribution		90 - 100%	5 (excellent)			А	
	_	80 - 89,9%	4 (very good)			В	
	65 – 79,9%		3 (good)			С	
	50 - 64,9% 2 (sufficient)				D		
5. ADDITIONAL INFORMATI	ION ABOUT THE CO	URSE					
5.1. Compulsory literature (available in the library and via		Title			Number of copies in the library	Availability via other media	
other media)	Ivakovic C., Stankovic	e R., Šafran M.: Freight Forwarding a	and Logistics Processes, Facult	y of transport	-		
		niversity of Zagreb, Zagreb, 2010 (s	<b>-</b>				
		n management, Sinergija, Zagreb, 2			2	City of Sibenik library	
	Bloomberg D.: Logis	tics, MATE, Zagreb School of Ed	conomics and Management, 2	Zagreb, 2006	2		
	(selected chapters)					City of Sibenik library	
		κ K., Krpan Lj.: Supply chain man	agement, University NORTH	, Koprivnica,	-		
	2018.					PDF (Internet website)	
	-	CS Supply chains, University of Sir	2				
	Sagathia 7 . Logistia	processes in trade, Faculty of Econo	3				
5.2. Additional literature (at the	Teaching materials fro	om course lectures					
moment of changes and/or	Teaching materials fro Logistics <u>www.logisti</u>	om course lectures ka.com.hr				e-learning system	
,	Teaching materials fro Logistics <u>www.logisti</u> Dujak Davor, lectures	om course lectures <u>ka.com.hr</u> from the courses "Supply Chain Mar	nagement" and "Logistics in Tr	ade", Faculty		e-learning system Internet website	
moment of changes and/or amended of study programme)	Teaching materials fro Logistics <u>www.logisti</u> Dujak Davor, lectures of Economics, Osijek,	om course lectures <u>ka.com.hr</u> from the courses "Supply Chain Man 2020.		·	red through interactive v	Internet website	
moment of changes and/or	Teaching materials fro Logistics <u>www.logisti</u> Dujak Davor, lectures of Economics, Osijek, The control of student	om course lectures <u>ka.com.hr</u> from the courses "Supply Chain Mar	f necessary knowledge and ski	lls will be ensu	-	Internet website work. By keeping track of	



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



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

1. GENERAL INFORMATION	1. GENERAL INFORMATION ABOUT THE COURSE								
1.1. Course title	STATISTICS IN TRAFFIC	1.8. Course code in ISVU	214569 / 21457	0					
1.2. Course lecturer	PhD Ana Perišić, college professor	1.9. Course code in MOZVAG							
1.3. Assistants and/or associates	Ivana Beljo, grad. eng. math., univ. spec. oecc., senior lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 +	(30 + 30 + 0 + 0)					
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	rials are on-line,							
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4						
1.6. Year of study	2 <sup>nd</sup>	1.13. Modernization	X yes 🗆	X yes $\Box$ no					
1.7. Credit score (ECTS)	4	4 1.14. Percentage estimate of course changes and/or Le supplements M							
2. COURSE DESCRIPTION									
2.1. Course objectives	The goal is to provide students with theoretical know	wledge and practical skills needed for performing statistical	analysis and inter	pretation of the results.					
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	LO1: To apply and link professional terms from technic in Croatian and English.	hnology and organization of road traffic in written and oral o	communication w	ith the professional public					
study programme level	LO6: To analyze and present relevant facts from the	e field of traffic needed to reach conclusions.							
	LO8: To solve problems in traffic by using analytic	al and / or graphical methods.							
2.4. Expected learning outcomes on the course level	Learning outcomes accroding to the Bloom's tax	onomy: (up to two verbs per LO)		Level of LO: 1- remembering,					



		<ol> <li>To define fundamental concepts of descriptive statistics and interpret indicator values from the field of descriptive statistics.</li> <li>To calculate and interpret values for the measures of central tendency and dispersion parameters.</li> <li>To define fundamental concepts and solve basic problems in the field of combinatorics and probability theory.</li> <li>To select and apply probability models for different stochastic phenomena.</li> <li>To conduct correlation and regression analysis and derive conclusions on variable relationship.</li> </ol>						
2.5. Course content according to detailed curriculum schedule	_	Thematic unit Introduction into the course and detailed plan.	LO of the course	Content/teaching methods Attending lectures. Familiarize with course content, e-learning documents, literature and students'	Evaluation	4	Time needed 2 h	
	2.	Descriptive statistics.	1,2	Attending lectures. Actively involving students through problem solving and discussion.	Students will define fundame of descriptive statistics a indicator values from th descriptive statistics; will c interpret values for the measu tendency and dispersion through colloquia or written/o Students will apply methods of	nd interpret he field of calculate and tres of central parameters oral exams.	4 h	
	3.	Measures of central tendency	1, 2	Attending lectures. Actively involving students through problem solving and discussion.	statistics in transport proble Students will define fundame of descriptive statistics a indicator values from th descriptive statistics; will c	ms solving. ental concepts and interpret ne field of	4 h	



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



			involving students through problem solving and discussion.	probability theory in transport problems solving.	
8.	Introduction to combinatorics	3	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of combinatorics through colloquia or written/oral exams. Students will apply probability theory in transport problems solving.	4 h
9.	Permutations, Variations, Combinations	3	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of combinatorics through colloquia or written/oral exams.	4 h
10.	Introduction to probability theory.	3	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will apply probability theory in transport problems solving.	4 h
11.	Introduction to probability theory. A priori probability, a posteriori probability, geometric probability	3	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will apply probability theory in transport problems solving.	4 h
12.	Random variable, distributions, expectation, variance.	3, 4	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will select and apply probability models for different stochastic phenomena. Students will apply probability theory in transport problems solving.	4 h



13.	Discrete random variable, binomial distribution, Poisson distribution.	3, 4	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will select and apply probability models for different stochastic phenomena.	4 h
14.	Continuous random variables. Normal distribution.	3, 4	Attending lectures. Actively involving students through problem solving and discussion.	Students will define basic concepts and solve basic problems from the field of probability theory through colloquia or written/oral exams. Students will select and apply probability models for different stochastic phenomena. Students will apply probability theory in transport problems solving.	4 h
15.	Final conclusions. Exam preparation	-	Group problem solving and discussion. Exam preparation.	-	4 h

## 3. EVALUATION OF STUDENTS' WORK

3.1. Students` obligations	discussions, solvin ( <u>ivana.beljo@vus.l</u> the conduct or pos about the course, a During the course	g tasks, etc. Students who hr, ana.sisak@vus.hr). It is sible postponement of cla as well as teaching materi through continuous stude	are unable to attend class s the responsibility of each sses will be posted on the als and a list of literature ent assessment (active par	es regularly should consu a student to stay informed website of the Polytechn , can also be found. Stud ticipation in classes and	It with the professor durin about the conduct of class ic of Šibenik or the course ents can pass the final ex- two colloquiums). Studen	sses, which includes engaging in ag consultation hours or via email ses. All announcements regarding e webpage, where all information am in the course in two ways: a) ats who do not meet some of the d by taking the exam (written and
3.2. Monitoring student work	Attendance	0.5	Written exam	2 (without colloquia)	Project	
(enter the share of ECTS credits for each activity so that the total	Experimental work		Research		Practical work	
number of ECTS points	Essay		Report		Continuous examination	0.5



corresponds to the credit score of the course)	Colloquium Class activity	2,5 (without written exam) 0.5	Seminar paper Oral exam	0.5(without colloqu	Other iia) Other				
	-								
	The student's work	oad on all bases amounts Obligat	-	ECTS point for 30 hours of work per semester and is estimated as: Hours (estimate)					
3.3. Student workload		C	ion						
5.5. Student workload	1. Attending	g classes and exercises			60				
	2. Preparati	on for the Colloquium / ex	xam through self-study		60				
4. GRADING SYSTEM									
4.1. Grading seminar papers									
	Uns	atisfactory	Satisfac	Satisfactory		Above average			
4.2. Grading colloquia/ written and oral exam	understanding. D basic terms and c	mory, without a deeper oes not know or apply concepts. Does not know xplain the contents of the bles.	without difficulty knowledge, understand	rithout difficulty imparts new nowledge, understands the material, xplains 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.			
	Activities in class	Preparation for tea	aching units; Understandi	units; Understanding previous content; Participation in solving tasks together: $0 - 20$ points					
4.3. Final grade according to	Seminar papers		-						
evaluation elements	Colloquium/writte exam	Preparation/learnin	ng; Scoring and grading a	ccording to correct a	nswers in the test: $0 - 80$ poin	tts (min 40 points)			
	Oral exam	Preparation/learnin	ng; additional verificatior	of unachieved learn	ing outcomes				
4.4. Final grade according to	-	equired knowledge, skills s (teaching + final exam)	and Nur	nerical grade	ECTS grade				
absolute division		90-100%	5	(excellent)		А			



	80 - 89,9%	4 (very good)		В		
	65 - 79,9%	3 (good)		С		
	50 - 64,9%	2 (satisfactory)		D		
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE					
5.1. Compulsory literature (available in the library and via		Title		Number of copies in the library	Availability via other media	
other media)	Kovač Striko E., Fratović T., Ivanković B., Proba 2008.	bility and statistics, Books of University of Za	greb, Zagreb	1	No	
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Šošić I., Serdar V.: Introduction to statistics, Schoo Šošić I.: Applied statistics, School book, Zagreb, 2 Azcel A. Sounderpandian J.: Complete Business S Zenzerović Z.: Statistical manual, Faculty of Marit Čižmešija M., Kurnoga Živadinović N.: A collectio 2006.	1 12 1 - 5 2				
	Patrick R. McMullen: Business statistics for pro Polytechnic of Šibenik, 2017. Teaching materials on e-learning	_				
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.					
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regul possible adjournment will be published in a timely contact teachers during the consultation period (at It is also possible to ask questions by e-mail (from working days after receiving the e-mail).	manner on the e-learning site of the course an least one hour per week), while for short quest	d on the webs	site of the Šibeni mations they can	k University. Students can be contacted during class.	



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

1. GENERAL INFORMATION	ABOUT THE COURSE					
1.1. Course title	THEORY OF VEHICLE MOVEMENT	1.8. Course code in ISVU	142538 / 202104			
1.2. Course lecturer	Luka Olivari, master of mech., senior lecturer	1.9. Course code in MOZVAG	-			
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 15 + 0 + 0)			
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	7.			
1.6. Year of study	2 <sup>nd</sup>	1.13. Modernization	X yes □ no			
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□			
2. COURSE DESCRIPTION						
2.1. Course objectives	The aim of the course is to provide students with theoret the vehicle dynamics problems.	ical knowledge and practical examples to acquire the knowl	edge necessary to successfully solve			
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification	level 4.2 according to the CROQF				
	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.					
2.3. Learning outcomes on the	LO2: To organize and implement team work, and critical	lly judge the opinions and attitudes of team members.				
study programme level	LO4: To apply knowledge from the field of natural and t	echnical sciences to problems in road traffic.				
	LO7: To apply computer tools for analysis and comparis	on of data, and suggest an optimal solution in traffic process				



	LO8: T	o solve problems in traffic by usir	ng analytical and	d / or graphical methods.							
		013: To track trends in the development of technique, technology and safety in traffic.									
		ng outcomes by Bloom: (maximu	-			Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis.					
2.4. Expected learning outcomes on the course level (4-10	1.	Differentiate concepts in vehicle	e dynamics.			5					
learning outcomes)	2.	Distinguish the drive engines, co	oncepts and eler	nents of transmission of road vehicles.		5					
learning outcomes)	3.										
	4. Evaluate the fuel economy of a road vehicle.						5				
	5. Analyze the properties and performance of the road vehicle under different operating conditions.										
	6. Perform vehicle dynamics calculation for a road vehicle										
2.5. Course content according to detailed curriculum schedule	Constr	ructive allignement									
	No	Thematic unit	LO of the course	Content/teaching methods	Evaluatio	n	Time needed				
	1.	Introductory presentation (introducing students to the content and obligations of the course). Area of study of vehicle motion theory. Exploitation of vehicle technical characteristics.	1	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the exam, students: differentia statics; solve numerical p specified unit.	ate concepts from	4 h				
	2.	Construction of motor vehicles. IC engines. Power transmission.	1, 2	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks.	At the colloquium or the exam, students: differentia statics; solve numerical p specified unit.	ate concepts from	4 h				



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



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



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



1							
	Structure, traceability,	The task is not properly structure	ed, it	The task is sat	isfactorily structured,	The ta	ask is clearly structured, complete,
	legibility and orderliness	is not traceable, and it is not read	lable.	traceable and read	able. The diagrams and	very r	neat and legible. The diagrams are
	of the procedure,	Diagrams and sketches are	non-	sketches are meaningful, neat with minor			letely accurate, clear and very
	diagrams and sketches	existent, inaccurate, messy, un	clear	errors.		neat.	
		and ambiguous.					
	Application of	Uses expressions that do not des	cribe	Uses expressions	s that describe the	Uses	expressions that describe the
	appropriate equation	the problem specified, or incorr	-		on, accurately derives	-	em in question, accurately derives
	(formulas) and the final	expresses the physical unit from			s from the expression,		cal quantities from expressions,
	result.	expression. Numeric values are	e not	-	erical values into the	lists u	nits of measure without errors, the
		included in the expression. The	e end	-	smaller numbers, the	final r	result is completely accurate.
		result is incorrect.		final result has sr	naller deviations from		
				the exact result.			
	Knowledge and	It responds by memory, with		-	e basic concepts and		ledge is at the level of analysis,
	expression.	deeper understanding. Does not l		without difficulty imparts new		synthesis and evaluation. Observes the	
		or apply basic terms and conc	-	0	rstands the material,	-	ples of physical laws, accurately
		Does not know how to appl	-	-	and concepts supports		noroughly explains the content of
		explain the contents of the course	with	-	les. Knows the expert	the material, and logically connects and	
4.2. Evaluation of oral exam		examples.		terminology.		-	ins the terms and concepts and
							orts them with examples. Finds
							ons that were not originally given.
							otes correlations with related
						mater	1
						termin	nology.
	Colloquiums/	2		3	4		5
	Written exam						
4.3. Forming the final grade according to the evaluation		50-64,9%		65-79,9%	80-89,9%		90-100%
elements		50-64,9 points	6	5-79,9 points	80-89,9 points		90-100 points
	The oral part of exem	2		3	4		5
		50-64,9 points	6	5-79,9 points	80-89,9 points		90-100 points



	Percentage of acquired knowledge, skills and competencies (teaching + final exam)	Numerical grade		ECTS grade
4.4. Formation of the final grade	90 - 100%	5 (excellent)		А
based on the absolute	80 - 89,9%	4 (very good)		В
distribution	65 – 79,9%	3 (good)		С
	50 - 64,9%	2 (sufficient)		D
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE			
5.1. Compulsory literature	Title		Number of copies in th library	
(available in the library and via other media)	Olivari L.: Theory of vehicle movement: a collection of t traction calculation, Polytechnic in Šibenik, Šibenik, 202	-	On-line (e-learning)	
	Mikulić, D.: Motor vehicles: Theory of movement and construction (III edition), Polytechnic of Velika Gorica, Velika Gorica, 2020 (selected chapters)			On-line (e-learning)
	Lectures and exercises of the course Technical Mechanic		-	On-line (e-learning)
5.2. Additional literature (at the moment of changes and/or	Perše, S., Višnjić, V.: Mechanical engineering in traf sciences, University of Zagreb, Zagreb, 2005. (selected c Cerovac V.: Technique and safety of road traffic, Facu	5	-	
amended of study programme)	University of Zagreb, Zagreb, 2001. (selected chapters)	5	-	
	Vrhovski D., Nikšić M.: Basics of mechanical engineering - a collection of solved tasks, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2000. (selected chapters)			-
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition attendance and student activity during classes and provid further guidance to students will be provided in order to i as well as the methods of work and the required literatu Croatian employment service on the annual state of stude	ed information on students` progress the ncrease the efficiency of their work. Stu re. Indicators of quality assurance syste	rough short coll idents will be in em: Student sur	loquiums and homework, information for aformed about their rights and obligations evey, monitoring of annual data from the
5.4. Informing about the course and contacting the course lecturer	It is the responsibility of each student to be regularly infor adjournment will be published in a timely manner on the teachers during the consultation period (at least one hour	e-learning site of the course and on the	e website of the	Šibenik University. Students can contact



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 INFORMATION	ABOUT THE COURSE						
1.1. Course title	ENGLISH LANGUAGE IV	1.8. Course code in ISVU	140784 / 202097				
1.2. Course lecturer	PhD Ivana Kardum Goleš, college professor	1.9. Course code in MOZVAG	-				
1.3. Assistants and/or associates	Ivana Jardas Duvnjak, professor, title lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(15 + 30 + 0 + 0)				
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>nd</sup>	1.13. Modernization	X yes □ no				
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %				
2. COURSE DESCRIPTION							
2.1. Course objectives The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the 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	Four-year secondary education completed; qualifi	cation level 4.2 according to the CROQF, Completed course	e English language III				
2.3. Learning outcomes on the	LO1: To apply and link professional terms from te in Croatian and English.	echnology and organization of road traffic in written and ora	l communication with the professional public				
study programme level	LO2: To organize and implement team work, and	critically judge the opinions and attitudes of team members.					



