Šibenik University of Applied Sciences

Trg Andrije Hebranga 11, 22000 Šibenik

www.vus.hr , dekanat@vus.hr

Erasmus + Course Catalogue

Academic year 2024./2025.

Šibenik, June 2024.

Šibenik University of Applied Sciences

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Professional undergraduate study of Traffic (Department of Traffic Studies)

***Dean** : PhD. Ljubo Runjić, college professor*

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

Courses list

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

Contents

Course Curriculums

Mathemathics I

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

2. COURSE DESCRIPTION	
2.1. Course objectives	The objective of the course is for students acquire knowledge and skills in analytical thinking, as well as logical reasoning and interpreting results for further education. The goal of the course is for students to be equipped, based on theoretical knowledge and case studies, to understand, comprehend, recognize, and apply various quantitative methods for solving specific problems and methods for optimizing such problems..
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
2.3. Learning outcomes on the study programme level	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members

	LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions
	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic
	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions
	LO8: To solve problems in traffic by using analytical and / or graphical methods

2.4. Expected learning outcomes on the course level	**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*
	1. To perform basic operations on sets and functions.	3, 4
	2. To conduct basic analysis of functions of one variable.	4, 5
	3. To calculate the limes of the given function.	4
	4. To derive the functions of one variable.	4, 5
	5. To apply functional analysis methods in transport problems solving.	4, 5

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no.	**Thematic ensemble / Lecture Topic**	**LO of 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.	Sets. Sets of numbers.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to enumerate and distinguish basic concepts related to	**4 h**

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

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

3. EVALUATION OF STUDENTS` WORK

3.1. Students` obligations

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

3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)

Attendance	0,5	Written exam	3 (without colloquium)	Project	
Experimental work		Research		Practical work	
Essay		Report		Continuous examination	0,5
Colloquium	3,5 (without written and oral exam)	Seminar paper		Other	
Class activity	0,5	Oral exam	0,5 (without colloquium)	Other	

3.3. Student workload

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 and exercises	60
2. Preparation for the Colloquium / exam through self-study	90

4. GRADING SYSTEM

4.1. Grading seminar papers

4.2. Grading colloquia/ written and oral exam

Unsatisfactory	**Satisfactory**	**Above average**

	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 class	Preparation for teaching units; Understanding previous content; Participation in solving tasks together: 0 – 20 points
	Seminar papers	-
	Colloquium/written exam	Preparation/learning; Scoring and grading according to correct answers in the test: 0 – 80 points (min 40 points)
	Oral exam	Preparation/learning; additional verification of unachieved learning outcomes

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)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	50 – 64,9%	2 (satisfactory)	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 via other media)	Pašagić, H., Ivanković, B., Kapetanović, N.: Mathematical methods in Traffic, Zagreb, 2004.	3	
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Neralić, L.: Introduction in mathematics programming 1, Zagreb, 2012. Hillier F., Lieberman G.: Introduction to operations Research, McGraw Hill 8th ed. 2005, 8th Ed.		
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations		

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

Mathematics II

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

2. COURSE DESCRIPTION	
2.1. Course objectives	Introducing students to the fundamental concepts of linear algebra and functions of single variable, which they can apply in different courses. Adopting analytical skills, logical and critical thinking skills.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
2.3. Learning outcomes on the study programme level	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members. LO3: To individually and responsibly search, interpret and integrate the relevant literature needed to make decisions. LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.

	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.

2.4. Expected learning outcomes on the course level	**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*
	6. To solve integrals by applying the appropriate integration techniques.	4, 5
	7. To carry out fundamental operations on matrices and vectors.	4
	8. To propose a method and solve systems of linear equations.	5, 4
	9. To apply linear algebra and functional analysis methods in transport problems solving.	4, 5

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no.	Thematic ensemble / Lecture Topic	LO of the course	Content / Teaching Method	Evaluation	Time needed
16	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.	-	**2 h**
17.	Integrals	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve an integral.	**4 h**
18.	Indefinite Integrals. Definite Integrals.	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve an indefinite and definite integral.	**4 h**
19.	Substitution Rule and Integration By Parts	1	Attending lectures. Actively involving students through problem solving and discussion.	In colloquium or written and oral exams students know how to solve an indefinite	**4 h**

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

	28.	Vector and mixed vector 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**
	29.	Applications of linear algebra.	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**
	30.	Final conclusions. Exam preparation.	1, 2, 3, 4	Attending lectures. Actively involving students through problem solving and discussion. Group problem solving and discussion. Exam preparation.	-	**4 h**