	LO3: 1	To individually and responsibly so	earch, interpre	et and integrate the relevant literature r	needed to make decisions.		
	Lear	Level of LO: 1- remembering, 2- understanding 3- application, 4- analysis, 5- evaluation, 6- synthesis					
	1	2, 3					
	2	2. to create CV (Europass temp)		•		4, 6	
	3	3. to interpret and use tenses in				3, 4	
		to develop a longer essay wit	*			5, 6	
	-	5. to present own ideas for deve	-	•		3	
				in the subjects of the course, to expres	s one own opinions.	6	
		to compare and evaluate diffe		lutions.		5	
		<ul><li>d. to analyse complex texts and</li><li>d. to use part of the general lang</li></ul>		anex at lovals P1/P2		4	
			guage compete	ncy at levels D1/D2.		0	
	Cons	tructive allignement		T	Γ		
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation		Time needed
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.	-		2 h
	2.	Early Trading Conditions – Tenses CV – Europass template	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and applied grammatical structures are evaluated, understand, app from the professional terminolog	on texts and tasks ly and link terms	4 h



				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.	
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	4 h



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 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 topic, express their own opinions, present their own ideas related to the development of transport solutions to develop and evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topic, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts       4 h
6.Tehnological Advances In The Twenty - First Century - Direct And Indirect Speech - Commands, Requests, Advice Past1, 3, 5, 6, 9Listen to lectures and read 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 read linguistic context, can communicate in foreign languages within course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of4 h
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<ul> <li>6. Tehnological Advances In The Twenty - First Century - Direct And Indirect Speech - Commands, Requests, Advice Past</li> <li>1, 3, 5, 6, 9</li> <li>Listen to lectures and read literature. Use multimedia and internet. Solve exercises.</li> <li>1, 3, 5, 6, 9</li> <li>Listen to lectures and read literature. Use multimedia and internet. Solve exercises.</li> </ul>
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<ul> <li>6. Tehnological Advances In The Twenty - First Century - Direct And Indirect Speech - Commands, Requests, Advice Past</li> <li>1, 3, 5, 6, 9</li> <li>Listen to lectures and read literature. Use multimedia and internet. Solve exercises.</li> <li>Listen to lectures and read linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of</li> </ul>
6.Tehnological Advances In The Twenty - First Century - Direct And Indirect Speech - Commands, Requests, Advice Past1, 3, 5, 6, 9Listen to lectures and read literature. Use multimedia and internet. Solve exercises.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 of4 h
6. Principal Advances In The Twenty - First Century - Direct And Indirect Speech - Commands, Requests, Advice Past I, 3, 5, 6, 9 Listen to lectures and read literature. Use multimedia and internet. Solve exercises. Listen to lectures and read literature. Use multimedia and internet. Solve exercises. 4 h
6. The Twenty - First Century - Direct And Indirect Speech - Commands, Requests, Advice Past 1, 3, 5, 6, 9
6. Direct And Indirect Speech - Commands, Requests, Advice Past 1, 3, 5, 6, 9 1, 3, 5, 6, 9
Commands, Advice Past       Requests, alonger essay within course topics, comparing and evaluating different solutions in the traffic of
Advice Past a longer essay within course topics, comparing and evaluating different solutions in the traffic of
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
Listen to lectures and read applied grammatical structures on texts and tasks
literature. During lectures and read are evaluated, verb tenses are interpreted in a real
individually research the content of
this thematic field by searching
7. The History Of The Motor 1, 3, 5, 6, 9 data bases, presentt acquired own opinions, present their own ideas related to 6 h
Car Car the development of transport solutions to develop
ideas and ways of problem solving.
Brainstorming, discussion. Solve
exercises.
and solve tasks, use part of other language
competences at B1 level.
8. The World Of Transport - I 1, 3, 5, 6, 9 Listen to lectures and take part in In colloquium or written and oral exams the 10 h



				are evaluated, verb tenses are interpreted in a real	<u> </u>
				-	
				linguistic context, can communicate in foreign languages within the course topic, express their	
				own opinions, present their own ideas related to	
				the development of transport solutions to develop	
				a longer essay within course topics, comparing	
				and evaluating different solutions in the traffic of	
				other countries, analyze medium complex texts	
				and solve tasks, use part of other language	
				competences at B1 level.	
				In colloquium or written and oral exams the	
				applied grammatical structures on texts and tasks	
	Professionalism In The Public Sector - Defining	1, 3, 5, 6, 9		are evaluated, verb tenses are interpreted in a real	
				linguistic context, can communicate in foreign	
			Listen to lectures and read	languages within the course topic, express their	
9.				own opinions, present their own ideas related to	6 h
<i>.</i>	Relative Clauses			the development of transport solutions to develop	0 II
	Relative Clauses			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	
			Listen to lectures and read	linguistic context, can communicate in foreign	
10.	America On Wheels - Non-	12560		languages within the course topic, express their	<u>(</u> }
10.	Defining Relative Clauses	1, 3, 5, 6, 9		own opinions, present their own ideas related to	6 h
			Discuss.	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	
1		I	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	
			Listen to lectures and read	languages within the course topic, express their	
11.	The History Of Railways -	1, 3, 5, 6, 9	literature. Use multimedia and	own opinions, present their own ideas related to	10 h
11.	Connective Relative Clauses	1, 5, 5, 0, 7	internet. Solve exercises.	the development of transport solutions to develop	10 11
				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	
	The Telephone Of Today		Listen to lectures and read	languages within the course topic, express their	
12.	And Tomorrow - Business	1, 2, 3, 4, 5,	literature. Use multimedia and	own opinions, present their own ideas related to	10 h
14.	Letters – Abbreviations In	6, 7, 8, 9	internet. Solve exercises.	the development of transport solutions to develop	10 11
	Business English			a longer essay within course topics, comparing	
			l l	and evaluating different solutions in the traffic of	
				other countries, analyze medium complex texts	
				and solve tasks, use part of other language	
				competences at B1 level.	
			Listen to lectures and read	In colloquium or written and oral exams the	
			literature. During lectures	applied grammatical structures on texts and tasks	
	The Modern Wonder Of	1, 2, 3, 4, 5,	individually research the content of	are evaluated, verb tenses are interpreted in a real	
13.	Electronics - Business Letters	6, 7, 8, 9	this thematic field by searching	linguistic context, can communicate in foreign	4 h
	- Job Interview	0, 7, 0, 9	data bases, presentt acquired	languages within the course topic, express their	
			knowledge, express their own	own opinions, present their own ideas related to	
			ideas and ways of problem solving.	the development of transport solutions to develop	



	-	·							
				Brainstorming, discussion. Solve	a longer essay within course topics, comparing				
				exercises.	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				
				Listen to lectures and read	applied grammatical structures on texts and tasks				
				literature. During lectures	are evaluated, verb tenses are interpreted in a real				
				individually research the content of	linguistic context, can communicate in foreign				
				this thematic field by searching	languages within the course topic, express their				
	14.	Problems Of Modern	1, 3, 4, 5, 6,	data bases, presentt acquired	own opinions, present their own ideas related to	6 h			
	14.	Transportation	7, 8, 9	knowledge, express their own	the development of transport solutions to develop	0 11			
				ideas and ways of problem solving.	a longer essay within course topics, comparing				
			Brainstorming, discussion. Solve	and evaluating different solutions in the traffic of					
				exercises.	other countries, analyze medium complex texts				
					and solve tasks, use part of other language				
					competences at B1 level.				
					In colloquium or written and oral exams the				
					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				
	15.	Revision – II colloquium	1, 2, 3, 4, 5,	Solve exercises.	own opinions, present their own ideas related to	10 h			
	15.	Kevision – n conoquium	6, 7, 8, 9	Solve exercises.	the development of transport solutions to develop	10 11			
					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.				
3. EVALUATION OF STUDEN	TC' W	DPK							
S. EVALUATION OF STUDEN	13 W(								
3.1 Students' obligations	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least								

3.1. Students` obligations In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%. The students` acquired knowledge is tested during the course classes. Special



	consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active										
	participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the										
	written part of the final exam and is obliged to take the oral exam only. The final exam consists of a written and an oral part. Way outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is										
		neself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Šibenik U									
	and the e-learning	page of the course, when	e all the information on the	course as v	well as the teac	ching materials and the list	of literature are also available.				
	Attendance	0,5	Written exam	1 (withou	ıt colloquia)	Project					
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research			Practical work					
for each activity so that the total number of ECTS points	Essay		Report			Continuous examination					
corresponds to the credit score of the course)	Colloquium	1 (without written exam)	Seminar paper			Other					
	Class activity	0,5	Oral exam	1		Other					
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:										
					Hours (estimate)						
3.3. Student workload	Commit				45						
		ng classes and exercises			45						
	2. Preparat	tion for the Colloquium /	exam through self-study		45						
4. GRADING SYSTEM											
4.1. Grading seminar papers	-										
4.2. Grading colloquia/ written	Unsa	tisfactory	Satisfacto	ry		Above	average				
and oral exam		·		•			~				



	Title     Number of copies in the library     Availability vi other media						
5. ADDITIONAL INFORMATI	ON ABOUT THE COUR	RSE					
		50-64,9%		2 (sufficient)		D	
		65 - 79,9%		3 (good)		С	
3. Final grade according to boolute division		80-89,9%		4 (very good)		В	
		90 - 100%		5 (excellent)		А	
	Percentage of acquired knowledge, skills and competences (teaching + final exam)			Numerical grade		ECTS grade	
	Oral exam	25 points		30 points	35	5 points	40 points
	Colloquia/ Written exam	2		3		4	5
		25 points		30 points	35	5 points	40 points
		50-64,9%		65-79,9%	80	)-89,9%	90-100%
4.3. Final grade according to evaluation elements		2	2	3		4	5
	Seminar paper						
	attendance	3 ро	oints	7 points	20	) points	20 points
	Active course	70-75% of	attendance	76-86% of attendance	87-100%	of attendance	Maximum points
	Responds by memory, w understanding. Does no basic terms and conce know how to apply contents of the course w	t know or apply epts. Does not or explain the	difficulty impar understands the m	asic concepts and without rts new knowledge, aterial, explains the terms orted 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.		



5.1. Compulsory literature (available in the library and via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2002. (selected chapters)	10	Х				
5.2 Additional literature (at the moment of changes and/or amended of study programme)	<ul> <li>Tamara Polić: "The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students", Department for Traffic, Polytechnic of Rijeka, 2007.</li> <li>Adrian Pilbeam, Nina O`Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010</li> <li>A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University</li> <li>A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University</li> <li>A.J. Thomson, A.V. Martinet: "A Practical English Grammar exercises II", Oxford University</li> </ul>	10	X (e-learning, 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 Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).						



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

1. GENERAL INFORMATION ABOUT THE COURSE								
1.1. Course title	TECHNOLOGY AND ORGANIZATION OF PUBLIC CITY TRANSPORT	1.8. Course code at ISVU	140782 / 202103					
1.2. Course lecturer	PhD Marko Slavulj, associate professor	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)					
<ul><li>1.4. Study program</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%					
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.					
1.6. Year of study	2 <sup>nd</sup>	1.13. Modernization	$\mathbf{X}$ yes $\Box$ no					
1.7. Credit point (ECTS)		1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□					

2. COURSE DESCRIPTION	
2.1. Course objectives	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; 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 CROQF.
2.3. Learning outcomes on the study program level	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public in Croatian and English.
study program to vor	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.								
	LO5: To apply basic legal and economic principles in organization with socially responsible management in technical-technological subjects.								
	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.								
	LO11: To identify, predict and propose solutions in road traffic technology and technique.								
	LO12: To set up a minor traffic process and critically evaluate it.								
	LO13: Follow trends in technology, technology and traffic safety.								
	Learning outcomes according to Bloom's taxonomy:	Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis							
2.4. Expected learning outcomes on the course level	1. to define and describe the public transportation system.	1, 1							
	2. to explain and distinguish between the technical and technological features of the public transport system.	2, 4							
	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							

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



				documents on the e-learning page of the		
				course.		
		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.	Technology of 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 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
	5.	Technology of 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	In colloquium or written and oral exams they can state the need and role of public transport, define the main technologies and	3 h



			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.	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.	
6.	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 possibilities of improving public transport.	3 h
7.	Conventional modes of public transportation.	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 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
8.	Public passenger transport vehicles. 1st Colloquium	1, 2, 3, 5, 6	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they define and state the types and types of public transport vehicles and their technical and technological characteristics that are important for the establishment and organization of public transport systems.	38 h



			1			
	9.	Public passenger transport vehicles.	1, 2, 3, 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 define and state the types and types of public transport vehicles and their technical and technological characteristics that are important for the establishment and organization of public transport systems. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving public transport.	3 h
	10.	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 read literature, come up with their own ideas, and ways to solve problems.	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 cities. Seminar work is organized in groups, with discussion and proposing measures for possibilities of improving public transport.	3 h
	11.	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
	12.	Planning of the public transport station.	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	At the colloquium or written and oral exam, they know how to define and describe the types of networks and ways of providing line routes, and list and analyze the factors that determine the quality of the	3 h



				14 million and the second s	1'	
				literature, come up with their own ideas,	line network. Seminar work is done in	
				and ways to solve problems.	groups, discussing and proposing	
					measures for improving public transport.	
					At the colloquium or written and oral	
				They listen to a lecture and read	exam, they can state and describe the	
				literature. In the course of the seminar,	causes and consequences of urban	
		Model of pricing and	1, 2, 3, 4,	they individually explore the content of	expansion, define and describe the forms	
	13.	charching in public city	1, 2, 3, 4, 5, 6, 7	this topic area by searching the database,	of paratransit and its effects and influence	3 h
		transport	5, 0, 7	and on the basis of it and the read	on the public transport system in cities.	
				literature, come up with their own ideas,	Seminar work is done in groups,	
				and ways to solve problems.	discussing and proposing measures for	
					improving public transport.	
					In colloquium or written and oral exams	
		Innovative transportation	1 2 2 4	They listen to a lecture and prepare	they define and describe the forms of	
	14.	technologies.	1, 2, 3, 4, 5, 6, 7	individually for the colloquium.	innovative transport technologies, and	38 h
		2nd Colloquium.	5, 0, 7	individuality for the conoquium.	explain the effects and impact on the	
					public transport system.	
		Concluding considerations.		They listen to a lecture and merer		
	15.	Repeating and preparing for	6,7	They listen to a lecture and prepare	-	38 h
		the exam.		individually for the exam.		
3. EVALUATION OF STUDEN	T WO	RK				

#### In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: from 0 - 24.9% of ECTS credits they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or 3.1. Students` obligations extraordinary exam period; more than 50% students have the right to take the final exam. Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two exams); b) during class (active participation in class and passing exams (written and oral part of the exam). 3.2. Monitoring student work Attendance 1 Written exam 1 (without colloquia) Project (enter the share of ECTS credits Experimental Practical work Research for each activity so that the total work



number of ECTS points corresponds to the credit score	Essay		Report		Continuous examination				
of the course)	Colloquium	1 (without written exam)	Seminar paper	1	Other				
	Class activity	1	Oral exam	1	Other				
	The student's workl	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated:							
		Obligatio	on		Hours (estimate)				
3.3. Student workload	1. Attending	g classes			30				
	2. Creating	and Presenting seminar pap	per	15					
	3. Preparatio	on for the Colloquium / exa	am through self-study	115					

# 4. GRADING SYSTEM

	Element of evaluation	Bad		Satisfyi	ng	Above average	
	Organization	The paper is not organ order and lacks structur		The paper is well st clear distinction introduction, the main and the conclusion.	between the	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.	
4.1. Grading of seminar work	Terminology, writing style	Words and expressions low in line with official terminology. The writing style is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.		Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.		Words and expressions are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.	
	Citing and referencing references	The sources are not li references do not fit the a cursory approach to topic.	e topic and show	w and with errors. The references 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.	
4.2. Grading of the colloguium / written and oral exam	Bad		Satisfying			Above average	



	understanding. It terms and concep	memory, without a deeper Does not know or apply basic its. Does not know how to apply contents of the course with	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		Knowledge is at the level of analysis, synthes and evaluation. It observes the legalit accurately and thoroughly explains the contex of the material, and logically connects ar explains the terms and concepts that it suppor with examples. Finds solutions that were n originally given. It notes correlations wir related material.		
	Active	70-75% of the presence	76-86% of the presence	87-100% of t	he presence	Case studies resolved	
	attendance	0 points	0 points	0 po	ints	0 points	
	Seminar paper	2	3			5	
4.3. Forming the final grade		Made and handed over	Made and handed over	Made and h	anded over	Made and handed over	
according to the evaluation	Examination / Written examination	2	3	4		5	
elements		50-64%	65-80%	81-9	0%	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	
	U	e of adopted knowledge, skills an tences (teaching + final exam)	d Numerous grade		ECTS grade		
		90-100%	5 (excellent	)	А		
4.4. Formation of final grade based on absolute distribution		80-89,9%	4 (very good	))		В	
		65 - 79,9%	3 (good)			С	
		50 - 64,9%	2 (sufficient)		D		



5.1. Required literature	Title	Number of copies in the library	Availability via other media						
(available in the library and through other media)	Štefančić, G.: Technology of public (urban) city traffic, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2008. (selected chapters)	3	No						
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Štefančić, G.: Technology of public (urban) city traffic II, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2010. Modern traffic, Journal of Croatian scientific society for traffic, Zagreb Banister, D. : Transport and Urban Development, E & FN Spon, New York, 1995. Courses lectures	0 0 0	No No Yes						
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	students' attendance and activity in the classroom and information obtained about student progress throug for further guidance to students in order to increase their work efficiency. Students will be instructed	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students employer survey and Alumni Association							
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).								



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

1. GENERAL INFORMATION ABOUT THE COURSE									
1.1. Course title	TRANSSHIPMENT RESOURCES	1.8. Course code at ISVU	214571 / 214572						
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	1.9. Course code at MOZVAG	-						
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(45 + 15 + 15 + 0)						
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>nd</sup>	1.13. Modernization	X yes □ no						
1.7. Credit point (ECTS)	6	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %						

2. COURSE DESCRIPTION	
2.1. Course objectives	The goal is to provide students with theoretical knowledge: Distinguish between types of transshipment resources; Understand the principle of continuous operation of transhipment machinery and set an example for application in business practice; Calculate the efficiency of uninterrupted handling equipment; Learn how to choose uninterrupted handling equipment based on the type of goods. Describe and distinguish between basic features and performance of transshipment mechanization with periodically action; Understand the application and purpose of transshipment mechanization with periodically action; Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
2.3. Learning outcomes on the study programme level	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public in Croatian and English.
study programme lever	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.



	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.								
	LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.								
	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.								
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.								
	Learning outcomes according to Bloom's taxonomy:	Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis							
2.4. Expected learning outcomes	<ol> <li>state the division of goods according to the technical suitability for transport and transhipment and list the physical and technical characteristics of the goods,</li> </ol>	1							
on the course level	2. to sketch and comment on continuous operation transhipments,	3, 4							
	3. calculate the productivity of individual continuous-action transhipment means,	4							
	4. recommend loading and unloading means depending on the type of goods and productivity,	5							
	5. sketch and select the required elements of the crane,	4, 5							
	6. distinguish and propose types of cranes with regard to the scope,	2, 6							
	7. calculate the productivity of transshipment mechanization with periodically action,	3							
	8. define and calculate the number of pallets and containers required.	1, 3							

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



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



				discussion on the presented topic are	presented seminar paper (independent use of	
				applied. In the exercises classes , they	computer programs). They know how to	
				calculate the productivity of the conveyor	calculate the required belt width for a belt	
				by analytical methods.	conveyor. They know how to calculate the	
					productivity of belt conveyors.	
				They listen to lectures and read literature. In	At the colloquium or written and oral exam,	
				seminar classes, they individually research	they can explain the role of screw conveyors	
				the content of this thematic area by	and state its advantages and disadvantages.	
				searching the database, and on the basis of	Give an example of application. They can	
		G		it and the read literature, they prepare a	enumerate and sketch the shapes of the	
		Screw conveyors. Scope,	0.0.4	seminar paper which presents the acquired	conveyor auger and indicate the type of	0.1
	4.	shapes and calculation of a	2, 3, 4	knowledge. In the seminar classes, the	material they are used for. Sketch and explain	8 h
		screw conveyor.		brainstorming method and the method of	the working principle of a screw conveyor for	
				discussion on the presented topic are	piece goods. Prepared and presented seminar	
				applied. In the exercises classes, they	paper (independent use of computer	
				calculate the productivity of the conveyor	programs). They know how to calculate the	
				by analytical methods.	productivity of belt conveyors.	
				They listen to lectures and read literature. In	At the colloquium or written and oral exam,	
				seminar classes, they individually research	they know how to define elevators and list	
				the content of this thematic area by	and explain the types of elevators. Sketch and	
				searching the database, and on the basis of	explain the principle of operation of the	
		Elevators. Forms of		it and the read literature, they prepare a	elevator. List the types of buckets and the	
		construction and calculation.		seminar paper which presents the acquired	elements for the transfer of piece goods. At	
	5.	Pneumatic conveyors. Forms	2, 3, 4	knowledge. In the seminar classes, the	the colloquium or written and oral exam, they	8 h
		of construction and		brainstorming method and the method of	can state the types of pneumatic conveyors,	
		calculation.		discussion on the presented topic are	sketch and explain their working principle.	
				applied. In the exercises classes, they	Prepared and presented seminar paper	
				calculate the productivity of the conveyor	(independent use of computer programs).	
				by analytical methods.	They know how to calculate the productivity	
					of screw conveyors.	
		Sectional conveyors.		They listen to lectures and read literature. In	At the colloquium or written and oral exam,	
	6.	Features and calculation of	2, 3, 4	seminar classes, they individually research	they can state the characteristics of sectional	8 h
		sectional conveyors.	7 - 7	the content of this thematic area by	conveyors and sketch and explain their	
	I	······································		······································	The second se	



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



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



1						
_				numerical problems with the analytical method, which determine the parameters for classifying cranes into classes.	the parameters, classify the cranes into a specific class.	
	12.	Division of the crane. Design of small cranes.	5, 6, 7, 8	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes. In the exercises classes, they solve numerical problems for a hydraulic crane using the analytical method.	At the colloquium or written and oral exam, they can list small and large cranes. Sketch and explain small cranes and give an example from practice. Calculate the required pressure in the hydraulic jack cylinder, the required force at the end of the drive lever and the piston diameter.	10 h
	13.	Large cranes.	5, 6, 7, 8	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes. In the exercises classes, they solve numerical problems with the use of containers using the analytical method.	At the colloquium or written and oral exam they know how to group large cranes. Sketch and explain large cranes. Explain the difference between boundaries and cranes. Give an example from practice. Calculate the required number of containers.	12 h
	14.	Universal manipulative vehicles. Forklifts, loaders and small towing vehicles. Pallets and containers.	8	They listen to lectures and read literature. In the seminar classes, they individually research databases and, based on that, read the literature and prepare a seminar paper which presents the acquired knowledge. The brainstorming method and the discussion method are applied in the seminar classes.	At the colloquium or written and oral exam, they know how to list and define universal manipulative vehicles. State the division of the forklift and give an example from practice. Explain loaders, list and describe small towing vehicles and give an example from practice. At the colloquium or written and oral exam, they know how to define and list the types of pallets and containers and	8 h



					classes, they solve s with the use of analytical method.	give an example from practic control number of the contain		
	forthe15.Colloquiumconsideration	and preparation colloquium. II. Concluding ns. Repeating ng for the exam.	5, 6, 7, 8	They listen to the	lecture and read the dually prepare for the	-		40 h
3. EVALUATION OF STUDEN	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 unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% - are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular of extraordinary exam period; more than 50% - students have the right to take the final exam. Students can pass the final exam in the course in two ways: a during classes through continuous monitoring of students (active participation in classes and preparation and presentation of seminar paper) and taking exams (written and oral part of the exam).							who have the next egular or ways: a) and two	
	Attendance		W	ritten exam	4 (without colloquia)	Project		
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Re	esearch		Practical work		
for each activity so that the total number of ECTS points	Essay		Re	eport		Continuous examination		
corresponds to the credit score of the course)	Colloquium	4 (without written exam)	n Se	eminar paper	0,5	Other		
	Class activity	0,5	O	ral exam	1(without colloquia)	Other		
	The student's work			ECTS point for 30 hours	s of work per semester a	of work per semester and is estimated as:		
	Obligation					Hours (estimated)		
3.3. Student workload	1. Attendin	g classes				75		
	2. Creating	and Presenting sem	inar paper			10		
	3. Preparati	on for the Colloqui	um / exam t	hrough self-study		95		



4. GRADING SYSTEM								
	Element of evaluation	Bad		Satisfying			Above average	
4.1. Grading of seminar work	Organization	Drganization The paper is not organiz order and lacks structure.		in a logical The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.		uction, d nd the n	The paper is well structured with a clear listinction between the introduction, the nain body of the text and the conclusion, which are logically interconnected.	
	Terminology, writin style	Words and expressions low in line with official terminology. The writing style is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.		Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.		g style o cture is v ate and a	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 ich and there are no grammatical errors.	
	Citing and referencing references	The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.		The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.		mplete es are now a c	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.	
	Bad			Satisfying			Above average	
4.2. Grading of the colloguium / written and oral exam	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		difficulty imparties the material, ex	It reproduces the basic concepts and with difficulty imparts new knowledge, understan the material, explains the terms and concepts th it supports with examples.		s the material, and logically connects and explains		
4.3. Forming the final grade	Active 7	0-75% of the presence	76-86% of t	he presence	87-100% of th	ne presence	e Case studies resolved	
according to the evaluation	attendance	2 points	4 pc	ints	7 poi	nts	10 points	
elements	Seminar paper	2	3	5	4		5	



		5 points	7 points	8 points	10 points
	Examination /	2	3	4	5
	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
	-	e of adopted knowledge, skills and stences (teaching + final exam)	l Numerous grade		ECTS grade
4.4 Formation of final anada	90-100%		5 (excellent)		А
4.4. Formation of final grade based on absolute distribution		80 - 89,9% 65 - 79,9%		4 (very good) B	
					С
		50-64,9%	2 (sufficient)		D

# 5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Required literature (available in the library and through other media)	Title	Number of copies in the library	Availability via other media
	Mavrin I.: Conveyors, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 1999. Šćap D.: Transmissions and elevators, Faculty of Mechanical and Naval Engineering, University of	0	Available online
	Zagreb, Zagreb, 2004. (selected chapters) Bognolo, D., Kršulja, M.: Transhipment means - Collection of solved tasks, Polytechnic of Rijeka,	0	
	Rijeka 2017. (selected chapters) Boris Ribarić: Examples of solved tasks in the subject of handling machinery, Faculty of transport and	3	
	traffic sciences, University of Zagreb, Zagreb 1994 (selected chapters)	0	
5.2. Supplementary literature (at the time of the submission of	Serdar J.: Transmissions and elevators, Lexicographic Institute "M. Krleža", Zagreb, 1995.	5	



changes and / or additions to the study program)							
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	uality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' tendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for or the 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, mployer 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 or ossible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can ontact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. 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 rorking 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 ABOUT THE COURSE							
1.1. Course title	FREIGHT-DISTRIBUTIONAL CENTRES AND TERMINALS	1.8. Course code at ISVU	140777 / 202101				
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	1.9. Course code at MOZVAG	-				
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 30 + 0)				
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> - 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 <sup>nd</sup>	1.13. Modernization	<b>X</b> yes $\Box$ 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	
2.1. Course objectives	The goal is to provide students with theoretical knowledge: Define basic goods-distribution terms; Understand the division, structure and function of goods-distribution centers and terminals; Understand the technical and technological characteristics of goods-distribution centers and terminals and the design and planning of management systems; Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
2.3. Learning outcomes on the	LO1: Use and link professional terms in road traffic technology and organization in written and oral communication with the professional public in Croatian and English.
study programme level	LO2: Organize and conduct teamwork, and critically evaluate the opinions and attitudes of team stakeholders.
	LO3: Independently and responsibly search, interpret and integrate relevant literature needed to reach conclusions.



	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.						
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.						
2.4. Expected learning outcomes	Learning outcomes according to Bloom's taxonomy: (maximum 2 werbs for LO)	Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis.					
on the course level	1. define and explain basic concepts in the field of distribution and trade in goods.	1, 2					
	2. comment on the fundamental characteristics of the goods centers and terminals in the transport system.	4					
	3. integrate and critically evaluate technological processes in goods distribution centers and terminals.	3, 5					
	4. to choose transshipment facilities at terminals according to the type of goods and technological procedures.	3					
	5. distinguish between types of storage and technological storage procedures.	2					
	6. present the acquired knowledge independently and in a team.	6					

	Constructive allignement						
	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed	
2.5. Course content according to detailed curriculum schedule	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 methodology of writing seminar papers. They choose the topic of the seminar papers and the brainstorming method and the method of discussing the selected topic are applied.	-	2 h	



1						
		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.	Field teaching VELPRO Šibenik.	2, 3	They listen to a lecture. (Touring the goods distribution center. Getting acquainted with the technology of receiving and distributing goods, ways of storing and storing goods, and commissioning goods for distribution. The method of experiential learning and self- discovery is applied. At seminar classes, they make seminar papers individually or in pairs and discuss the given topic .	At the colloquium or the written and oral exam they can explain the role of goods distribution.	2 h
	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 discussed are applied in the seminar teaching.	At the colloquium or the written and oral exam they define the basic terms of the terminal. They know how to list and distinguish types of terminals.	4 h
	4.	Port Terminals. Multifunctional and universal terminals.	1, 2, 3	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. The brainstorming method and the method of discussing the topic discussed are applied in the seminar teaching.	At the colloquium or the written and oral exam they know how to define and enumerate port terminals. Describe the role and characteristics of multipurpose and universal terminals. Seminar paper created and presented (using computer programs independently).	4 h



1					
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. 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 storage types. Seminar paper created and presented (using computer programs independently).	10 h
6.	Ro-Ro terminals.	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or written and oral exam knows define and describe Ro- Ro terminals, explained by technological processes of work on them, enumerate and describe the loading and unloading devices and describe storage. List the advantages and disadvantages of Ro-Ro technology.	7 h
7.	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	At the colloquium or written and oral exam knows define and describe LUF and LASH terminals explain the	7 h



1						
				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.	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.	Repetition and preparation for the colloquium. Colloquium I.	1, 2, 3, 4, 5	They listen to lectures and read literature and individually prepare for the colloquium.	-	25 h
	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. 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	10 h



1						
					paper created and presented (using computer programs independently).	
1	10.	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 machinery. the Konzum distribution center monitoring the process of storing and storing different types of goods in the rack warehouse and cold store and preparing and controlling the goods before distribution. Types of forklifts. The experiential and self-discovery methods are applied.	At the colloquium or written and oral examination know to describe and explain the technological processes of work on terminals, state of loading unloading devices and explain storage.	4 h
1	11.	Terminals for the transhipment of oil and petroleum products. Terminals for transhipment of liquefied gases.	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they know how to define and describe the terminals for transhipment of oil and petroleum products and terminals for transhipment of liquefied gases. Explain their technological processes of work and the list of loading unloading devices. List the types of storage and explain storage. Enumerate and describe systems with buoys for cargo handling. Seminar paper created and presented (using computer programs independently).	8 h
1	12.	Dangerous goods terminals.Terminalsforthetranshipmentof heavyandveryheavyloads.The	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the	At the colloquium or written and oral exam knows define and enumerate dangerous cargoes. List the systems by which the classification of the	8 h



	terminals for the transhipment of wood and wood products.		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.	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 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	
			They listen to a lecture and read literature. At the	presented (using computer programs independently). At the colloquium or the written and oral exam, they are able to list the factors on which the transport,	
13.	southern fruit and food products.	1, 3, 4, 5	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.	transhipment and storage of perishable products depends. List the groups of frozen foods and give an example. Explain the technological process of working at a food product terminal. List the infrastructure and superstructure that the animal terminal must have at its disposal. Describe the technological process of work and the list of loading unloading devices for animals.	6 h
14.	Repetition and preparation for the colloquium. Colloquium II.	1, 2, 3, 4, 5	They listen to lectures and read literature and individually prepare for the colloquium.	-	25 h



	15. Rep	cluding considerations. eating and preparing for exam.	-	They listen to a lectu for the exam.	ire and prepare individual	у		26 h		
3. EVALUATION OF STUDEN	T WORK									
3.1. Students` obligations	Part-time stu have achieve next academ or extraordin a) during the work and tw	we with the Rulebook on Stud adents are required to attend ed during the course: from 0 ic year; from 25-49.9% - are hary exam period; more than e course of teaching through o colloquium); b) during cla c of the exam).	a class of - 24.9% c assessed b 50% - stuc continuou	at least 50%. All stud- of ECTS credits - they y insufficient and must dents have the right to s monitoring of studen	ents must create, present a are rated unsuccessful and pass and pass the written take the final exam. Stude ts (active participation in	and positively colloquy sen d cannot earn ECTS credits exam (test). Written exam (t nts can take the final exam is classes and development an	ninar paper. Stud s and must re-enr test) can be held i in the course in t ad presentation o	lents who coll in the in regular wo ways: f seminar		
	Attendance		Wı	ritten exam	3 (without colloquia)	Project				
3.2. Monitoring student work (enter the share of ECTS credits	Experimenta work	ntal		search		Practical work				
for each activity so that the total number of ECTS points	Essay		Re	port		Continuous examination				
corresponds to the credit score of the course)	Colloquium	3 (without written exam)	Sei	minar paper	0,5	Other				
	Class activit	y 0,5	Or	al exam	1 (without colloquia)	Other				
	The student'	s workload on all bases amou		CTS point for 30 hours	s of work per semester and		·			
		Obl	igation		Hours (estimated)					
3.3. Student workload	1. Attending classes				60					
3.3. Student workload	2. Ci	reating and Presenting semin	ar paper			20				
	3. Pr	reparation for the Colloquium	n / exam th	rough self-study		70				
4. GRADING SYSTEM										



	Element of evaluation	on Bad	Bad		Satisfying Above average				
4.1. Evaluation of a of seminar work	Organization		The paper is not organized in a logical order and lacks structure.		well structured etion between the main body of t sion.	the dis he text ma	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.		
	Terminology, writi style	Words and expressions official terminology. T is not appropriate, the s long, of a modest voca frequent and repeate errors.	The writing style entences are too bulary and with	words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear the vocabulary is appropriate and		g style cture is ate and are	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 referenci references	The sources are not ling references do not fit the a cursory approach to topic.	topic and show and with errors. The references are			how a con	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.		
		Bad		Satisfying			Above average		
4.2. Grading of the colloguium / written and oral exam	understanding. Does terms and concepts.	emory, without a deeper not know or apply basic Does not know how to apply tents of the course with	difficulty impa	he basic concep ts new knowled plains the terms a examples.	ge, understands	and evalu accurately of the ma explains th with exam	e is at the level of analysis, synthesis bation. It observes the legality, and thoroughly explains the content aterial, and logically connects and he terms and concepts that it supports inples. Finds solutions that were not given. It notes correlations with terial.		
	Active	70-75% of the presence	76-86% of	the presence	87-100% of	the presence	Case studies resolved		
4.3. Forming the final grade according to the evaluation	attendance	2 points	4 pe	oints	7 ро	ints	10 points		
elements	Sominor nenor	2		3	4	-	5		
	Seminar paper	5 points	7 p	oints	8 points		10 points		



	Examination /	xamination / 2		3		4		5	
	Written	50-64,9%		65-79,9%	80-89,9%			90-100%	
	examination	25 points	25 points 30 points		35 points			40 points	
	Oral part of the	2		3		4			5
	exam	25 points		30 points	35	5 points			40 points
	-	of acquired knowledge, skills an tences (teaching + final exam)	d	Numerous grade	e		EC	TS grade	
4.4. Formation of final grade based on absolute distribution		90-100%		5 (excellent)				А	
		80-89,9%		4 (very good)				В	
	65 - 79,9%			3 (good)				С	
	50-64,9%			2 (sufficient)		D			
5. ADDITIONAL INFORMAT	ION ABOUT THE	COURSE							
5.1. Required literature		Т	ïtle				Number of oin the libr	-	Availability via other media
(available in the library and through other media)	Poljičak, AM., Ljubić Hinić, M.: Freight Terminals - Authorized script, Polytechnic of Šibenik, Šibenik, 2016.							Available online	
5.2. Supplementary literature (at	Mlinarić T. J.: Fr	ght terminals, Faculty of Maritim eight-distributional centres, Fac		• •	•	sity of	3		
the time of the submission of changes and / or additions to the study program)	Dundović, C., Kesić, B.: Technology and organization of ports, Faculty of Maritime Studies, University2of Rijeka, Rijeka, 2001.3						Available online		
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Kirinčić, J.: Ports and terminals, School book, Zagreb, 1991. 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.								

Stranica **10** od **11** 



5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).
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## PK-SP-2. Description of a new course an amended and/or changed or modernized course.