3. EVALUATION OF STUDENTS` WORK

3.1. Students` obligations	Student obligations are prescribed by the Study Regulations. It is recommended that students actively participate in classes, which includes engaging in discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email (ivana.beljo@vus.hr , ana.sisak@vus.hr). It is the responsibility of each student to stay informed about the conduct of classes. All announcements regarding the conduct or possible postponement of classes will be posted on the website of the Polytechnic of Šibenik or the course webpage, where all information about the course, as well as teaching materials and a list of literature, can also be found. Students can pass the final exam in the course in two ways: a) During the course through continuous student assessment (active participation in classes and two colloquiums). Students who do not meet some of the learning outcomes are required to take the oral part of the exam. b) During the course (active participation in classes) and by taking the exam (written and oral parts).					
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Attendance	0,5	Written exam	3 (without colloquium)	Project	
	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	0,5
	Colloquium	3,5 (without written and oral exam)	Seminar paper		Other	

	Class activity	0,5	Oral exam	0,5 (without colloquium)	Other	

3.3. Student workload

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)***
3. Attending classes and exercises	60
4. Preparation for the Colloquium / exam through self-study	90

4. GRADING SYSTEM

4.1. Grading seminar papers

4.2. Grading colloquia/ written and oral exam

Unsatisfactory	**Satisfactory**	**Above average**
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 class	Preparation for teaching units; Understanding previous content; Participation in solving tasks together: 0 – 20 points
Seminar papers	-
Colloquium/written exam	Preparation/learning; Scoring and grading according to correct answers in the test: 0 – 80 points (min 40 points)
Oral exam	Preparation/learning; additional verification of unachieved learning outcomes

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)	A
80 – 89,9%	4 (very good)	B
65 – 79,9%	3 (good)	C
50 – 64,9%	2 (satisfactory)	D

5. ADDITIONAL INFORMATION ABOUT THE COURSE			
5.1. Compulsory literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Marušić S.: Mathematics and textbook with resolved examples, Zagreb, 2007. Beljo I., Olivari L.: Mathematics, Šibenik University of Applied Sciences, 2024.	5	 On-line
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Teaching materials from lectures and exercises Bradić, T., 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	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.		
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).		

Statistics in traffic

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**STATISTICS IN TRAFFIC**	1.8. Course code in ISVU	214569 / 214570
1.2. Course lecturer	**PhD Ana Perišić, college professor**	1.9. Course code in MOZVAG	
1.3. Assistants and/or associates	**Ivana Beljo, grad. eng. math., univ. spec. oecc., senior lecturer**	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4
1.6. Year of study	2nd	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □

2. COURSE DESCRIPTION		
2.1. Course objectives	The goal is to provide students with theoretical knowledge and practical skills needed for performing statistical analysis and interpretation of the results.	
2.2. Terms of course entry and required competences	No conditions.	
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.	
	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.	
2.4. Expected learning outcomes on the course level	**Learning outcomes** accroding 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*
	1. To define fundamental concepts of descriptive statistics and interpret indicator values from the field of descriptive statistics.	1, 2
	2. To calculate and interpret values for the measures of central tendency and dispersion parameters.	3, 4
	3. To define fundamental concepts and solve basic problems in the field of combinatorics and probability theory.	1, 4
	4. To select and apply probability models for different stochastic phenomena.	5, 3
	5. To conduct correlation and regression analysis and derive conclusions on variable relationship.	4

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**Time needed**
1.	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations and.	-	**2 h**
2.	Descriptive statistics.	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 methods of descriptive statistics in transport problems solving.	**4 h**
3.	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	**4 h**

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

					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	Student obligations are prescribed by the Study Regulations. It is recommended that students actively participate in classes, which includes engaging in discussions, solving tasks, etc. Students who are unable to attend classes regularly should consult with the professor during consultation hours or via email (ivana.beljo@vus.hr, ana.sisak@vus.hr). It is the responsibility of each student to stay informed about the conduct of classes. All announcements regarding the conduct or possible postponement of classes will be posted on the website of the Polytechnic of Šibenik or the course webpage, where all information about the course, as well as teaching materials and a list of literature, can also be found. Students can pass the final exam in the course in two ways: a) During the course through continuous student assessment (active participation in classes and two colloquiums). Students who do not meet some of the learning outcomes are required to take the oral part of the exam. b) During the course (active participation in classes) and by taking the exam (written and oral parts).					
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Attendance	0.5	Written exam	2 (without colloquia)	Project	
	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	0.5
	Colloquium	2,5 (without written exam)	Seminar paper		Other	

	Class activity	0.5	Oral exam	0.5(without colloquia)	Other	

3.3. Student workload

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)***
5. Attending classes and exercises	60
6. Preparation for the Colloquium / exam through self-study	60

4. GRADING SYSTEM

4.1. Grading seminar papers

4.2. Grading colloquia/ written and oral exam

Unsatisfactory	**Satisfactory**	**Above average**
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 class	Preparation for teaching units; Understanding previous content; Participation in solving tasks together: 0 – 20 points
Seminar papers	-
Colloquium/written exam	Preparation/learning; Scoring and grading according to correct answers in the test: 0 – 80 points (min 40 points)
Oral exam	Preparation/learning; additional verification of unachieved learning outcomes

4.4. Final grade according to absolute division

Percentage of acquired knowledge, skills and competences (teaching + final exam)	Numerical grade	ECTS grade
90 – 100%	5 (excellent)	A
80 – 89,9%	4 (very good)	B

	65 – 79,9%	3 (good)	C
	50 – 64,9%	2 (satisfactory)	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 via other media)	Kovač Striko E., Fratović T., Ivanković B., Probability and statistics, Books of University of Zagreb, Zagreb 2008.	1	No
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Šošić I., Serdar V.: Introduction to statistics, School book, Zagreb, 2002. Šošić I..: Applied statistics, School book, Zagreb, 2004. Azcel A. Sounderpandian J.: Complete Business Statistics, McGraw Hill, 2009. Zenzerović Z.: Statistical manual, Faculty of Maritime Studies, University of Rijeka, Rijeka, 2004. Čižmešija M., Kurnoga Živadinović N.: A collection of solved tasks based on statistics, Mirorad d.o.o., Zagreb, 2006. Patrick R. McMullen: Business statistics for professional studies [translated by Devčić, K., Perišić, A.], Polytechnic of Šibenik, 2017. Teaching materials on e-learning	1 12 1 - 5 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 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).		

Operational research in traffic

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

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

	LO7: 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.

2.4. Expected learning outcomes on the course level	**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*
	10. Formulate a mathematical model for linear optimization problems.	6
	11. Solve optimization problem with graphical method.	4
	12. Apply computer tools in solving linear programming problems and recommend and valorize the solution through postoptimality analysis.	3, 5
	13. Choose the appropriate algorithm and solve the problem on network.	3, 4
	14. Design a model for project management and recommend optimal savings by cutting the duration of activities.	6, 5

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no.	**Thematic ensemble / Lecture Topic**	**LO of the course**	**Content / Teaching Method**	**Evaluation**	**Time needed**
31	Introduction into the course and detailed plan.	-	Attending lectures. Familiarize with course content, e-learning documents, literature and students' obligations.	-	**2 h**
32.	Formulate a mathematical model	1	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mathematical model.	**3 h**
33.	Linear programming	1	Attending lectures. Actively involving students through problem solving and discussion.	Students will formulate a mathematical model.	**3 h**

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

					recommend and valorize the solution through postoptimality analysis.	
	41.	Network Optimization Models. The shortest-path problem. The minimum spanning tree problem.	4	Attending lectures. Actively involving students through problem solving and discussion.	Students will choose the appropriate algorithm and solve the problem on network.	**3 h**
	42.	The maximum flow problem. The minimum cost flow problem.	4	Attending lectures. Actively involving students through problem solving and discussion.	Students will choose the appropriate algorithm and solve the problem on network.	**3 h**
	43.	Project Management with PERT/CPM	5	Attending lectures. Actively involving students through problem solving and discussion.	Students will design a model for project management and recommend optimal savings by cutting the duration of activities.	**3 h**
	44.	Dynamic Programming	5	Attending lectures. Actively involving students through problem solving and discussion.	Students will propose optimal business decisions using dynamic programming methods.	**3 h**
	45.	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.	-	**3 h**

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 (enter the share of ECTS credits	Attendance	0,5	Written exam	2 (without colloquium)	Project	

for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	0,5
	Colloquium	2,5 (without written and oral exam)	Seminar paper		Other	
	Class activity	0,5	Oral exam	0,5 (without colloquium)	Other	

3.3. Student workload	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)***
	7. Attending classes and exercises	45
	8. Preparation for the Colloquium / exam through self-study	65

4. GRADING SYSTEM

4.1. Grading seminar papers			
4.2. Grading colloquia/ written and oral exam	**Unsatisfactory**	**Satisfactory**	**Above average**
	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 class	Preparation for teaching units; Understanding previous content; Participation in solving tasks together: 0 – 20 points
	Seminar papers	-
	Colloquium/written exam	Preparation/learning; Scoring and grading according to correct answers in the test: 0 – 80 points (min 40 points)
	Oral exam	Preparation/learning; additional verification of unachieved learning outcomes

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)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	50 – 64,9%	2 (satisfactory)	D

5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Compulsory literature (available in the library and via other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Pašagić, H., Ivanković, B., Kapetanović, N.: Mathematical methods in traffic, Zagreb, 2004.	3	
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Neralić, L.: Introduction to Mathematical Programming 1, Zagreb, 2012. Hillier F., Lieberman G.: Introduction to operations Research, McGraw Hill 8th ed. 2005, 8th Ed.		
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.		
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Polytechnic. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).		