1. GENERAL INFORMATION ABOUT THE COURSE					
1.1. Course title	ECONOMICS OF TRAFFIC	1.8. ISVU course code	142541 / 202087		
1.2. Course lecturer	PhD Dijana Mečev, college professor	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)		
<ul><li>1.4. Study programme</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1 st level – materials available on-line, 0%		
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1		
1.6. Study year	2 <sup>nd</sup>	1.13. Modernization	$\Box$ yes X no		
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %		

2. COURSE DESCRIPTION				
2.1. Course objectives	The main objective of the course is to provide students with the skills and abilities to understand main economic relationships and processes in the transport system.			
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.			
	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.			
2.3. Learning outcomes on the study programme level	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.			
study programme rever	LO5: To apply basic legal and economic principles in organization with socially responsible management in technical-technological subjects.			
2.4. Expected learning outcomes on the course level	Learning outcomes towards Bloom's taxonomy: (up to two verbs per LO)	Level of LO: 1- Recapture, 2- Understanding,		



	3- Application         4- Analysis,         5- Evaluation         6- Synthesis         1. Compare the fundamental characteristics of transport economics and the transport market from a micro and macro perspective.         2. Determine the role of transport in various segments of economic development.         3. Critically evaluate the components of costs and relate them to the overall operations of transport companies.         4. Analyse the operations of companies in the transport sector.						
2.5. Course content according to detailed curriculum schedule	Constr no.	Unclose alignment         Thematic ensemble / Lecture         Topic         Introduction into the course and detailed plan.	LO of the course	Content / Teaching Method Listen to the lecture (with encouragement of student participation and engagement)	Evaluation -	n	Time needed 1 h
	1.	Characteristics of transport economics and transport market.	1, 2	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications).	In the colloquium or we exams, the student will be and describe fundament transport economics; expla of the transport market; dist the concept of transport s examples of complet competition among transport	e able to identify al concepts of in characteristics tinguish between demand and the ervice; provide mentarity and	2 h
	2. Economic sense and practical importance of transport division			Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In the colloquium or w exams, students will be abl factors and criteria of explain how traffic influer of labor and specialization be able to critically importance of accessibili services.	le to list the main traffic division, nces the division n. They will also reflect on the	4 h



3.	The role and impact of transport on economic development	1, 2	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In the colloquium or written and oral exams, students will be able to explain the place and role of transport in the economic circular flow. They will be able to describe how transport impacts production and how it functionally connects production factors.	4 h
4.	Creating revenues from transport services and the impact of prices on the demand for transport services	2, 3, 4	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In the colloquium or written and oral exams, students will be able to explain the value structure of transportation services. They will be able to analyze the relationship between price and demand for transportation, and they will be able to sketch and explain the total revenue curve.	4 h
5.	Transport cost analysis.	2, 3, 4	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams, students will be able to explain the main costs in transportation. They will be able to differentiate costs based on the degree of capacity utilization and calculate the selling price of transportation services.	4 h
6.	Transport infrastructure costs.	2, 3	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams,students will be able to define the characteristics of transport infrastructure. They will be able to list and explain the main revenue instruments for financing road infrastructure. Additionally, they will be able to identify and explain the main sources of revenue for road construction.	4 h
7.	Tariffs and tariff systems.	2, 3	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams, students will be able to define the concept of tariffs in transportation. They will be able to list and explain the factors that influence the level and formation of tariffs.	6 h



			1		
8.	Business Performance Criteria (1).	2, 3, 4	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams, Students will be able to calculate and interpret net profit margin, return on assets (ROA), and return on equity (ROE).	6 h
9.	Business Performance Criteria (2).	2, 3, 4	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams, students will be able to calculate and interpret productivity and efficiency.	6 h
10.	Transport Services Market	1, 2	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams, students will be able to define supply and demand in the market of transport services. They will be able to outline the specificities of the market for transport services.	4 h
11.	Consumer and manufacturer behavior.	1, 2	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams, students will be able to explain the behavior of suppliers based on the principle of profit maximization. They will also be able to explain the behavior of buyers based on the principle of utility maximization.	4 h
12.	Market structures (1)	1, 2	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.	In colloquium or written and oral exams, students will be able to define perfect competition. They will be able to list and explain market failures. The student will define a monopoly and explain the reasons for its emergence. They will also be able to differentiate between monopoly and perfect competition.	4 h



1									
	13.	Market stru	ictures (2)	1, 2	of student partici Class discussion materials (case s	ure (with encouragement pation and engagement); ns; Study of teaching tudies, research articles, ons); Presentation of ith discussion.	In colloquium or written students will be able to def explain how it arises. The define monopolistic c differentiate it from perfec	ine oligopoly and by will be able to competition and	4 h
	14.	Economic market.	policy and the	1	Listen to the lecture (with encouragement of student participation and engagement); Class discussions; Study of teaching materials (case studies, research articles, official publications); Presentation of seminar papers with discussion.		In colloquium or written a students will be able to lis most common measures governments regulate th sector.	t and explain the through which	3 h
	15.	-	g Considerations / and Preparing for		Concluding Con and Preparing for	siderations / Repeating Exam.			30 h
3. EVALUATION OF STUDEN	T WOR	К							
3.1. Students` obligations	3.1. Students` obligations In accordance with the Book of Rules and the Rulebook on Student Assessment and Evaluation: all regular students must attend at least 70% of classes. Part-time students are required to attend at least 50% of lecture classes. All students must complete, present, and pass a seminar paper. It is recommended that students actively participate in class, which includes engaging in discussions, solving problem tasks, etc. During the course, students are entitled to take two colloquiums. If students do not pass the colloquiums, they have the option to take a written exam, in which they must achieve at least 50% of the points to qualify for the oral exam. After successfully passing the colloquium or the written exam, students proceed to the oral exam. In the oral exam, students answer questions related to the outcomes that were not met. The final grade is formed based on the weighted sum of points achieved through class activities, the written exam or colloquium, and the oral exam.								
3.2. Monitoring student work	Attendance		Writ	ten exam	1,5 (without the colloquium)	Project			
(enter the share of ECTS credits for each activity so that the total	Experimental work			Rese	earch		Practical work		
number of ECTS points corresponds to the credit score of the course)	Essay			Rep	ort		Continuous examination		
	Colloqu	iium	1,5 (without the written part of the exam)	Sem	inar paper	0,5			



	Class activities 0,5	O	ral exam	0,5			
	The student's workload on		ECTS point for 30	hours of work per semester and			
		Obligation			Hou	rs (estimate)	
3.3. Student workload	1. Attending class	es				45	
	2. Creating and Pr	resenting seminar paper				15	
	3. Preparation for	the Colloquium / exam t	hrough self-study			30	
4. GRADING SYSTEM	1						
	Valuation Element	Poor		Satisfying		Above average	
4.1. Seminar paper grading	Organization	The paper is not organ order and its structure		The paper is well structured wit distinction between the intro the main part of the text conclusion.	oduction, and the	distinction between the introduction, the	
	Terminology, writing style	Words and phrases are low harmonize with official terminology. Writing styl is not appropriate, sentences are to long, modest vocabulary, and frequent and repeated grammatical mistakes.		Words and phrases are aligned with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and has little grammatical errors.		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 specified at all. The references do not match the topic and show a superficial approach to the research topic.		Sources are listed, but incomplete and with errors. The references are appropriate for the subject and show a satisfactory research attitude.		Sources are accurate, complete and consistent. The references are appropriate, their list is "rich" and comprehensive and shows a robust research approach.	
	Po	or		Satisfying		Above average	
4.2. Colloquium / exam grading	Give answer by r understanding. Does no apply the basic terms apply or explain the cont	and concepts. Cannot	Reproduces basic terms, without difficulty transfers new knowledge, understands subject matter, explains the terms and the notions that substantiate by examples.		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.
	Percentage of adopted knowledge, skills and competences (teaching + final exam)	Numerous grade	ECTS grade
	90 - 100%	5 (excellent)	А
4.3. Creating a final grade according to absolute allocation	80 - 89,9%	4 (very good)	В
	65 – 79,9%	3 (good)	С
	50 - 64,9%	2 (sufficient)	D

## **5. ADDITIONAL INFORMATION ABOUT THE COURSE**

	Title	Number of copies in the library	Availability via other media
5.1. Compulsory literature (available in the library and through other media)	Bukljaš Skočibušić M., Radačić Ž., Jurčević M. (2011): "Economics of Traffic", Faculty of transport and traffic sciences, University of Zagreb, Zagreb. (selected chapters) Perić T., Radačić Ž., Šimulčik D. (2000).: "Economics of traffic and transport systems." Faculty of transport and traffic sciences, University of Zagreb, Zagreb. (selected chapters)	4	
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Baričević, H. (2003).: "Traffic and tourism." VŠTM, Šibenik.	24	
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 throu attendance and student activity during classes and provided information on students` progress through short colle further guidance to students will be provided in order to increase the efficiency of their work. Students will be im as well as the methods of work and the required literature. Indicators of quality assurance system: Student sure Croatian employment service on the annual state of student employment, surveys from employers and Alumni ass	oquiums and homewor formed about their right vey, monitoring of an	rk, information for the and obligations



	It is obligatory for every student to regularly inform about the course, teaching and teaching activities. All information about teaching or any delay in
	teaching will be published on the e-learning pages of the course and on the web pages of the Šibenik University. Students can contact the teachers during
5.4. Information on the course	the consultation term (at least one hour per week), while brief questions and explanations can be addressed during classes. It is possible to ask questions by
and contact with the teacher	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). In electronic communication, only messages from known addresses with full names will be responded to, written in Croatian standard and
	appropriate academic style.



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

1. GENERAL INFORMATION ABOUT THE COURSE							
1.1. Course title	INFRASTRUCTURE OF ROAD TRAFFIC	1.8. Course code in ISVU	187603 / 254445				
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	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)	(45 + 30 + 30 + 0)				
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>rd</sup>	1.13. Modernization	X yes □ no				
1.7. Credit score (ECTS)	6	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□				
2. COURSE DESCRIPTION							
2.1. Course objectives	classification, and categorization of roads, get acqua	cal knowledge and case studies: define the concept of roads, be ainted with the documentation needed for road design, distinguish a onstructions, sort the road equipment, and road works on regular and d parking arrangements.	nd describe the elements and parts				
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualifica	ation level 4.2 according to the CROQF.					
2.3. Learning outcomes on the study programme level	in Croatian and English.	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.					
	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.						
		parison of data, and suggest an optimal solution in traffic process.					
	LO8: To solve problems in traffic by using analytic	• •					
	LO11: To identify, predict and propose solutions in	road traffic technology and technique.					



	LO12	LO12: To set up a minor traffic process and critically evaluate it.					
	LO13	LO13: To track trends in the development of technique, technology and safety in traffic.					
2.4. Expected learning outcomes on the course level (4- 10 learning outcomes)						Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis.	
	1	. Define terms and categorize road	ds and road in	tersections in the Republic of Croatia.		1, 3	
	2	. Calculate and sketch the basic ro	oad elements r	equired for design and construction.		2, 4	
	3	Distinguish and compare the low parking lots and garages.	ver and upper s	structures of the road, road structures, associated	roadside facilities,	2,4	
	4	Enumerate and propose necessar	ry road equipr	nent, road maintenance works.		1,6	
	5	. Distinguish and ranking the city	roads, streets,	, and road junctions.		4, 5	
	6		e	c and technical literature in the native and Englis	sh language.	3	
	7	· · ·	-	ms, and solutions independently and in a team.		6	
	8	. Tell, summarize the history of re	oad construction	on in the world and the Republic of Croatia.		1, 2	
	9	. Select and evaluate the location	for street park	ing spaces, parking lot, and parking garage.		5	
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement					
	No	Thematic unit	LO of the course	Content/teaching methods	Evalı	ation	Time needed
	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.		-	3 h
	2.	Development of road construction (the historical	6, 7, 8	They listen to a lecture and read literature. They use multimedia and network. At the	At the colloquius oral exam, stud	m or written and lents know tell,	7 h



development of roads in the seminar class, they individually explore the summarize and comment	
World and the Republic of content of this topic area by searching the construction throughout	-
Croatia). database, and on the basis of it and reading isolate the most dangerous	
the literature, create a seminar paper that the world, list the historica	al roads in
presents the acquired knowledge and presents the Republic of Croatia, in	ndicate the
their own ideas, and ways to solve problems. country with the long	0
During exercises, students are knowing with network in the world.	
the general content of the transport project. created, seminar paper created in the transport project.	reated and
presented (by computer pre-	rograms).
They listen to a lecture and read literature. At the colloquium or the w	written and
They use multimedia and network. At the oral exam, students can d	define the
seminar class, they individually explore the concept of the road on the	ne basis of
Road         classification         content of this topic area by searching the         the Roads Law of the Red	epublic of
(classification based on the law database, and on the basis of it and reading Croatia, categorize roads,	, establish
<b>3.</b> of roads, the classification 1, 6, 7 the literature, create a seminar paper that the difference between i	individual 8 h
standards, types of roads in the presents the acquired knowledge and presents categories of roads, ide	entify the
Republic of Croatia)       their own ideas, and ways to solve problems.       most important roads	in the
During exercises, the topic is project Republic of Croatia.	Exercise
assignment. created, seminar paper cr	reated and
presented (by computer pre-	rograms).
At the colloquium or the w	written and
oral exam, students can	state and
They listen to a lecture and read literature. At differentiate the study	y project
the seminar class, they individually explore documentation, sort the or	rder of the
the content of this topic area by searching the road design, determined	nine the
Road design I (project database, and on the basis of it and reading difference between the i	individual
4. documentation, road indicators, 2, 6, 7 the literature, create a seminar paper that terrain paths that the road	-
tracing, layout elements) presents the acquired knowledge and presents through, distinguish and ex	xplain and
their own ideas, and ways to solve problems. calculate speeds, and an	•
During exercises, the topic is routing of the layout elements of the	the road.
road. Exercise created, semin	nar paper
created and presented (by	<sup>r</sup> computer
programs).	



5.	Road design II (elements of longitudinal sections, road cross- sections, drainage elements)	2, 6, 7	They use multimedia and network. 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. During exercises, the topic is the calculation of elements of the horizontal and vertical bend.	At the colloquium or the written and oral exam, students know how to distinguish between the terrain and the level of the road, analyze and describe the road elements, enumerate and extract hydro- meteorological data and drainage elements. Exercise created, seminar paper created and presented (by computer programs).	8 h
6.	Road design – guest lecture	2, 6, 7	They listen a guest lecture about topic. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or the written and oral exam, students define the basic terms and concepts of road and road intersection. Specify and distinguish the study design documentation, sort the order of road design. Analyze and describe the elements of the road. Exercise created, seminar paper created and presented (by computer programs).	8 h
7.	Road structure (lower and upper part of road structure)	3, 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. During exercises, the topic is Creating a horizontal bend.	At the colloquium or the written and oral exam, students can define the concept of the lower and upper road structure, list and describe the parts of the lower and upper road structure, distinguish road structures, draw the shapes of the hull, establish the difference in the mode of ventilation in tunnels, identify factors for the choice of road curtain Exercise created,	8 h



				seminar paper created and presented	
8.	Road equipment (traffic signs and signaling)	1, 4, 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. During exercises, the topic is Creating vertical bends.	(by computer programs). At the colloquium or written and oral exam, students can sort the road equipment, distinguish between road equipment and traffic equipment, describe road signs, vertical, horizontal and light traffic signs. Exercise created, seminar paper created and presented (by computer programs).	8 h
9.	Road equipment (traffic signs and signaling) – guest lecture	1, 4, 6, 7	They listen a guest lecture about topic. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	At the colloquium or the written and oral exam, students know how to sort traffic signs and signaling. Make a difference between marking road signs, describe road signs, vertical, horizontal and light traffic signs. Exercise created, seminar paper created and presented (by computer programs).	8 h
10.	Maintenance of the road (the main goals of maintenance, regular and periodic maintenance, machinery for road maintenance)	3, 4, 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. During exercises, the topic is making of notches, cuts, and embankments.	At the colloquium or written and oral exam, students can state the basic goals of road maintenance and protection, identify the types of road maintenance, distinguish between regular and winter road maintenance, enumerate and describe road maintenance works, categorize road maintenance machinery. Exercise created, seminar paper created and presented (by computer programs).	8 h



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	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. 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).	8 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. 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, and number of traffic. Find out the difference between a road intersection and a hub. Exercise created, seminar paper created and presented (by computer programs).	8 h
	13.	Parking place and garages (basic terms of stationary traffic, modes of on-street and off-street parking, division of parking garages, equipment of parking garages)	3, 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. During exercises, the topic is elaborate on the ideal and final design.	At the colloquium or the written and oral exam, students can define the basic term of parking spaces, parking places, and parking garages. Analyze the ways to park vehicles on-street and off-street surfaces. List the parts and equipment of the parking garage. Recommend location for building parking lot and parking garage. Exercise created,	7 h



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						seminar paper created and pr (by computer programs).	resented
	14.	Service facilities on the roads (bus stops, stations, and terminals, rest stations, gas stations)	3, 6, 7	They listen to a lecture and r the seminar class, they indi- the content of this topic area database, and on the basis the literature, create a ser presents the acquired knowle their own ideas, and ways to During exercises, the to intersection elements and tra	ividually explore a by searching the of it and reading minar paper that edge and presents o solve problems. opic is Control	At the colloquium or in the and oral exam, student enumerate and describ accompanying roadside facilities. To distinguish to standpoint and guesswork. E the location of the bus so Exercise created, seminar created and presented (by co programs).	ts can e the service between Evaluate stations. r paper
	15.	Final considerations/Repeating and preparing for the exam.	-	They listen to a course lec individuals for the exam.	ture and prepare	-	100 H
3. EVALUATION OF STUDE	NT WC			1			
3.1. Student obligations	Part- have acade or ex ways	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar papers. Students who have achieved during the course: from 0 - 24,9% ECTS credits are rated unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (written and oral part of the exam).					
3.2. Student work monitoring	_	tending classes 1,5		Written exam	1 (without	Project	

3.2. Student work monitoring	Attending classes	1,5	Written exam	1 (without	Project	
(enter the share of ECTS credits				colloquiums)		
for each activity so that the total	Experimental work		Research		Practical work	0,5
number of ECTS credits corresponds to the course credit	Essay		Report		Continuous check	
value)	Colloquiums	1 (without written part of exam)	Seminar paper	1	(other)	
	Teaching activities	1	The oral part of exam	1	(other)	



3.3. Student work-load	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and				mated as:	
		Obligation		Hours (estimate) 45		
	1. Attending cla	isses				
	2. Creating and	Presenting seminar paper			30	
	3. Attending exc	ercises and creating a final e	xercises		30	
	4. Preparation f	or the Colloquium / exam th	rough self-study		75	
4. GRADING SYSTEM						
4.1. Evaluation of seminar paper	Elements of evaluation	Bad	Sa	tisfying	Above average	
	Organization	The paper is not organized in a logical order and lacks structure.	al between the introduction, the main body of the text e. and the conclusion.		The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.	
	Terminology, writing style	Words and expressions 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.	terminology. The writi sentence structure is	as are in line with official ing style is appropriate, the clear, the vocabulary is re 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.	errors. The references are relevant to the topic and show a satisfactory research attitude.		The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.	
	]	Bad	Sa	tisfying	Above average	