Knowledge of goods

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

2. COURSE DESCRIPTION	
2.1. Course objectives	The goal is to provide students with theoretical knowledge and case studies: Defining the basic concepts of the science of knowledge of goods, Understanding the specificity of particular types of goods, their identification, conditions of packaging, transport and storage, and environmental friendliness; Understanding the need and importance of standardization and product quality, Understanding the importance and types of strategic goods, Apply the learned content of this course in business practice.
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF.
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from technologgy and organization of road traffic in written and oral communication with the profesional puublic in croation and English.
	LO2: To organize and implement team work and critically judge the opinions and atitudes od team members.
	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.	
2.4. Expected learning outcomes on the course level	**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. Categorize and compare the basic concepts of the science of knowledge of goods.	4, 5
	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

	Constructive alignment					
2.5. Course content according to detailed curriculum schedule	**No.**	**Thematic ensemble / Lecture Topic**	**LO of the course**	**Content / Teaching Method**	**Evaluation**	**Time needed**
	16.	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 goods.	
	17.	Product identification. GS1.	1, 2, 3, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature.	At the colloquium or the written and oral exam they know: explain the reasons for the product identification, define GS1, enumerate the types of identification numbers and analyze their specific application.	**10 h**
	18.	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**
	19.	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**
	20.	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**
	21.	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**

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

	27.	Hazardous Substances.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and classify the types of dangerous substances, to analyze the possible danger of the same.	**6 h**
	28.	Transport and disposal of hazardous substances.	1, 2, 3, 4, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and classify the labeling of hazardous substances during transport, to evaluate the disposal and labeling of hazardous waste.	**6 h**
	29.	Strategic Goods. 2. Colloquium.	1, 2, 3, 5, 6, 7, 8	They listen to a lecture, present a seminar paper, followed by a discussion, and read literature	At the colloquium or the written and oral exam they know: to define and categorize strategic goods, to explain their importance.	**4 h**
	30.	Concluding Considerations / Repetition and Exam Preparation.	-	They listen to a lecture and prepare individually 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 is rated unsuccessful and cannot get ECTS credits and must re-enrol the subject in the next academic year; from 25 – 49,9% ECTS is rated inadequate and has to come out and pass the test (exam). A written exam can be held in a regular or extraordinary exam period; more than 50% ECTS credits - students have the right to access the final exam of the subject. Students can pass the final exam in two ways: a) during the course through continuous student attendance (active participation in the lessons, solving case studies, making and presenting the seminar paper and project, passing two colloquia); b) during the course (active participation in the lessons, solving case studies, creating and presenting the seminar paper and project) and passing the exam (written and oral exam).					
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Attendance	0,25	Written exam	2 (without colloquiums)	Project	
	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	
	Colloquium	3 (without the written and oral exams)	Seminar paper	0,75	Other (inscribe)	

	Class activities		Oral exam	1 (without colloquiums)	Other (inscribe)	

3.3. Student workload

The 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)***
9. Attending classes	45
10. Creating and Presenting seminar paper	10
11. Preparation for the Colloquium / exam through self-study	65

4. GRADING SYSTEM

4.1. Seminar paper grading

Valuation Element	**Poor**	**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.	The paper is well-structured with a clear distinction between the introduction, the main part of the text and the conclusions that are perfectly logically linked to one another.
Terminology, writing style	Words and phrases are low harmonized with official terminology. Writing style is not appropriate, sentences are too long, modest vocabulary, and frequent and repeated grammatical mistakes.	Words and phrases are aligned with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and has little grammatical errors.	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.

4.2. Colloquium / exam grading

Poor	**Satisfying**	**Above average**
Give answer by memory, no deeper understanding. Does not know and does not apply the basic terms and concepts. Cannot apply or explain the contents of the course.	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.	
4.3. Creating a final grade according to evaluation elements	Active participation in the lessons	70 of attendance	71-80% of attendance	81-90% of attendance	91-100%
		2 points	3 points	4 points	5 points
	Research paper	2	3	4	5
		8 points	10 points	12 points	15 points
	Colloquium / written exam	2	3	4	5
		50-64,9%	65-79,9%	80-89,9%	90-100%
		25 points	35 points	40 points	50 points
	Oral exam	2	3	5	5
		15 points	20 points	25 points	30 points

4.4. Creating a final grade according to absolute allocation	Percentage of adopted knowledge, skills and competences (teaching + final exam)	Numerous grade	ECTS grade
	90 – 100%	5 (excellent)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	50 – 64,9%	2 (sufficient)	D

5. ADDITIONAL INFORMATION ABOUT THE COURSE

5.1. Compulsory literature (available in the library and through other media)	**Title**	**Number of copies in the library**	**Availability via other media**
	Gacina, N. (2012). Knowledge of goods. Internal script of the Polytechnic of Šibenik, Šibenik. Lazibat, T. (2004). Knowledge of goods and quality management. Synergy Publishing, Zagreb. (Chapters selected)	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 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 obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.		
5.4. information on the course and contact with the teacher	It is obligatory for every student to regularly inform about the course, teaching and teaching 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).		

English language I

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**ENGLISH LANGUAGE I**	1.8. Course code in ISVU	129833 / 202067
1.2. Course lecturer	**PhD Ivana Kardum Goleš, college professor**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 15 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1
1.6. Year of study	1st	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □
2. COURSE DESCRIPTION			
2.1. Course objectives	The objective of the course is to master the basic vocabulary related to road and postal traffic as well as the predicted grammatical structures that include verb tenses, articles, personal pronouns and possessive pronouns, both in written and oral expression. The goal is also to expand the vocabulary related to the traffic, while grammar and newly acquired vocabulary are established and practiced in the exercises. Another goal of the course is to familiarize students with the basic parts of business writing. Foreign language teaching seeks to introduce students to new communication systems and facilitate their easier and more direct involvement in world events and to familiarize them with the elements of culture and civilization of English-speaking peoples. Learning a foreign language is in line with the desire to preserve the richness of diversity in a multilingual Europe, as well as to foster a culture of dialogue and civilization.		
2.2. Terms of course entry and required competences	Four-year secondary education completed; 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.		
	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.

Learning outcomes accroding 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*
1. to understand, apply and link basic terms from the professional terminology of English road traffic and use them in written and oral communication.	2, 3
2. to apply grammatical structures in texts and assignments.	3
3. to interpret and use tenses in real-life context.	3, 4
4. to develop a shorter essay within the topics of the course.	3
5. to reproduce an e-mail in English.	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. to analyse medium complex texts and solve tasks.	4
9. to use part of the general language competency at levels B1/B2.	6

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**Time needed**
31.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-	**2 h**
32.	Trouble With The Car, Nouns and plurals	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, understand, apply and link terms from the professional terminology of English	**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.	
	33.	Helen Catches The Train – Izražavanje Sadašnjosti (Present Simple And Continuous)	1, 2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**4 h**
	34.	In The Train – Trouble With The Car (Present Simple And Continuous).	1, 2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**4 h**
	35.	At The Airport And Air Pollution Problem (Present Tenses)	1, 2, 3, 6, 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.	
	36.	Keeping Drunken Drivers Off The Road – Past And Perfect Tenses	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	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**
	37.	Types Of Drivers – Verb Tenses	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	38.	Moving About Towns – Verb Tenses I colloquium	1, 2, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign	**10 h**

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

	41.	The Engine Of A Car – Future Tenses – Will And Going To And Present Continuous	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**
	42.	About Cars In General – Future Perfect	1, 2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**
	43.	A City At Sea - Living Under Cover – Future Tenses	1, 2, 3, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts	**4 h**

					and solve tasks, use part of other language competences at B1 level.	
	44.	„Jam Yesterday - Jam Tomorrow“; Passenger Transportation – Tenses Revision, Only Stricker Traffic Rules Can Prevent Accidents – Articles	1, 2, 3, 6, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	45.	Revision – II colloquium	1, 2, 3, 4, 5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**

3. EVALUATION OF STUDENTS` WORK	
3.1. Students` obligations	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%.The students` acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the

	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 (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)						
	Attendance	0,5	Written exam	1 (without colloquia)	Project	
	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	
	Colloquium	1 (without written exam)	Seminar paper		Other	
	Class activity	0,5	Oral exam	1	Other	

3.3. Student workload	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)***
	12. Attending classes and exercises	45
	13. Preparation for the Colloquium / exam through self-study	45

4. GRADING SYSTEM

4.1. Grading seminar papers			
4.2. Grading colloquia/ written and oral exam	**Unsatisfactory**	**Satisfactory**	**Above average**
	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	Active course attendance	70-75% of attendance	76-86% of attendance	87-100% of attendance	Maximum points
		3 points	7 points	20 points	20 points

	Seminar paper				
	Colloquia/ Written exam	2	3	4	5
		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

4.3. Final grade according to absolute division	Percentage of acquired knowledge, skills and competences (teaching + final exam)	5 (excellent)	ECTS grade
	90 – 100%	4 (very good)	A
	80 – 89,9%	3 (good)	B
	65 – 79,9%	2 (sufficient)	C
	50 – 64,9%	5 (excellent)	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 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	X
5.2. . Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: „The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students“, Department for traffic, Polytechnic of Rijeka, 2007. Adrian Pilbeam, Nina O`Driscoll: „Logistics Management“, Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinat: "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	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured through interactive work. By keeping track of attendance and student activity during classes and provided information on students` progress through short colloquiums and homework, information for further guidance to students will be provided in order to increase the efficiency of their work. Students will be informed about their rights and obligations as well as the methods of work and the required literature. Indicators of quality assurance system: Student survey, monitoring of annual data from the Croatian employment service on the annual state of student employment, surveys from employers and Alumni association.
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).