4.2. Gradeing of the	It responds by men	nory, without a deeper	It reproduces the basic conce	epts and without	Knowledge is	at the level of analysis,
colloquium/written and oral exam	understanding. It does terms and concepts. It d	not know or apply basic oes not know how to apply nts of the course with	difficulty imparts new knowledge material, explains the terms and supports with examples.	e, understands the	synthesis, and e legality, accurate the content of connects and exp that it support solutions that w	evaluation. It observes the ely and thoroughly explains the material, and logically plains the terms and concepts ts with examples. Finds ere not originally given. It s with related material.
4.3. Forming the final grade according to the evaluation	Active attendance on class	70-75% attendance	76-86% attendance	87-100%	attendance	Mental map created, Case studies resolved
elements		2 points	4 points	7 p	oints	3 points
	G	2	3	4		5
	Seminar paper	5 points	7 points	8 points		10 points
	Colloquiums/ Written part of exam	2	3	4		5
		50 - 64,9%	65 - 79,9%	80 - 89,9%		90 - 100%
		25 points	30 points	35 points		40 points
		2	3	5		5
	Oral part of exam	25 points	30 points	35 points		40 points
4.4. Formation of the final grade based on the absolute		ed knowledge, skills and aching + final exam)	Numerical grade		ECTS grade	
distribution	90 -	- 100%	5 (excellent)		A	
	80 -	- 89,9%	4 (very good)			В
	65 -	- 79,9%	3 (good)			С
	50 -	- 64,9%	2 (sufficient)		D	
5. ADDITIONAL INFORMATI	ION ABOUT THE COU	JRSE	1			



5.1. Compulsory literature	Title	Number of copies in	Availability via other
(available in the library and via		the library	media
other media)	Šego D., Ljubić Hinić M.: Infrastructure od Road Traffic, Authorized script, Polytechnic of Šibenik,	4	e-learning
	Šibenik, 2021.	2	
	Legac I.: Roads I, Faculty of Transportation and Traffic Sciences, University of Zagreb, Zagreb	2	-
	2001. or in 2006.		
	Legac I.: Intersections of public Roads - Road II, Faculty of Transportation and Traffic Sciences,		- Tatana (1.51)
	University of Zagreb, Zagreb 2008. (selected chapters)	-	Internet website
	The Law on the Croatian roads <u>https://zakon.hr/z/244/Zakon-o-cestama</u> (selected chapters)		Territoria de la de
	Ministry of Maritime Affairs, Transport and Infrastructure, Rule book on traffic signs, signalization	-	Internet website
	and equipment on the roads (the proposal), Zagreb 2015 (selected chapters)		T
	Brčić D., Šoštarić M.: Parking and Garages, Faculty of Transportation and Traffic Sciences, University	-	Internet website
	of Zagreb, Zagreb 2012. (selected chapters)		
5.2. Additional literature (at the	Teaching materials from lectures and seminars on the e-Learning system of the Sibenik University of		e-learning
moment of changes and/or	Applied Sciences for the mentioned course.		Internet website
amended of study programme)	Traffic Zone <u>https://www.prometna-zona.com/</u>	-	Internet website
	Traffic Signals <u>https://www.prometna-signalizacija.com/</u>		Internet website
	Croatian Roads https://hrvatske-ceste.hr/		Internet website
	First Blinker <u>http://prvitreptac.hr/</u>		Internet website
	Croatian Motorways <u>http://hac.hr/hr</u>		
5.3. Quality assurance methods	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensu		
that ensure the acquisition of	attendance and student activity during classes and provided information on students' progress through	-	
knowledge, skills and	further guidance to students will be provided in order to increase the efficiency of their work. Students		
competences	as well as the methods of work and the required literature. Indicators of quality assurance system: Stu		g of annual data from the
	Croatian employment service on the annual state of student employment, surveys from employers and		
5.4. Informing about the course	It is the responsibility of each student to be regularly informed about the course, the coursework, and cla		1
and contacting the course	adjournment will be published in a timely manner on the e-learning site of the course and on the website		-
lecturer	teachers during the consultation period (at least one hour per week), while for short questions and exp	•	-
	also possible to ask questions by e-mail (from the official e-mail address name@vus.hr), which will b	e answered as soon as po	ossible (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. GENERAL INFORMATION ABOUT THE COURSE					
1.1. Course title	RESOURCES AND EXPLOITATION OF RESOURCES OF ROAD TRAFFIC	1.8. Course code at ISVU	142536 / 202108			
1.2. Course lecturer	MSc Ivo Jurić, senior lecturer	1.9. Course code at MOZVAG	-			
1.3. Assistants and/or associates	Luka Olivari, master of mech., senior lecturer PhD Ana-Mari Poljičak, senior lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(45 + 15 + 0 + 0)			
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.			
1.6. Year of study	3 <sup>rd</sup>	1.13. Modernization	<b>X</b> yes $\Box$ 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	
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 CROQF
2.3. Learning outcomes on the study programme level	<ul><li>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.</li><li>LO4: Apply knowledge of natural and technical sciences to problems in the field of road transport.</li></ul>



	LO8: To solve problems in traffic by using analytical and / or graphical methods.	
2.4. Expected learning outcomes	<b>Learning outcomes</b> according to Bloom's taxonomy: (maximum 2 werbs for LO)	Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis.
on the course level	1. define, describe and explain basic concepts in the field of road vehicle exploitation.	1, 2
	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	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed
2.5. Course content according to detailed curriculum schedule	ccording to chedule 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 road vehicles. They know how to explain basic concepts, physical quantities and units of measure.	5 h
	2.	Changing the technical condition of the vehicle.	2	They listen to a lecture and read literature. In the exercise classes	At the colloquium or written and oral examination know enumerate, explain and	8 h



			describe the physical quantities and compare examples of their relationships with each other.	give examples of changes in the technical condition of the elements of a motor vehicle during the operation.	
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. In the exercise classes sketch and explain the features of Otto and Diesel engines.	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 interrelationships between different factors on the reliability and life of a vehicle. Repetition of the materials and preparation for the colloquium.	8 h
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	8 h



				conclusions about safe driving during operation based on the factors given.	
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
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 explain the various designs of clutches used on 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	8 h



1						
					vehicle assembly in the contemporary context of the development of vehicle construction and its assemblies.	
	13.	Diagnostics and diagnostic methods.	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 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 options and present them. Repetition and preparation for the colloquium.	8 h
	15.	Braking system diagnosis. Colloquium II. Concluding considerations. Repeating and preparing for the exam.	1, 2	They listen to a lecture and read literature and prepare individually for the exam.	At the colloquium or the written and oral exam they can define and choose the options for diagnosing the correctness of the braking system. They know from the diagnostic parameters that they have obtained that the braking system can be used.	40 h
3. EVALUATION OF STUDEN	3. EVALUATION OF STUDENT WORK					
3.1. Students` obligationsIn accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: from 0 - 24.9% of ECTS they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; more than 50% students have the right to take the final exam. Students can take the final exam in the course in two ways: a) during the course						



	presentation of set	e	ium); b	) during class (active	e participa	ation in classes		ap and case study, preparation and n of a mental map and case study.
	Attendance		Writter	_			Project	
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Resear	ch			Practical work	
for each activity so that the total number of ECTS points	Essay		Report				Continuous examination	
corresponds to the credit score of the course)	Colloquium	3,5 (without written exam)	Semina	ar paper			Other	
	Class activity	0,5	Oral ex	xam 1	(without	colloquia)	Other	
	The student's work	load on all bases amounts to	1 ECTS	S point for 30 hours of	f work pei	semester and i	s estimated as:	
		Obligation	1				Hours (estin	nated)
3.3. Student workload	1. Attending classes         2. Preparation for the Colloquium / exam the						60	
				rough self-study 90				
4. GRADING SYSTEM					•			
4.1. Grading of seminar work	-							
		Bad		Satis	fying			Above average
4.2. Grading of the colloguium / written and oral exam	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.		ic diff ly the	It reproduces the basic concepts and difficulty imparts new knowledge, under the material, explains the terms and conce it supports with examples.		e, understands	nderstands of the material, and logically con	
4.3. Forming the final grade	Active	70-75% of the presenc	e	76-86% of the pres	sence	87-100% of	the presence	Case studies resolved
according to the evaluation	attendance	2		4		7		10 mainta

4 points

7 points

10 points

elements

attendance

2 points



	Examination /	Examination / 2		3 4			5	
	Written	50-64,9%	50-64,9% 65-79,9%		80-89,9%		90-100%	
	examination	25 points	3	0 points	35 points	35 points		40 points
	Oral part of the	2		3	4			5
	exam	25 points	3	0 points	35 points			40 points
	Percentage of a	acquired knowledge, skills and comp (teaching + final exam)	betences	Nur	nber rating	ECTS grade		'S grade
4.4 Formation of final and		90 - 100%			excellent)			А
4.4. Formation of final grade based on absolute distribution	80 - 89,9%			4 (very good)			В	
		65 – 79,9%	3 (good)		С			
		50 - 64,9%	2 (	2 (sufficient)		D		
5. ADDITIONAL INFORMATI	ION ABOUT THE	COURSE						
5.1. Required literature	Title					Number of the libr	-	Availability via other media
(available in the library and through other media)	Zavada J.: Means of Transport, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb, 2000. (selected chapters)					6		
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Group of Authors: The Technique of Motor Vehicles, Public open School, Zagreb, 2006.0Krpan D.: Motor Vehicles, Tehnical Book, Zagreb, 1966.0Hillier, 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 Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).
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PK-SP-2. Description of a new course or an amended and/or changed or modernized course

1. GENERAL INFORMATION ABOUT THE COURSE				
1.1. Course title	TECHNOLOGY AND ORGANIZATION OF ROAD TRAFFIC	201139 / 202109		
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code at MOZVAG	-	
1.3. Assistants and/or associates	PhD Ana-Mari Poljičak, senior lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(45 + 30 + 0 + 0)	
<ul><li>1.4. Study program</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%	
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.	
1.6. Year of study	3 <sup>rd</sup>	1.13. Modernization	<b>X</b> yes $\Box$ no	
1.7. Credit point (ECTS)	7	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□	

2. COURSE DESCRIPTION	
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; 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 competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF
LO82.3. Learning outcomes on the study program level	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.



	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions.	
	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.	
	LO5: To apply basic legal and economic principles in organization with socially responsible management in technical-technologica	l subjects.
	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.	
	LO8: To solve problems in traffic by using analytical and/or graphical methods.	
	LO9: To assess and organize processes in the area of road traffic and/or traffic logistics.	
	LO11: To identify, predict and propose solutions in road traffic technology and technique.	
	LO12: To set up a minor traffic process and critically evaluate it.	
	LO13: To track trends in the development of technique, technology and safety in traffic.	
	Learning outcomes according to Bloom's taxonomy:	Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis
2.4. Expected learning outcomes on the course level	1. to demonstrate knowledge and understanding of course content by defining and describing the basic principles of road transport technology and organization.	1
on the course level	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
	5. to create a transport process, calculate fleet coefficients and indicators and recommend an optimal solution.	5, 6
	6. to use materials and tools to search scientific and professional literature in their native and English languages.	3
	7. to present the acquired knowledge, ideas, problems and solutions independently and in a team.	6

Constructive alignment	
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	no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed												
	to 2. 3. 4.													Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer, they are introduced to the course content and documents on the e- learning page of the course.	-	1 h
			Elements of the transport system. 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											
2.5. Course content according to detailed curriculum schedule		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												
		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												
		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.	In colloquium or written and oral exams they indicate the historical development of road vehicles, and define and specify the types and types of cargo handling equipment and their technical and technological characteristics important for establishing the optimal transportation	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.	process. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process. 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	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.	given transportation process. 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
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.	25 h
9.	Study trip (Faculty of Traffic Sciences in Zagreb, Center for Croatian Vehicles, ZET (maintenance of buses and trams and the Center for Supervision and Organization of Traffic), Croatian Auto Club and Croatian Highways).	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.	15 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 solve a case study. They use multimedia and network.	In colloquium or written and oral exams they define and describe the importance of stationary define, describe and analyze the elements of recording the working hours of truck drivers. The terms of reference are drafted in groups, with discussion and proposal of measures to optimize the given transportation process.	5 h
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	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,	5 h



				case study. They use multimedia and network.	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.	
	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 to optimize the given transportation process.	5 h
	14.	Logistic concept. 2nd Colloquium.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and prepare individually for the colloquium.	In colloquium or written and oral exams they describe, state and explain the role of logistics and logistics concept with the aim of establishing an optimal modern transportation process.	25 h
	15.	Concluding considerations. Repeating and preparing for the exam.	6, 7	They listen to a lecture and prepare individually for the exam.	-	30 h
3. EVALUATION OF STUDEN						
3.1. Students` obligations	Part-t achie	time students are required to atte ved during the course: from 0 - 2	nd a class of at 1 24.9% of ECTS	ulebook on Student Assessment and Evaluation: least 50%. All students must create, present and they are rated unsuccessful and cannot earn ECT pass and pass the written exam (test). Written ex	positively colloquy seminar paper. Students v S credits and must re-enroll in the next academ	who have mic year;



	the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two exams); b) during class (active participation in class and passing exams (written and oral part of the exam).								
	Attendance	1	Written exam	1 (without colloquia)	Project	1			
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research		Practical work				
for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Essay		Report		Continuous examination				
	Colloquium	1 (without written exam)	Seminar paper		Other				
	Class activity	1	Oral exam	1	Other				
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:								
		Obligatio	on	Hours (estimate)					
3.3. Student workload	1. Attending	g classes			45				
	2. Creating	and Presenting seminar pap	per		30				
	3. Preparati	on for the Colloquium / exa	am through self-study		75				

## 4. GRADING SYSTEM

	Element of evaluation	Bad	Satisfying	Above average
	Organization	The paper is not organized in a logical order and lacks structure.	The paper is well structured with a clear distinction between the introduction, the main body of the text and the	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion,
4.1. Grading of seminar work	Terminology, writing style	long, of a modest vocabulary and with frequent and repeated grammatical errors.	Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.	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 clear and concise, the vocabulary is rich and there are no grammatical errors.
		The sources are not listed at all. The references do not fit the topic and show	The sources are listed but incomplete and with errors. The references are	The sources are accurately, completely and consistently listed. The references



	Citing and refer references	a cursory approach to exploring the topic. t						
		Bad		Satisfying			Above average	
4.2. Grading of the colloguium / written and oral exam	understanding. D terms and concep	memory, without a deeper Does not know or apply basic ts. Does not know how to apply contents of the course with	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.			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	Active 70-75% of the presence		76-86% of the presence 87-100% of the		the presence	Case studies resolved	
	attendance	0 points		0 points 0 po		ints	0 points	
	a	2		3	3 4		5	
4.3. Forming the final grade	Seminar paper	Made and handed over	Made	Made and handed over Made and h		anded over	Made and handed over	
according to the evaluation	Examination / Written	2	3		2		5	
elements		50-64%	65-80%		81-90%		91-100%	
	examination	25-32 points	pints 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	Percentage of acc	quired knowledge, skills and com (teaching + final exam)	Numerical grade		ECTS grade			
based on absolute distribution		90-100%	5 (excellent)		А			
	80-89,9%			4 (very good)			В	



	65 – 79,9%	3 (good)		С				
	50 - 64,9%	2 (sufficient)	D					
5. ADDITIONAL INFORMATION ABOUT THE COURSE								
5.1. Required literature (available in the library and	Title		Number of copies in the library	Availability via other media				
through other media)	Županović, I.: Technology of road transport, Faculty of trans Zagreb, Zagreb, 2002. (selected chapters)	3	No					
5.2. Supplementary literature (at the time of the submission of	Baričević, H.: Technology of land transport, Faculty of Maritin 2001.	3	No					
changes and / or additions to the study program)	Ortuzar, J. de D., Willumsen, L.G. : Modelling Transport, John Wiley & Sons, United Kingdom, 2011. Course lectures 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 Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).							