English language II

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**ENGLISH LANGUAGE II**	1.8. Course code in ISVU	187599 / 202076
1.2. Course lecturer	**PhD Ivana Kardum Goleš, college professor**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	**Ivana Jardas Duvnjak, professor, title lecturer**	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 15 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1
1.6. Year of study	1st	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □
2. COURSE DESCRIPTION			
2.1. Course objectives	The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the adjective comparison, adverbs, modal verbs, transformation of direct into reported speech in the present. The aim is also to expand the vocabulary related to traffic, while exercises determine and practice grammar and new vocabulary. Another goal of the course is to write different kinds of business letters. By attending a foreign language classes, students are introduced with new communication systems, enabling their easier and more direct involvement in world events and getting acquainted with the elements of English culture and civilization of the English speaking world. Learning a foreign language is in line with the aspiration to preserve the richness of the diversity of multi-faceted Europe as well as with fostering the development of the culture of dialogue and civilization.		
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF, Completed course English language I		
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from 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.

Learning outcomes accroding 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*
1. to understand and apply basic terms from the professional terminology of English road traffic in English.	2, 3
2. to apply grammatical structures in texts and assignments.	3
3. to interpret and use tenses in real-life context.	3, 4
4. to develop an essay within the topics of the course.	5, 6
5. to present own ideas for development 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. to analyse medium complex texts and solve tasks.	4
9. to use part of the general language competency at levels B1.	6

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**Time needed**
46.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-	**2 h**
47.	CARS` ANATOMY - Adjectives and their formation	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, understand, apply and link terms from the professional terminology of English road traffic and use them in written and oral	**4 h**

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

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

					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.	
	54.	Hovercraft – Indirect speech	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	55.	Magnetic levitation trains – Personal and reflexive pronouns	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises. Discuss.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	56.	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	**10 h**

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

	59.	Sattellites	1, 2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	60.	Revision – II colloquium	1, 2, 3, 4, 5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**
3. EVALUATION OF STUDENTS` WORK						
3.1. Students` obligations	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%.The students` acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the written part of the final exam and is obliged to take the oral exam only. The final exam consists of a written and an oral part. Ways to check learning outcomes are: essays, objective type assignments, discussion, roleplay, presentation creation, etc. The obligation of each student is to regularly inform					

	oneself about the course. All notices about maintenance or eventual postponement of teaching will be published on the web site of the Šibenik University and the e-learning page of the course, where all the information on the course as well as the teaching materials and the list of literature are also available.

3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)

Attendance	0,5	Written exam	1 (without colloquia)	Project	
Experimental work		Research		Practical work	
Essay		Report		Continuous examination	
Colloquium	1 (without written exam)	Seminar paper		Other	
Class activity	0,5	Oral exam	1	Other	

3.3. Student workload

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 classes and exercises	45
2. Preparation for the Colloquium / exam through self-study	45

4. GRADING SYSTEM

4.1. Grading seminar papers

-

4.2. Grading colloquia/ written and oral exam

Unsatisfactory	**Satisfactory**	**Above average**
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

Active course attendance	70-75% of attendance	76-86% of attendance	87-100% of attendance	Maximum points
	3 points	7 points	20 points	20 points
Seminar paper				

	Colloquia/ Written exam	2	3	4	5
		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

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)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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 via other media)	Katja Bošković Gazdović: "English textbook of Transport I", Faculty of transport nad traffic sciences, University of Zagreb, Zagreb, 2002. (selected chapters)	10	X
5.2. . Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: „The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students“, Department for traffic, Polytechnic of Rijeka, 2007. Adrian Pilbeam, Nina O`Driscoll: „Logistics Management“, Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet:"A Practical English Grammar Exercises", Oxford University A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University	10	X (e-learning, handouts)
5.3. Quality assurance methods that ensure the acquisition of	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		

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

English language III

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**ENGLISH LANGUAGE III**	1.8. Course code in ISVU	140775 / 202089
1.2. Course lecturer	**PhD Ivana Kardum Goleš, college professor**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	**Ivana Jardas Duvnjak, professor, title lecturer**	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(15 + 30 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), 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	2
1.6. Year of study	2nd	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □
2. COURSE DESCRIPTION			
2.1. Course objectives	The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the creation and use of passives, causative constructions, mastery of conditional sentences, transformation of direct into reported speech in the past. The aim is also to expand the vocabulary related to traffic, while exercises determine and practice grammar and new vocabulary. Another goal of the course is to write different kinds of business letters. By attending a foreign language classes, students are introduced with new communication systems, enabling their easier and more direct involvement in world events and getting acquainted with the elements of English culture and civilization of the English speaking world. Learning a foreign language is in line with the aspiration to preserve the richness of the diversity of multi-faceted Europe as well as with fostering the development of the culture of dialogue and civilization.		
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF, Completed course English language II		
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.		
	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.

Learning outcomes accroding 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*
1. to understand, apply and link terms from the professional terminology of English road traffic and use them in written and oral communication.	2, 3
2. to apply grammatical structures in texts and assignments.	3
3. to interpret and use tenses in real-life context.	3, 4
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. 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. to analyse complex texts and solve tasks.	4
9. to use part of the general language competency at levels B1/B2.	6

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**Time needed**
61.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-	**2 h**
62.	Britains Earliest Roads – Tenses	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, understand, apply and link terms from the professional terminology of English	**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.	
	63.	The Age Of Bad Roads - The Passive Voice	1, 2, 3, 4, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**4 h**
	64.	Roads And The Church - The Passive Voice, Present times	1, 2, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**4 h**
	65.	Early Carriages - The Passive Voice, Past times	1, 2, 3, 6, 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.	
	66.	Trade And Transport In The Turnpike Era - The Passive Voice, Future times	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**4 h**
	67.	Rivers And River Transport - The Passive Voice	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	68.	The World Of Transport - I colloquium	1, 2, 3, 5, 6, 9	Listen to lectures and take part in discussion. Write the colloquium.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign	**10 h**

					languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	
	69.	The Satellite - The Infinitive and the Gerund	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	70.	Technology And The Relation Between Transport And Communication - Conditional Sentences (0 And I Type)	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Solve exercises. Discuss.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**

	71.	Transport, Communications And City Organisation - Conditional Sentences (II Type)	1, 2, 3, 5, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**
	72.	Navigation Devices - Conditional Sentences (III Type)	1, 2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**
	73.	Safe And Clean Road Transport - Conditional Sentences (Mixed Types)	1, 2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts	**4 h**

					and solve tasks, use part of other language competences at B1 level.	
	74.	Scientific Road Making - Conditional Sentences	1, 2, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	75.	Revision – II colloquium	1, 2, 3, 4, 5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**
3. EVALUATION OF STUDENTS` WORK						
3.1. Students` obligations	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%.The students` acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written word that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted					

<table>
<tr><td></td><td colspan="6">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.</td></tr>
<tr><td rowspan="5">3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)</td><td>Attendance</td><td>0,5</td><td>Written exam</td><td>1 (without colloquia)</td><td>Project</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Research</td><td></td><td>Practical work</td><td></td></tr>
<tr><td>Essay</td><td></td><td>Report</td><td></td><td>Continuous examination</td><td></td></tr>
<tr><td>Colloquium</td><td>1 (without written exam)</td><td>Seminar paper</td><td></td><td>Other</td><td></td></tr>
<tr><td>Class activity</td><td>0,5</td><td>Oral exam</td><td>1</td><td>Other</td><td></td></tr>
<tr><td>3.3. Student workload</td><td colspan="6">The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:
<table>
<tr><th>Commitment</th><th>Hours (estimate)</th></tr>
<tr><td>3. Attending classes and exercises</td><td>45</td></tr>
<tr><td>4. Preparation for the Colloquium / exam through self-study</td><td>45</td></tr>
</table></td></tr>
<tr><td colspan="7">4. GRADING SYSTEM</td></tr>
<tr><td>4.1. Grading seminar papers</td><td colspan="6">-</td></tr>
<tr><td>4.2. Grading colloquia/ written and oral exam</td><td colspan="6">
<table>
<tr><th>Unsatisfactory</th><th>Satisfactory</th><th>Above average</th></tr>
<tr><td>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.</td><td>Reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supported with examples.</td><td>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.</td></tr>
</table></td></tr>
</table>

4.3. Final grade according to evaluation elements	Active course attendance	70-75% of attendance	76-86% of attendance	87-100% of attendance	Maximum points
		3 points	7 points	20 points	20 points
	Seminar paper				
	Colloquia/ Written exam	2	3	4	5
		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

	Percentage of acquired knowledge, skills and competences (teaching + final exam)	Numerical grade	ECTS grade
4.3. Final grade according to absolute division	90 – 100%	5 (excellent)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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 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	X
5.2. . Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: „The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students“, Department for traffic, Polytechnic of Rijeka, 2007. Adrian Pilbeam and Nina O`Driscoll: „Logistics Management“, Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet:"A practical English Grammar", Oxford University	10	X (e-learning, handouts)

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

English language IV

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**ENGLISH LANGUAGE IV**	1.8. Course code in ISVU	140784 / 202097
1.2. Course lecturer	**PhD Ivana Kardum Goleš, college professor**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	**Ivana Jardas Duvnjak, professor, title lecturer**	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(15 + 30 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	1
1.6. Year of study	2nd	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	3	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □
2. COURSE DESCRIPTION			
2.1. Course objectives	The aim of the course is to expand the vocabulary related to road and postal traffic as well as predicted grammatical structures that include tenses, the 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; qualification level 4.2 according to the CROQF, Completed course English language III		
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.		
	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.