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

1. GENERAL INFORMATION ABOUT THE COURSE							
1.1. Course title	TRAFFIC TECHNIQUES	1.8. Course code at ISVU	201140 / 202107				
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code at MOZVAG	-				
1.3. Assistants and/or associates	PhD Ana-Mari Poljičak, senior lecturer	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(45 + 15 + 0 + 0)				
<ul><li>1.4. Study program</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of online course performance (max. 20%)	1st, course materials are on-line, 0%				
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.				
1.6. Year of study	3 <sup>rd</sup>	1.13. Modernization	$\mathbf{X}$ yes $\Box$ no				
1.7. Credit point (ECTS)	6	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□				

2. COURSE DESCRIPTION	
2.1. Course objectives	The aim is to provide students with theoretical knowledge and case studies to: define road safety factors; know the lawfulness of traffic management; 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 and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.
2.3. Learning outcomes on the	LO2: To organize and implement teamwork, and critically judge the opinions and attitudes of team members.
study program level	LO3: To search, interpret and integrate the relevant literature needed to make decisions individually and responsibly.
	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.							
	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.						
LO7: To apply computer tools for analysis and comparison of data and suggest an optimal solution in traffic process.	LO7: To apply computer tools for analysis and comparison of data and suggest an optimal solution in traffic process.						
LO10: To compare and choose technical and technological solutions in traffic and/or goods flows.							
LO11: To identify, predict and propose solutions in road traffic technology and technique.							
LO12: To set up a minor traffic process and critically evaluate it.							
LO13: To track trends in the development of technique, technology and safety in traffic.							
Learning outcomes according to Bloom's taxonomy:	Level of LO: 1- remembering, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis						
2.4. Expected learning outcomes on the course level 1. to demonstrate knowledge and understanding of course content by defining and describing the basic principles of traffic flow.	1, 1						
2. to enumerate and explain the factors of road safety, their role and significance in traffic flow.	1, 2						
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						
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						

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



			and documents on the e-learning page		
			of the course.		
	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
2.	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
3.	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
4.	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
5.	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	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	4 h



1						
				read literature, come up with their own ideas, and ways to solve problems.	elements of road safety, and analyze and conclude how the proper maintenance of the road affects the traffic system.	
	6.	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.	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
	7.	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 incident factors and explain their impact on traffic.	4 h
	8.	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
	9.	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
	10.	Parking lots and garages. Road and tunnel lighting.	1, 3, 4, 5, 6, 7	They listen to a lecture and read literature. During the seminar, they individually explore the content of this topic area by searching the database, and on the basis of it and the read	In colloquium or written and oral exams they define and describe the importance of stationary traffic in the transport system of populated areas. They know how to define and describe the types and ways of installing	4 h



			literature, come up with their own ideas, and ways to solve problems.	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.	
11.	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
12.	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. During the seminar, they individually explore the content of this topic area by searching the database, and based on 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 improvement. Seminar work is organized in groups, discussing, and proposing measures to calm traffic, resolve conflict situations and improve traffic	4 h
13.	Traffic signalization.	1, 2, 3, 4, 5, 6, 7	They listen to a lecture and read literature. During the seminar, they individually explore the content of this topic area by searching the database,	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	4 h



						nd the read literature, heir own ideas, and oblems.	proposing measures to calm conflict situations and improv		
	14.Traffi mana 2nd C		lighting device . Pedestrian signals. um.	1, 2, 3, 4, 5, 6, 7, 8, 9	They listen to a individually for t	lecture and prepare he colloquium.	In colloquium or written and describe and specify ways to signaling, define the types and signaling for pedestrians and	control the light d cycles of light	34 h
	15.	-	considerations. Id preparing for the	6, 7	They listen to a individually for t	lecture and prepare he exam.	-		34 h
3. EVALUATION OF STUDEN	T WO	RK							
3.1. Students` obligations	Part-ti have a acaden extrao Studen	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: from 0 - 24.9% of ECTS credits they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; more than 50% students have the right to take the final exam. 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 class and passing exams (written and oral part of the exam).							ents who the next egular or ignature.
	Attend	lance	1	Writte	n exam	1 (without colloquia)	Project		
3.2. Monitoring student work (enter the share of ECTS credits	Exper work	imental		Resear	ch		Practical work		
for each activity so that the total number of ECTS points	Essay			Report			Continuous examination		
corresponds to the credit score of the course)	Colloc	quium	1 (without written exam)	Semina	ar paper	1	Other		
	Class	activity	1	Oral ex	kam	1	Other		
3.3. Student workload	The student's workload on all bases amounts to 1 ECTS point for 30 hours of Obligation 1. Attending classes			s of work per semester and is estimated as: Hours (estimate) 45					
		2. Creating a	and Presenting semin	ar paper			15		



Preparation for the Colloquium / exam through self-study 3. 90 4. GRADING SYSTEM Element of evaluation Bad Satisfying Above average The paper is well structured with a clear The paper is well structured with a clear distinction between the introduction, The paper is not organized in a logical distinction between the introduction, Organization the main body of the text and the order and lacks structure. the main body of the text and the conclusion, which are logically conclusion. interconnected. Words and expressions are aligned with Words and expressions low in line with Words and expressions are in line with official terminology and show an official terminology. The writing style official terminology. The writing style understanding of their meaning. The 4.1. Grading of seminar work is not appropriate, the sentences are too Terminology. writing is appropriate, the sentence structure is writing style is excellent, the sentences long, of a modest vocabulary and with style clear, the vocabulary is appropriate and are clear and concise, the vocabulary is frequent and repeated grammatical there are few grammatical errors. rich and there are no grammatical errors. errors. The sources are accurately, completely The sources are listed but incomplete The sources are not listed at all. The and consistently listed. The references references do not fit the topic and show and with errors. The references are are appropriate, their list is "rich" and Citing and referencing a cursory approach to exploring the relevant to the topic and show a references comprehensive and shows a detailed topic. satisfactory research attitude. research approach. Bad Satisfying Above average Knowledge is at the level of analysis, synthesis and evaluation. It observes the legality, It responds by memory, without a deeper It reproduces the basic concepts and without accurately and thoroughly explains the content 4.2. Grading of the colloguium / understanding. Does not know or apply basic of the material, and logically connects and difficulty imparts new knowledge, understands written and oral exam terms and concepts. Does not know how to apply the material, explains the terms and concepts that explains the terms and concepts that it supports or explain the contents of the course with with examples. Finds solutions that were not it supports with examples. examples. originally given. It notes correlations with related material. Case studies resolved 70-75% of the presence 87-100% of the presence 76-86% of the presence



		1	1				
	Active attendance	0 points	0 points	0 poin	ts	0 points	
	Sami an anna	2	3	4		5	
	Seminar paper	Made and handed over	Made and handed over	Made and har	nded over Ma	de and handed over	
4.3. Forming the final grade according to the evaluation	Examination /	2	3	4		5	
elements	Written	50-64%	65-80%	81-90	%	91-100%	
	examination	25-32 points	33-40 points	41-45 pc	oints	46-50 points	
	Oral part of the	2	3	5		5	
	exam	25-32 points	33-40 points	41-45 pc	oints	46-50 points	
	Ŭ	of acquired knowledge, skills and ences (teaching + final exam)	Numerical grade	Numerical grade		ECTS grade	
		90-100%	5 (excellent)		А		
4.4. Formation of final grade based on absolute distribution		80-89,9%	4 (very good)		В		
		65 - 79,9%	3 (good)	3 (good)		С	
		50-64,9%	2 (sufficient)		D	D	
5. ADDITIONAL INFORMATI	ION ABOUT THE	COURSE	·				
5.1. Required literature		Titl	Number of copies in the library	Availability via other media			
(available in the library and	Cerovac, V.: Traf	fic technique and safety, Faculty	of transport and traffic scienc	es, University of	2	Yes	
through other media)		01. (selected chapters) bout road traffic safety Republic o	-	Available on-line			
5.2. Supplementary literature (at the time of the submission of		inić M.: Infrastructure od Road T		chnic of Šibenik,	0	Yes	

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Yes

Yes

McShane, W.R. Roess, R.P., Prassas, E.S.: Traffic engineering, Prentice Hall, 1998.

Modern traffic, Journal of Croatian scientific society for traffic, Zagreb.

study program)

changes and / or additions to the



	Courses lectures.		
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 ensur students' attendance and activity in the classroom and information obtained about student progress the needed for further guidance to students in order to increase their work efficiency. Students will be inse working methods and required literature. Quality assurance system indicators: Student survey, monitor status of students, employer survey and Alumni Association.	rough the midterm will p tructed in their rights and	brovide the information d obligations as well as
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and possible adjournment will be published in a timely manner on the e-learning site of the course and on th contact teachers during the consultation period (at least one hour per week), while for short questions and It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will b working days after receiving the e-mail).	e website of the Šibenik U l explanations they can be	University. Students can e contacted during class.



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

1. GENERAL INFORMATION	ABOUT THE COURSE		
1.1. Course title	INFORMATION SYSTEMS IN ROAD TRAFFIC	1.8. Course code in ISVU	142540 / 202105
1.2. Course lecturer	MSc Danijel Mileta, title senior lecturer	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30+0+15+0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	6
1.6. Year of study	3 <sup>rd</sup>	1.13. Modernization	X yes □ no
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□
2. COURSE DESCRIPTION			
2.1. Course objectives	The main objective of the course is to acquaint student function of road traffic, and the benefits they provide.	s with information systems as well as telecommunication a	and information infrastructure in the
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	IU1: To apply and link professional terms from technologin Croatian and English.	gy and organization of road traffic in written and oral commu	nication with the professional public
	IU2: To organize and implement team work, and critical	ly judge the opinions and attitudes of team members.	
	IU3: To individually and responsibly search, interpret an	d integrate the relevant literature needed to make decisions.	
	IU4: To apply knowledge from the field of natural and te	echnical sciences to problems in road traffic.	
	IU6: To analyze and present relevant facts from the field	of traffic needed to reach conclusions.	
	IU11: To identify, predict and propose solutions in road	traffic technology and technique.	



	IU13:	U13: To track trends in the development of technique, technology and safety in traffic.								
<ul><li>2.4. Expected learning outcomes on the course level (4- 10 learning outcomes)</li></ul>	Lear	<b>ning outcomes</b> by Bloom: (maximu	Level of LO: 1- memory, 2- understanding, 3- application, 4- analysis, 5- evaluation, 6- synthesis.							
	1		•	hnologies that use them and analyze their be	nefits.	4				
		. Compare different information a	•			4				
	3	5				5				
	4	1 1 1 1 1	solution for a pr	oblematic location or purpose		6				
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement								
	No	Thematic unit	LO of the course	Content/teaching methods	Evalı	lation	Time needed			
	1.	Introduction to the course and a detailed teaching plan.	-	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	1	Students listen to a lecture and read literature.	At the midterm, written and oral exam they can define, describe and categorize the basic concepts of information systems in road transport and set an example.		2 h			
	3.	ITS	1, 2, 3, 4	Students listen to a lecture and read literature.	give an example of	tte, distinguish and intelligent transport erm, written and oral	3 h			
	4.	Internet and intranet	2, 4	Students listen to a lecture and read literature.	-	n, written and oral efine, describe and	3 h			



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



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					propose the right solution for a particular need.	
	12.	Speedometers on roads	1, 2, 3, 4	Students listen to a lecture and read literature.	They can define, describe and categorize road speed measuring devices at the midterm or the written and oral exam.	1 h
	13.	Seminars	1, 2, 3, 4	Students listen to a lecture and read literature. They use multimedia and networking. 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.	In defense of seminar paper, they are able to define and describe basic concepts in the topic of seminar paper, to distinguish and compare similar technologies, to give an example, to critically judge, evaluate and propose the use of technology in question.	6 h
	14.	Seminars	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.	In defense of seminar paper, they are able to define and describe basic concepts in the topic of seminar paper, to distinguish and compare similar technologies, to give an example, to critically judge, evaluate and propose the use of the technology in question.	9 h
	15.	Repetition of materials / 2. colloquium	1, 2, 3, 4	-	They know the subject matter from topics 8-12 and domain of seminar papers.	2 h



3. EVALUATION OF STUDEN	TWORK								
3.1. Student obligations	Part-time students are have achieved during from 25 - 49,9% are a exam period; more th	accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. rt-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar papers. Students who ve achieved during the course: from 0 - 24,9% ECTS are rated unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; om 25 - 49,9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary am 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 urse of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (written and all part of the exam).							
3.2. Student work monitoring (enter the share of ECTS credits	Attending classes	1	Written exam	1 (without colloquiums)	Project				
for each activity so that the total	Experimental work		Research		Practical work				
number of ECTS credits	Esaay		Report		Continuous check				
corresponds to the course credit value)	Colloquiums	1 (without written part of exam)	Seminar paper	0,5	(other)				
	Teaching activities		The oral part of exam	0,5	(other)				
3.3. Student work-load	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)					
	1. Attending of	classes		60					
	2. Creating an	d Presenting seminar paper		16					
	3. Preparation	for the Colloquium / exam through	n self-study	44					
4. GRADING SYSTEM									
4.1. Evaluation of seminar paper	Elements of evaluation	Bad		Satisfying	Ab	ove average			
	Organization	The paper is not organized in a		ell structured with a c		l structured with a clear			
	6			en the introduction, the n nd the conclusion.	main body of the	distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.			
	Terminology,	Words and expressions are not in	-	ions are in line with official Words and expressions are aligned with					
	writing style	line with official terminology.							



1						
		The writing style is not	the sentence structure is clear	, the vocabulary is	understanding of th	eir meaning. The writing
		appropriate, the sentences are	appropriate and there are	few grammatical	style is excellent, th	ne sentences are clear and
		too long, of a modest vocabulary	errors.		concise, the vocabu	alary is rich and there are
		and with frequent and repeated			no grammatical erro	ors.
		grammatical errors.				
	Citing and	The sources are not listed at all.	The sources are listed but inc	complete and with	The sources are ac	curately, completely and
	referencing	The references do not fit the	errors. The references are re-	levant to the topic	consistently listed	l. The references are
	references	topic and show a cursory	and show a satisfactory resea	rch attitude.	appropriate, their	list is "rich" and
		approach to exploring the topic.			comprehensive and	shows a detailed research
					approach.	
4.2. Grading of the		Bad	Satisfying		Abo	ve average
colloquium/written and oral						
exam	· ·	y, without a deeper understanding.	It reproduces the basic concepts and without		Knowledge is at the level of analysis	
		apply basic terms and concepts. It	difficulty imparts new knowl	-	synthesis, and evaluation. It observes the	
		o apply or explain the contents of	the material, explains the te	-	• • •	and thoroughly explains
	the course with exam	ples.	that it supports with example	es.	the content of the material, and logically	
					-	ns the terms and concepts
						with examples. Finds
						e not originally given. It
					notes correlations v	with related material.
4.3. Forming the final grade according to the evaluation	Active attendance on class	0-69,9% attendance	70-79,9% attendance	80-89,9%	attendance	90-100% attendance
elements	on cluss	0 points	5 points	7 p	ooints	10 points
	Sominon nonon	2	3		4	5
	Seminar paper	15 points	20 points	25 ]	points	30 points
		2	3		4	5
	Colloquiums/	50 64.00/	<b>65</b> 70 00/	00	80.00/	90 - 100%
	Written part of	50 - 64,9%	65 - 79,9%	80 -	89,9%	90 - 100%
	exam	15 points	20 points 25		points	30 points



		15 points	20 points	25	points	30 points			
4.4. Formation of the final grade based on the absolute	Ũ	quired knowledge, skills and	Numerical grade		EC	TS grade			
distribution	competencie	s (teaching + final exam) 90 - 100%	5 (excellent)		A				
	80 – 89,9% 4 (very good)				В				
		65 – 79,9%	3 (good)			С			
		50-64,9%	2 (sufficient)			D			
5. ADDITIONAL INFORMATI	ON ABOUT THE CO	OURSE	·		·				
5.1. Compulsory literature		Title		Num	ber of copies in the	Availability via other			
(available in the library and via					library	media			
other media)	Bošnjak I.: Intelligent	transport systems, Faculty of trans	port and traffic sciences, Universi	ty of	3				
	Zagreb, (selected cha	pters)							
	Mileta D.: Electronic	business (selected chapters)				on-line			
5.2. Additional literature (at the									
moment of changes and/or									
amended of study programme)									
5.3. Quality assurance methods		s' work quality and the acquisition			-				
that ensure the acquisition of	attendance and studen	t activity during classes and provid	led information on students` progr	ess through sho	ort colloquiums and he	omework, information for			
knowledge, skills and	•	idents will be provided in order to	-			• •			
competences		ls of work and the required literatu		•		g 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		is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes or possible							
and contacting the course		published in a timely manner on the							
lecturer	•	onsultation period (at least one hou	- · ·	-	•	•			
		uestions by e-mail (from the offici	al e-mail address name@vus.hr),	which will be a	answered as soon as pe	ossible (no later than five			
	working days after rec	ceiving the e-mail).							



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

1. GENERAL INFORMATION	ABOUT THE COURSE		
1.1. Course title	TRANSPORT GEOGRAPHY	1.8. Course code in ISVU	201141 / 202111
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 15 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Optional	1.12. Number of course revisions	4
1.6. Year of study	3 <sup>rd</sup>	1.13. Modernization	X yes □ no
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□
2. COURSE DESCRIPTION			
2.1. Course objectives	-	edge and case studies: become familiar with the creation and hange in the world, distinguish main transport corridors in F	
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	in Croatian and English.	gy and organization of road traffic in written and oral commu	nication with the professional public
	LO2: To organize and implement team work, and critical		
		nd integrate the relevant literature needed to make decisions.	
	LO6: To analyze and present relevant facts from the field	l of traffic needed to reach conclusions.	
	LO10: To compare and choose technical and technologic	al solutions in traffic and/or goods flows.	
	LO12: To set up a minor traffic process and critically eva	aluate it.	



	Learni	ng outcomes by Bloom: (maximum	2 werbs for I			Level of LO:				
2.4. Expected learning										
outcomes on the course level (4-						2- understand	ing,			
10 learning outcomes)						3- application	,			
						4- analysis,				
						5- evaluation,				
						6- synthesis.				
	1.	Present and comment on the histor	rical developn	nent of the traffic branches.		6, 3				
	2.	List and explain the main factors f	for the creation	n and development of commodity flows.		1, 2				
	3.	Analyze and evaluate world trade	in goods.			4, 5				
	4.	Present and comment on the traffi	c connections	of the countries in Western, Central and Eastern	n Europe.	6,4				
	5.	5. List and compare major transport corridors in Asia, North America, and Europe.								
	6.	4								
·	7.	3								
	8.	6								
2.5. Course content according to	Constr	uctive allignement								
detailed curriculum schedule		C								
	No	Thematic unit	LO of the	Content/teaching methods	Evaluati	ion	Time			
			course				needed			
				Listening to the lecture. In the course of						
		Introductory presentation		seminars, they are introduced to the course						
	1.	(introducing students to the	-	content and documents on the e-learning page	-		2 h			
		course content and obligations)		of the course by working independently on a						
				computer.						
	They listen to a course lecture and read At the colloquium or									
		Development of transport		literature. At the seminar lectures, they	oral exam students	-				
	2.	2 branches throughout history 1.7.8 individually explore the content of this topic comment and evaluate the history								
		(road, rail, pipeline)	1, 1, 5	area by searching the database, and on the	development of ro		3 h			
		( , , , , , , , , , , , , , , , , , , ,		basis of it and reading the literature, create a	pipelines. Seminar pa	-				
				seminar paper that presents the acquired	presented (by compu	ter programs).				



1						
				knowledge and presents their own ideas, and ways to solve problems.		
	3.	Development of transport branches throughout history (water, air, postal and telecommunication)	1, 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.	At the colloquium or written and oral exam students can present, comment and evaluate the historical development of water, air and postal and telecommunications traffic. Seminar paper created and presented (by computer programs).	3 h
	4.	Development of transport branches throughout history (video films)	1, 7, 8	They use multimedia and network. 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.	At the colloquium or the written and oral exam students can present maritime and airports in the world. Analyze and evaluate the role of rail transport. Describe the course of highway construction. Seminar paper created and presented (by computer programs).	3 h
	5.	Factors for the formation of traffic flows (general, natural, social, economic)	1, 2, 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.	At the colloquium or the written and oral exam, students know how to define, enumerate and distinguish the main factors for the formation and development of commodity flows (general, natural and socio- economic factors). Identify the abbreviations of economic groups of the world. Seminar paper created and presented (by computer programs).	4 h
	6.	Geographical location of transport corridors in Western Europe	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	At the colloquium or the written and oral exam, students can define the term traffic corridor. List and compare major transport corridors in	3 h



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				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.	Western Europe (Germany, UK, Benelux, France, Spain) of all branches of transport. List the countries through which each transport corridor passes. Seminar paper created and presented (by computer programs). At the colloquium or the written and oral exam, students can define the term traffic corridor. List and	
	7.	Geographical location of transport corridors in Central and Eastern Europe	4, 5, 7, 8	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.	compare major transport corridors in Poland, Czech Republic, Slovakia, Hungary, Croatia, Bulgaria, Romania, Serbia, Greece, and Russia of all branches of transport. List the countries through which each transport corridor passes. Seminar paper created and presented (by computer programs).	3 h
	8.	Geographical location of North American transport corridors	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.	At the colloquium or the written and oral exam, students can 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 and presented (by computer programs).	3 h
	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	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	3 h



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				knowledge and presents their own ideas, and ways to solve problems.	branches of transport. List the countries through which each transport corridor passes. Seminar paper created and presented (by computer programs).	
	10.	Spatial distribution of food flows (meat, fruits and vegetables, cereals)	2, 3, 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.	At the colloquium or the written and oral exam, students know how to define the concept of traffic flow. Categorize, analyze and evaluate the trade in fruits and vegetables, milk and dairy products, meat, fish in the World. List the countries with the largest importers and exporters of all types of food. Seminar paper created and presented (by computer programs).	4 h
	11.	Spatial distribution of natural raw material flows (oil, natural gas, cotton, bauxite, iron ore)	2, 3, 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.	At the colloquium or the written and oral exam, students know how to define the concept of goods traffic. Categorize, analyze and evaluate the world trade of oil, petroleum products, cotton, bauxite, iron ore, and natural gas. List the countries with the largest importers and exporters of all types of raw materials. Seminar paper created and presented (by computer programs).	4 h
	12.	Spatial distribution of industrial product flows (cars, machines, electronics, ships)	2, 3, 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	At the colloquium or the written and oral exam, students know how to define the concept of goods traffic. Categorize, analyze and evaluate the progress of trade in cars, electronic	4 h



1						
				seminar paper that presents the acquired	products, ships, machines in the	
				knowledge and presents their own ideas, and	World. List the countries with the	
				ways to solve problems.	largest importers and exporters of	
					industrial products. Seminar paper	
					created and presented (by computer	
					programs).	
				They listen to a course lecture and read	At the colloquium or the written and	
				literature. They use multimedia and network.	oral exam, students can define the	
				At the seminar lectures, they individually	goal and strategy of the Marco Polo	
		Marco Polo Program (program		explore the content of this topic area by	program. Distinguish activities	
	13.	objective, program activities,	6, 7, 8	searching the database, and based on it and	Marco Polo. Critically evaluate the	3 h
		program projects)		reading the literature, create a seminar paper	professional video films program.	
				that presents the acquired knowledge and	Seminar paper created and presented	
				presents their own ideas, and ways to solve	(by computer programs).	
				problems.		
		European Union White Paper on		They listen to a course lecture and read	At the colloquium or written and	
		Transport (White Paper titles,		literature. At the seminar lectures, they	oral exam, students know how to	
		key content areas, preparing the		individually explore the content of this topic	define the objective and strategy of	
	14	European transport area for the		area by searching the database, and on the	the current EU White Paper on	
	14.	future, visions for developing a	6, 7, 8	basis of it and reading the literature, create a	transport. Comment on EU	3 h
		competitive and sustainable		seminar paper that presents the acquired	professional projects in the field of	
		transport system, strategy - what		knowledge and presents their own ideas, and	transport. Seminar paper created and	
		needs to be done)		ways to solve problems.	presented (by computer programs).	
	15	Final considerations/Repeating		They listen to a course lecture and prepare		45.1
	15.	and preparing for the exam.	-	individuals for the exam.	-	45 h
3. EVALUATION OF STUDEN	T WOR	K				
3.1. Student obligations	In acco	rdance with the Rulebook on Study a	and the Ruleb	ook on Student Assessment and Evaluation: for a	all full-time students' attendance of at le	east 70%.
	Part-tin	ne students are required to attend a	class of at lea	st 50%. All students must create, present and po	ositively colloquy seminar papers. Stud	ents who
	have ac	chieved during the course: from 0 -	- 24,9% ECT	S credits are rated unsuccessful and cannot ear	n ECTS credits, and must re-enroll in	the next
	academ	ic year; from 25 - 49,9% are assessed	ed by insuffic	ient and must pass and pass the written exam (te	est). Written exam (test) can be held in	a regular
	or extra	ordinary exam period; more than 5	0% - students	s have the right to take the final exam. Students	can take the final exam from the course	se in two



4.1. Evaluation of seminar paper	Elements of	Bad	Satisf	ying	Above averag	ge			
4. GRADING SYSTEM									
	3. Preparation f	for the Colloquium / exam through	ugh self-study		45				
		Presenting seminar paper		15					
	2 Creating and	Dresenting cominer percet		15					
	1. Attending cla	sses		30					
		Obligation		Hours (estimate)					
3.3. Student work-load	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:								
	Teaching activities	0,5	The oral part of exam	0,5	(other)				
value)		exam)	~	-,-	()				
corresponds to the course credit	Colloquiums	1 (without written part of	Seminar paper	0,5	(other)				
number of ECTS credits	Esey		Report		Continuous check				
for each activity so that the total	Experimental work		Research	_	Practical work				
(enter the share of ECTS credits	Thending clusses	0,5	Written exam	1 (without colloquiums)	rigeet				
3.2. Student work monitoring	Attending classes	Project							
	vays: a) during the course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) past exam (written and oral part of the exam).								

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



	0.1	The sources are not listed at all.	TT1	1	TT1	
	8		The sources are listed but ind	-	The sources are accurately, completely and	
	referencing	The references do not fit the	errors. The references are rel	-	consistently listed. The references are	
	references	topic and show a cursory	and show a satisfactory resea	arch attitude.	appropriate, thei	
		approach to exploring the			-	l shows a detailed research
		topic.			approach.	
4.2. Gradeing of the		Bad	Satisfying		Abo	ove average
colloquium/written and oral						
exam		without a deeper understanding.	It reproduces the basic con-	-	-	the level of analysis,
		ply basic terms and concepts. It	difficulty imparts new knowl	-	•	aluation. It observes the
		apply or explain the contents of	the material, explains the te	-		and thoroughly explains
	the course with example	es.	that it supports with example	es.		e material, and logically
					-	ins the terms and concepts
					that it supports with examples. Find	
						e not originally given. It
					notes correlations	with related material.
4.3. Forming the final grade	Active attendance on	70-75% attendance	76-86% attendance	87 100%	attendance	Mental map created,
according to the evaluation	class	70-75% attendance	70-80% attendance	87-10070	attendance	Case studies resolved
elements		2 points	4 points	7 p	ooints	3 points
	Seminar paper	2	3	4		5
		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%
	Witten part of exam	25 points	30 points	35 ]	points	40 points
	Oral part of exam	2	3		5	5
	Oral part of exam	25 points	30 points	35 ]	points	40 points
4.4. Formation of the final grade	Percentage of acquired knowledge, skills and		Numerical gra	ade	E	CTS grade
based on the absolute	competencies	(teaching + final exam)				
distribution	9	00-100%	5 (excellent)			А
	8	0-89,9%	4 (very good	d)	В	



	65 - 79,9%	3 (good)		С					
	50 - 64,9%	2 (sufficient)		D					
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE								
5.1. Compulsory literature (available in the library and via	Title		Number of copies in the library	Availability via other media					
other media)	Šego Darijo: Traffic corridors and merchandise flows, Šibenik, Šibenik 2016.	- -	e-learning system						
	World trade organization <u>http://www.wto.org/</u> (selected or Transport in EU <u>http://ec.europa.eu/transport/index_en.h</u>	_		Internet website Internet website					
5.2. Additional literature (at the moment of changes and/or	Teaching materials from lectures and seminars on the e-Le of Applied Sciences for the mentioned course.	earning system of the Šibenik University	-	e-learning system					
amended of study programme)	International trade statistics <u>https://www.trademap.org/In</u> UN agency for food <u>http://www.fao.org/home/en/</u>	ndex.aspx		Internet website Internet website					
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	adjournment will be published in a timely manner on the teachers during the consultation period (at least one hou	is the responsibility of each student to be regularly informed about the course, the coursework, and classroom activities. All notices of classes or possible djournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact eachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is lso 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							



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

1. GENERAL INFORMATION ABOUT THE COURSE										
1.1. Course title	TRAFFIC IN TOURISM	1.8. Course code at ISVU	201142 / 202110							
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	1.9. Course code at MOZVAG	-							
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 15 + 0)							
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%							
1.5. Course status (obligatory, optional)	Optional	1.12. Number of course revisions	4.							
1.6. Year of study	3 <sup>rd</sup>	1.13. Modernization	<b>X</b> yes $\Box$ no							
1.7. Credit point (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %							

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



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

		Constr	ructive allignement				
		no	Thematic unit	LO of the course	Content/teaching methods	Evaluation	Time needed
	2.5. Course content according to		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
	detailed curriculum schedule	1.	Theoretical basis of traffic	1, 6	They listen to a lecture and read literature.	At the midterm or the written and oral exam they define the traffic system and state the division of traffic. Define traffic product and cite and explain the elements of production of transport products.	1 h
		2.	Interdependence of transport and tourism.	1	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it	At the colloquium or the written and oral exam, they can enumerate and explain ways of influencing tourism on traffic and explaining the impact of traffic on tourism.	6 h



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



1						
				group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	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.	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
	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.	The repetition and preparation for the colloquium. Colloquium I.	1, 2, 3, 4, 5	They listen to a lecture and read literature. They prepare individually for the colloquium.	-	12 h
	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 teaching, the	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						
				brainstorming method and the discussion method on the topic are applied.		
	10.	Field teaching - Dogus Marine in Šibenik (Mandalina)	1, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can explain the purpose of marinas and rent a boat. Seminar paper created and presented (using computer programs independently).	5 h
	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
	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 literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can state the determinants of the quality of the transport service in tourism. Define the fare and explain the specificities of costs and fares in individual traffic branches. Seminar paper created and presented (using computer programs independently).	5 h
	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	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	5 h



				and the literature rea	d, create a seminar paper	created and presented (	using computer			
				that presents the acq	uired knowledge. In the	programs independently).				
				group work on	seminar teaching, the					
				brainstorming meth	od and the discussion					
				method on the topic	are applied.					
				•	re and read literature. At					
					ing, they individually					
				-	t of this topic area by	At the colloquium or writte	en and oral exam			
		Parking in tourist		-	se, and on the basis of it	knows define basic terms				
	14.	destinations. Colloquium II.	1, 4, 5		d, create a seminar paper	differentiate ways of pa		3 h		
		destinations. Conoquium II.		that presents the acq	uired knowledge. In the	destinations.	iking in tourist			
					seminar teaching, the	destinations.				
				-	od and the discussion					
				method on the topic	are applied.					
	15.			They listen to a	They listen to a lecture and prepare individually for the exam.					
				•			-			
		the exam.								
3. EVALUATION OF STUDEN	T WOR	K								
	In accor	dance with the Rulebook on S	Study and	the Rulebook on Student	Assessment and Evaluatio	n: for all full-time students	attendance of at le	east 70%.		
	Part-tim	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	achieved during the course: from 0 - 24.9% of ECTS credits - they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next								
3.1. Students` obligations	academi	ic year; from 25-49.9% - are a	ussessed b	y insufficient and must pa	ss and pass the written ex	am (test). Written exam (tes	st) can be held in a	regular or		
5.1. Students obligations	extraord	linary exam period; more than	1 50% - st	udents have the right to tak	ke the final exam. Student	s can take the final exam in	the course in two	ways: a)		
	-	he course of teaching through		•	· · ·		-	•		
		tion and presentation of semin		-			on 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	Attenda	nce		Written exam	1,5 (without colloquia)	Project				
(enter the share of ECTS credits	Experin	nental		Research		Practical work				
for each activity so that the total	work			NESEAICII		r lactical work				
number of ECTS points	Essay			Report		Continuous				
				r		examination				

examination



corresponds to the credit score of the course)	Colloquium	1,5 (without written exam)	Seminar paper	0,5	Other	
	Class activity	0,5	Oral exam	0,5	Other	
	The student's workl	oad on all bases amounts to	1 ECTS point for 30 hours	s of work per semester and	is estimated as:	
		Obligatio	on	Hours (estimated)		
3.3. Student workload	1. Attending	g classes		45		
	2. Creating	and Presenting seminar pap	ber	10		
	3. Preparation for the Colloquium / exam through self-study			35		

# 4. FORMATION OF GRADES

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



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



### 5. ADDITIONAL INFORMATION ABOUT THE COURSE

	Title	Number of copies in	Availability via other	
5.1. Required literature	The	the library	media	
(available in the library and	Mrnjavac E.: Traffic in tourism, Faculty of tourism and hotel management, University of Rijeka,	5		
through other media)	Opatija, 2006. (selected chapters)			
	Maršanić R.: Parking in tourist destination, IQPLUS d.o.o., Rijeka, 2008.	5		
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Baričević H.: Traffic in tourism, Collegue of tourism, Šibenik, 2003. Lumsdon L. M., Page S. J.: Tourism and Transport, Issues and Agenda for the New Millennium, Routledge, 2003.	11 0	Available online	
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.			
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).			



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

1. GENERAL INFORMATION ABOUT THE COURSE						
1.1. Course title	SAFETY AND PROTECTION OF TRANSPORT PROCESSES	1.8. Course code at ISVU	214577 / 214578			
1.2. Course lecturer	PhD Ana-Mari Poljičak, senior lecturer	1.9. Course code at MOZVAG	-			
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(45 + 0 + 15 + 0)			
<ul><li>1.4. Study program</li><li>(professional undergraduate, and professional graduate)</li></ul>	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of online course performance (max. 20%)	1st - course materials are online, 0%			
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.			
1.6. Year of study	3 <sup>rd</sup>	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	
2.1. Course objectives	The aim is to provide students with theoretical knowledge and case studies to: Define the basic concepts of safety and protection of transport processes; Understand the function of safety and protection of transport processes; Understand the technology of transport of dangerous goods in various transport branches, Apply the learned content of this course in business practice Learn and adopt the ability to adapt the characteristics of transport requirements to market requirements.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF
2.3. Learning outcomes on the study program level	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.         LO2: To organize and implement teamwork, and critically judge the opinions and attitudes of team members.         LO3: To search, interpret and integrate the relevant literature needed to make decisions individually and responsibly.



	LO5: To apply basic legal and economic principles in organization with socially responsible management in technical-technological subjects.				
	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.				
	LO9: To assess and organize processes in the area of road traffic and/or traffic logistics.				
	LO10: To compare and choose technical and technological solutions in traffic and/or goods flows.				
	LO11: To identify, predict and propose solutions in road traffic technology and technique.				
	LO12: To set up a minor traffic process and critically evaluate it.				
	LO13: To track trends in the development of technique, technology and safety in traffic.				
		LO level:			
		1- recollection,			
2.4. Expected learning		2- understanding,			
	Learning outcomes according to Bloom's taxonomy:	3- application,			
		4- analysis,			
		5- evaluation,			
		6- synthesis			
outcomes on the course level	1. demonstrate knowledge and understanding of the course content by defining and describing basic concepts related to	1, 1			
	safety and protection of transport processes.				
	2. distinguish and comment on the basic characteristics of hazardous substances in the transport system.	2, 4			
	3. connect and critically evaluate technological procedures related to traffic safety and protection.	3, 5			
	4. select appropriate packaging and accompanying documentation for the transport of dangerous goods.				
	5. present the acquired knowledge independently and in a team.	6			

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



			documents on the e-learning page of the course.		
2.	Legislation.	1	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they can state and explain what the regulations of protection and safety in traffic regarding traffic branches.	2 h
3.	Ergonomic factors and anthropotechnical characteristics.	1	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	They know how to state and explain ergonomic factors and anthropotechnical features at a colloquium or written and oral exam.	4 h
4.	Noise.	1, 3	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they know how to define the concept of noise and explain the impact of noise on humans. List and explain noise protection measures.	7 h



1						
	5.	Traffic accidents.	1, 3, 5	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they can state and explain the procedures in case of traffic accidents. State and explain the role of intervention services in the Republic of Croatia. Prepared and presented seminar paper (independent use of computer programs).	7 h
	6.	Traffic accidents.	1, 2, 3, 4, 5, 6, 7	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they can state and explain the procedures in case of traffic accidents. State and explain the role of intervention services in the Republic of Croatia. Prepared and presented seminar paper (independent use of computer programs).	5 h
	7.	Hazardous substances.	1, 2, 3, 5	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they know how to define dangerous substances and state the division of dangerous substances according to ADR. and describe their features. Prepared and presented seminar paper (independent use of computer programs).	10 h
	8.	Repetition and preparation for the colloquium. 1st Colloquium	1, 2, 3, 5	They listen to a lecture and prepare individually for the colloquium.	-	23 h



1						
9	9.	Static electricity. Measures and rules for handling and transport of dangerous goods.	1, 3, 5	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they can explain how static electricity is generated and how to prevent it. Explain static electricity protection according to ADR. State and explain the obligations of all participants in the transport process of dangerous goods and their storage. Prepared and presented seminar paper (independent use of computer programs).	7 h
1	10.	Packaging of hazardous substances.	3, 4, 5	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they know how to define the function of packaging and state the characteristics of packaging for the packaging of hazardous substances. List and describe the packaging methods for hazardous substances. List the packing groups and explain the codes (labels) on the package. Prepared and presented seminar paper (independent use of computer programs).	4 h
1	11.	Labeling of packaging and vehicles for the transport of dangerous goods.	1, 3, 4, 5	They listen to lectures and read literature. At the seminar classes, they individually research the content of this thematic area by searching the database, and based on it and the read literature, they prepare a seminar paper which presents the acquired knowledge. In the seminar classes, the brainstorming method and the method of discussion on the presented topic are applied.	At the colloquium or written and oral exam, they know how to define and distinguish danger sheets on packaging and means of transport. Describe the danger plates. Prepared and presented seminar paper (independent use of computer programs).	8 h
1	12.	Documentation.	4, 5	They listen to lectures and read literature. At the seminar classes, they individually	At the colloquium or written and oral exam, they can state and explain the	6 h



research the content of this thematic area necessary documentation for the transpo	
by searching the database, and based on it of dangerous goods in the branches of	
and the read literature, they prepare a transport. Prepared and presented seminary	
seminar paper which presents the paper (independent use of comput	r
acquired knowledge. In the seminar programs).	
classes, the brainstorming method and the	
method of discussion on the presented	
topic are applied.	
They listen to lectures and read literature.	
At the seminar classes, they individually	
research the content of this thematic area At the colloquium or written and or	1
by searching the database, and based on it exam, they know how to explain the rule	
<b>13.</b> Transport of dangerous goods in 3, 5 and the read literature, they prepare a for the transport of dangerous goods	
transport branches.	
acquired knowledge. In the seminar paper (independent use of comput	
classes, the brainstorming method and the programs).	1
method of discussion on the presented programs).	
topic are applied.	
Repetition and preparation for They listen to a lecture and prepare	
<b>14.</b> the colloquium. 1, 3, 4, 5 individually for the colloquium.	23 h
2nd Colloquium.	
Concluding considerations. They, listen to a lastyre and property	
<b>15.</b> Repeating and preparing for the - They listen to a lecture and prepare individually for the analysis.	26 h
exam. individually for the exam.	
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 a	t 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. S	udents who
have achieved during the course: from 0 - 24.9% of ECTS credits - they are rated unsuccessful and cannot earn ECTS credits and must re-	nroll in the
3.1. Students' obligations and accessful and calmot calm be rest academic year; from 25-49.9% - are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be he	d in regular
$\sim$	two ways.
or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can pass the final exam in the course is	rewo ways.



	two colloquia); b) d part of the exam).	wo colloquia); b) during classes (active participation in classes and, preparation and presentation of seminar work) and taking exams (written and oral art of the exam).								
	Attendance		Written exam	3 (without colloquia)	Project	1				
3.2. Monitoring student work (enter the share of ECTS credits	Experimental work		Research		Practical work					
for each activity so that the total number of ECTS points	Essay R		Report		Continuous examination					
corresponds to the credit score of the course)	Colloquium	3 (without written exam)	Seminar paper	0,5	Other					
	Class activity	0,5	Oral exam	1 (without Colloquium)	Other					
	The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:									
		Obligatio	n		Hours (estimate)					
3.3. Student workload	1. Attending	g classes			60					
	2. Creating	and Presenting seminar pap	ber		20					
	3. Preparatio	on for the Colloquium / exa	am through self-study		70					

## 4. GRADING SYSTEM

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



	Citing and references	cing The sources are not li references do not fit the a cursory approach to topic.	e topic and show and with errors. to exploring the relevant to the		es are listed but incomplete errors. The references are to the topic and show a ry research attitude.		he sources are accurately, completely ad consistently listed. The references e appropriate, their list is "rich" and omprehensive and shows a detailed search approach.	
4.2. Grading of the colloguium / written and oral exam	Bad 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.		Satisfying It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.		Above average Knowledge is at the level of analysis, synthesis and evaluation. It observes the legality, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts that it supports with examples. Finds solutions that were not originally given. It notes correlations with related material.			
	Active	70-75% of the presence 2 points		the presence	81-90% of th 7 po	-	e 91-100% of the presence 10 points	
4.2 Equations the final and	Seminar paper —	2 5 points		3 pints	4 8 po		5 10 points	
4.3. Forming the final grade according to the evaluation	Examination /	2		3	4		5	
elements	Written	50-64,9%	65-7	9,9%	81-89	9,9%	90-100%	
	examination	25 points	30 g	points	35 pe	oints	40 points	
	Oral part of the	2		3	5		5	
	exam	25points	30 g	points	35 pe	oints	40 points	
4.4. Formation of final grade based on absolute distribution	Percentage of adopted knowledge, skills and competences (teaching + final exam)		Nu	merous grade		ECTS grade		
based on absolute distribution		90-100%		5 (excellent)			А	



	80 - 89,9%	4 (very good)		В		
	65 - 79,9%	3 (good)		С		
	50 - 64,9%	2 (sufficient)		D		
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE	<u>.</u>				
5.1. Required literature	Title			Number of copies in the library	Availability via other media	
(available in the library and through other media)	available in the library and Bukljaš Skočibušić M., Bukljaš Z.: Protection in traffic, Faculty of transport and traffic sciences,					
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	conditions and manner of performing transport in m dangerous goods, bulk and other cargo in ports, and the in ports (NN 51/05, 127/10, 34/13, 88/13, 79/15), Zagreb	Ministry of Maritime, Transport and Infrastructure: Ordinance on the handling of dangerous goods, conditions and manner of performing transport in maritime transport, loading and unloading of dangerous goods, bulk and other cargo in ports, and the manner of preventing the spread of spilled oils in ports (NN 51/05, 127/10, 34/13, 88/13, 79/15), Zagreb, 2005. Perić T., Ivaković Č.: Protection in traffic process, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 1996				
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and 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 a working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment					
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly in possible adjournment will be published in a timely mann contact teachers during the consultation period (at least o It is also possible to ask questions by e-mail (from the of working days after receiving the e-mail).	er on the e-learning site of the ne hour per week), while for sh	course and on th ort questions and	e website of the Šibenik I l explanations they can be	University. Students can e contacted during class.	



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

1. GENERAL INFORMATION	ABOUT THE COURSE		
1.1. Course title	PROFESSIONAL PRACTICE	1.8. Course code in ISVU	214573 / 214574
1.2. Course lecturer	Darijo Šego, univ. spec. traff., senior lecturer	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	0+0+0+0
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> , 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 <sup>rd</sup>	1.13. Modernization	X yes □ no
1.7. Credit score (ECTS)	15	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□
2. COURSE DESCRIPTION			
2.1. Course objectives	•	the practical work of legal entities that perform transport activi and work. Thanks to the previously acquired theoretical knowl ad transport.	
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification	level 4.2 according to the CROQF, Enrolled VI. semester	
	LO1: To apply and link professional terms from technolo public in Croatian and English.	ogy and organization of road traffic in written and oral commu	nication with the professional
2.3. Learning outcomes on the	LO3: To individually and responsibly search, interpret a	nd integrate the relevant literature needed to make decisions.	
study programme level	LO4: To apply knowledge from the field of natural and t	echnical sciences to problems in road traffic.	
	LO6: To analyze and present relevant facts from the field	d of traffic needed to reach conclusions.	
	LO9: To assess and organize processes in the area of roa	d traffic and/or traffic logistics.	



	L011	: To identify, predict and propose solu	utions in ro	ad traffic technology and technique.					
	LO12	O12: To set up a minor traffic process and critically evaluate it.							
	Lear	Learning outcomes by Bloom: (maximum 2 werbs for LO)Learning outcomes by Bloom: (maximum 2 werbs for LO)Learning outcomes by Bloom: (maximum 2 werbs for LO)4- analysis, 5- evaluation, 6- synthesis.5- evaluation, 6- synthesis.							
2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	1	engaged in transport.	-	e from the course and practical knowledge from	n a company	3, 4			
learning outcomes)	2	Ĩ	-			4			
	3	8. Analyze and critically evaluate the		4, 5					
	4	Present the company and the acqu	6						
	5	5. Use materials and tools to search s	3, 4						
	6	5. To propose and choose the best so	lution for i	mproving the business processes of a transport con	npany.	6, 5			
2.5. Course content according to detailed curriculum schedule	Cons	tructive allignement							
	No	Thematic unit	LO of the course	Content/teaching methods		Evaluation	Time		
Students are introduced to the company's general information and construction facilities.				Practice Diary prepared d.	450 h				
3. EVALUATION OF STUDEN	T WO	RK							
3.1. Student obligations	-		•	Applied Sciences in performing professional pratudies of the Šibenik University are prescribed by					



	point, the same is descr	point, the same is described in summary form. Students are required to complete a professional practice. The student performs professional practice in a							
	legal entity that perform	ns transport activities, which is d	etermined by the holder of t	he course professiona	al practice indeper	ndently or at the proposal of the			
	student. In order for a student to be admitted to a professional internship, the course leader signs the Instruction for performing the professional internship								
	(Appendix 2 of the Ordinance on professional practice). Professional practice is performed under the mentorship of an authorized person. During the								
	-	s obliged to conscientiously and	• •			• •			
		performs the internship, adhere	-	•	-				
		rofessional practice and takes ca							
	-	prepares a Diary of internship (			-				
	_	accessfully completing the practi	-						
		Certificate of completed interns	÷ ·		· •				
	-	diary of professional practice and	_			_			
	•	ompletion of professional practic			•				
	-	fessional Practice Diary, he/she							
		ourse does not accept the Profes	•						
	-	-enroll in the Professional Practi when such reasons cease to exist			-	-			
		fter their occurrence or after learn							
		or has worked on jobs that corre	U						
		should, in the semester in which							
	-	inance on professional practice)	•	-		•			
		ed description of the job, and the	-	-					
	•	on of professional practice.		1	<b>.</b>				
	Attending classes		Written exam	Proje	ct				
3.2. Student work monitoring	Experimental work		Research	Pract	ical work				
(enter the share of ECTS credits	Esaay		Report	Conti	inuous check				
for each activity so that the total number of ECTS credits	Colloquiums		Seminar paper	Exec	ution of	12			
corresponds to the course credit				profe	ssional				
value)				pract					
(uiue)	Teaching activities		The oral part of exam		essional	3			
				pract	ice diary				
3.3. Student work-load	The student's workload	on all bases amounts to 1 ECTS	point for 30 hours of work	per semester and is e	stimated as:				



	Obligation     Hours (estimate)					
	1. Attending a Professional Practice	360				
	2. Writing a diary of Professional Practice		90			
4. GRADING SYSTEM						
4.1. Forming the final grade according to the evaluation elements	No grading. Professional practice is evaluated descriptively ("satisfied" or "n	ot satisfied"). The sam	ne is explained unde	r point 3.1.		
5. ADDITIONAL INFORMATI	ON ABOUT THE COURSE					
5.1. Compulsory literature (available in the library and via	Title		Number of copies in the library	Availability via other media		
other media)	The literature of the Professional undergraduate study of Traffic. Internet websites of the legal entity where the students completed the Profess Materials obtained from the legal entity where they performed the Profession	-				
5.2. Additional literature (at the moment of changes and/or amended of study programme)	The literature of the Professional undergraduate study of Traffic. Professional Internet websites, and materials in the domestic and foreign lang of transport activity where the Professional Practice was performed.	guage from the field		Internet website		
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	that ensure the acquisition of knowledge, skills 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					
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 Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address 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 INFORMATION ABOUT THE COURSE										
1.1. Course title	BATCHELOR THESIS	1.8. Course code at ISVU	214575 / 214576							
1.2. Course lecturer	-	1.9. Course code at MOZVAG	-							
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(0+0+0+0)							
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> level), percentage of on line course performance (max. 20%)	1 <sup>st</sup> - 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	3 <sup>nd</sup>	1.13. Modernization	X yes 🗆 no							
1.7. Credit point (ECTS)	10	1.14. Percentage estimate of course changes and/or supplements	Less than 20%XMore than 20 %□							

2. COURSE DESCRIPTION							
2.1. Course objectives	The aim of the course is that the student within the given topic successfully applies the acquired knowledge in solving tasks re deepening the theoretical knowledge acquired through the study program at the level of the profession he acquires. Also, t students to develop the ability of an independent approach in processing and solving complex and practical problems in the p the ability to independently analyze research results as well as the skills of writing and presenting independent work.	he aim of the course is for					
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF, Enrolled VI semester						
2.3. Learning outcomes on the study programme level	Learning outcomes of the Batchelor thesis depends on the topic and the course is chosen by the student.						
2.4. Expected learning outcomes on the course level	Learning outcomes according to Bloom's taxonomy: (maximum 2 werbs for LO)	Level of LO: 1- memory, 2- understanding,					



	3- application, 4- analysis, 5- evaluation,
<ol> <li>Choose a topic and analyze the problem.</li> <li>Analyze and sublimate relevant data from the literature and other data sources.</li> </ol>	6- synthesis. 4
3. Formulate and analyze the context of the research.	6,4
<ol> <li>Select and apply the research methodology and write the Batchelor thesis.</li> <li>Evaluate and present the results of the research or solution to the problem.</li> </ol>	5 6

2.5. Course content according to												
detailed curriculum schedule												
3. EVALUATION OF STUDENT	WORK											
3.1. Students` obligations	_	adents are required to write a Batchelor Thesis under the guidance of a selected or assigned mentor. Consult with the mentor about the given topic and Batchelor thesis. The student is obliged to present and defend the Batchelor Thesis in front of the Committee for evaluation and defense of the Batchelor esis.										
3.2. Monitoring student work (enter the share of ECTS credits	Attendance		Written exam	4 (without colloquia)	Project							
	Experimental work		Research		Practical work							
for each activity so that the total number of ECTS points	Essay		Report		Continuous examination							
corresponds to the credit score of the course)	Colloquium		Seminar paper		The written part of the Batchelor thesis	7						
	Class activity		Oral exam		Oral defense of the Batchelor thesis	3						
	The student's workload	on all bases amounts	to 1 ECTS point for 30	hours of work per semester	of work per semester and is estimated as:							
3.3. Student workload		Obligat	tion		Hours (estimated)							
	1. The written p	part of the Batchelor th	hesis		210							



	2. Oral defense of	2. Oral defense of the Batchelor thesis						90				
4. GRADING SYSTEM					<u> </u>							
	Element of evaluation	Bad				Satisfyin	g	Above average				
4.1. Evaluation of the Batchelor thesis	Organization	The paper is not organ order and lacks structur	gical	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.			The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.					
	Terminology, writing style	Words and expressions low in line with official terminology. The writing style is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.			Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and			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 li references do not fit the a cursory approach to topic.	show the	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.			and consistently listed. The references					
	The written part of the Batchelor thesis	2 3		3			4	5				
4.3. Forming the final grade according to the evaluation	Batchelor thesis	5 points 10 poi		10 poin	ts	15 points		20	) points			
elements	The written part of the Batchelor thesis	2	2 3				5	5				
	Datenetor thesis	5 points	1	10 poin	ts		15 points	15	5 points			
	Percentage of acquired k	nowledge, skills and con	npetences		Numerical grade		ECTS grade					
4.4. Formation of final grade based on absolute distribution		90 - 100%		5 (excellent)		t)	А					
	8	80 - 89,9%			4 (very good)		В					



	65 - 79,9%	3 (good)	С	
	50 - 64,9%	2 (sufficient)	D	
5. ADDITIONAL INFORMATIO	N ABOUT THE COURSE			
	Title		Number of copies in the library	Availability via other media
5.1. Required literature (available in the library and through other media)	Rulebook on the Batchelor thesis. Instructions for writing a seminar paper and Batchelor thesis. Books and professional literature in the field of writing the Ba Internet websites in the field of the topic of writing the Batche		-	-
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the 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 nece students' attendance and activity in the classroom and inform needed for further guidance to students in order to increase t working methods and required literature. Quality assurance s status of students, employer survey and Alumni Association.	nation obtained about student problem work efficiency. Students w	rogress through the midterm will will be instructed in their rights a	provide the information nd obligations as well as
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed possible adjournment will be published in a timely manner on contact teachers during the consultation period (at least one ho It is also possible to ask questions by e-mail (from the official working days after receiving the e-mail).	the e-learning site of the course our per week), while for short que	and on the website of the Šibenik estions and explanations they can	University. Students can be contacted during class.

## **10. MATRIX OF LEARNING OUTCOMES**

LEARNING OUTCOMES (LO)	L01	LO2	LO3	LO4	L05	L06	L07	L08	L09	LO10	L011	LO12	L013
COURSE NAME													
Mathematics I		+	+	+		+		+					
Technical mechanics I		1	I	+		1		+					
English language I	+	+	+	'				1					
Graphic communications		,	'	+			+	+					
Modern traffic systems	+	+	+	+			1	1					
Knowledge of goods	+	+	+	'		+				+			+
Traffic law	+	+	+		+	+				1			' 
Mathematics II	1	+	+	+	1	+		+					
Technical mechanics II		,	'	+				+					
English language II	+	+	+										
Informatics			+	+			+	+					
Traffic and ecology	+		+	+		+					+		+
Traffic logistics	+	+	+		+	+	+		+		+	+	+
Basics of electrical engineering and electronics				+				+					
Operational research in traffic	+			+			+	+					
Basics of mechanical engineering	+			+				+					
English language III	+	+	+										
Urban mobility	+	+	+		+	+			+		+	+	+
Traffic corridors and merchandise flows	+	+	+			+				+		+	
Internal transport and storage	+							+	+	+			
Logistics and supply chains	+	+	+		+	+			+		+	+	+
Statistics in traffic	+					+		+					
Theory of vehicle movement	+	+		+			+	+					+
English language IV	+	+	+										
Technology and organization of public city transport	+	+	+		+	+			+		+	+	+

Transshipment resources	+	+	+	+		+				+			
Freight-distributional centers and terminals	+	+	+			+				+			
Economics of traffic		+	+		+								
Infrastructures of road traffic	+			+			+	+			+	+	+
Resources and exploitation of resources of road traffic	+			+				+					
Technology and organization of road traffic	+	+	+	+	+	+		+	+		+	+	+
Traffic techniques	+	+	+	+		+	+			+	+	+	+
Information systems in road traffic	+	+	+	+		+					+		+
Transport geography	+	+	+			+				+		+	
Traffic in tourism	+	+	+			+							
Safety and protection of transport processes	+	+	+		+	+			+	+	+	+	+
Professional practice	+		+	+		+			+		+	+	
Bachelors thesis													
TOTAL NUMBER OF COURSES BY LEARNING OUTCOMES	29	24	26	19	8	20	7	15	8	8	11	11	12

Curriculum for the Department of Traffic Studies, Professional Undergraduate Study of Traffic Šibenik University of Applied Sciences, for the academic year 2024./2025. was adopted at the 24<sup>th</sup> session of the Council Department of Traffic Studies, which was held on Tuesday, July 09. 2024.

Curriculum for the Department of Traffic Studies, Professional Undergraduate Study of Traffic Šibenik University of Applied Sciences, for the academic year 2024./2025. was adopted at the 12<sup>th</sup> session of the Council Šibenik University of Applied Sciences, which was held on Wednesday, July 17. 2024.

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Šibenik, 17.07.2024.

Acting Head of Department of Traffic Studies

Darijo Šego, univ. spec. traff., senior lecturer

O- Leops