Learning outcomes accroding 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*
1. to understand, apply and link terms from the professional terminology of English road traffic and use them in written and oral communication.	2, 3
2. to create CV (Europass template), job application, offer, complaint.	3, 4, 6
3. to interpret and use tenses in real-life context.	3, 4
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. 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. to analyse complex texts and solve tasks.	4
9. to use part of the general language competency at levels B1/B2.	6

2.5. Course content according to detailed curriculum schedule

Constructive allignement

no	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**Time needed**
76.	Introduction into the course and detailed plan.	-	Listen to lectures. Work independently on computer, get to know course content and elearning documents.	-	**2 h**
77.	Early Trading Conditions – Tenses CV – Europass template	1, 2, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, understand, apply and link terms from the professional terminology of English road	**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.	
	78.	Travel And Traffic Information - The Sequence Of Tenses	1, 3, 4, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**4 h**
	79.	Public Transport - Direct And Indirect Speech - Statements Past	1, 3, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**4 h**
	80.	Transport And Tourism - Direct And Indirect Speech – Questions Past	1, 3, 6, 9	Listen to lectures and read literature. Use multimedia and internet. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to	**4 h**

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

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

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

					and solve tasks, use part of other language competences at B1 level.	
	89.	Problems Of Modern Transportation	1, 3, 4, 5, 6, 7, 8, 9	Listen to lectures and read literature. During lectures individually research the content of this thematic field by searching data bases, presentt acquired knowledge, express their own ideas and ways of problem solving. Brainstorming, discussion. Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**6 h**
	90.	Revision – II colloquium	1, 2, 3, 4, 5, 6, 7, 8, 9	Solve exercises.	In colloquium or written and oral exams the applied grammatical structures on texts and tasks are evaluated, verb tenses are interpreted in a real linguistic context, can communicate in foreign languages within the course topic, express their own opinions, present their own ideas related to the development of transport solutions to develop a longer essay within course topics, comparing and evaluating different solutions in the traffic of other countries, analyze medium complex texts and solve tasks, use part of other language competences at B1 level.	**10 h**
3. EVALUATION OF STUDENTS` WORK						
3.1. Students` obligations	In accordance with the Regulations on Studying and the Regulations on Student Assessment and Evaluation: for all full-time students attendance of at least 70% is required. Part-time students are required to attend classes at least 50%.The students` acquired knowledge is tested during the course classes. Special consideration is given to the student's evaluation during the course of the teaching process, with particular attention being paid to the student's active participation in teaching as well as his/her presentation of the written work that the student produces for homework. Of particular importance for the final evaluation are the two written tests that students take during the semester. If the student successfully passes both exams, he / she is exempted from the					

	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 (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)						
	Attendance	0,5	Written exam	1 (without colloquia)	Project	
	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	
	Colloquium	1 (without written exam)	Seminar paper		Other	
	Class activity	0,5	Oral exam	1	Other	

3.3. Student workload

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)***
5. Attending classes and exercises	45
6. Preparation for the Colloquium / exam through self-study	45

4. GRADING SYSTEM

4.1. Grading seminar papers

-

4.2. Grading colloquia/ written and oral exam

Unsatisfactory	**Satisfactory**	**Above average**
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

	70-75% of attendance	76-86% of attendance	87-100% of attendance	Maximum points

	Active course attendance	3 points	7 points	20 points	20 points
	Seminar paper				
	Colloquia/ Written exam	2	3	4	5
		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

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)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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 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	X
5.2. . Additional literature (at the moment of changes and/or amended of study programme)	Tamara Polić: „The English Langzage I and II, English Textbook of Road and Rail Transport and Postal Services with Grammar and Exercises for 1st Year Students“, Department for Traffic, Polytechnic of Rijeka, 2007. Adrian Pilbeam, Nina O`Driscoll: "Logistics Management", Market Leader, Pearson Longman, 2010 A.J. Thomson, A. V. Martinet: "A practical English Grammar", Oxford University A.J. Thomson, A.V. Martinet: "A Practical English Grammar Exercises", Oxford University	10	X (e-learning, handouts)

	A.J. Thomson, A.V. Martinat: "A Practical English Grammar exercises II", Oxford University		
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	The control of students' work quality and the acquisition of necessary knowledge and skills will be ensured 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).		

Graphic communications

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**GRAPHIC COMMUNICATIONS**	1.8. Course code in ISVU	201132 / 202070
1.2. Course lecturer	**Luka Olivari, master of mech., senior lecturer**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 30 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, 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	1st	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	The aim of the course is to provide students with theoretical knowledge, acquired skills and practical examples to: Gain the knowledge and skills necessary to read, understand and produce technical drawings, use and understand the standards of drawing in technical drawings, orthogonal projections, spatial rendering and cross sections, they use computers (the Auto-CAD computer program) when creating technical documentation.		
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	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: To solve problems in traffic by using analytical and / or graphical method.		
	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)		*3- application,* *4- analysis,* *5- evaluation,* *6- synthesis.*
	1. Differentiate concepts in graphical communication.	4
	2. Select the view that best depicts the object and draw orthogonal projections based on the given isometric view.	5, 5
	3. Design an isometric representation of the body based on the given orthogonal projections.	5
	4. Distinguish the rules of technical presentation and apply them to the technical drawing.	5, 5
	5. Draw a technical drawing in the AutoCAD computer program.	5

2.5. Course content according to detailed curriculum schedule	**Constructive 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). The importance of graphical communications. Short history and development of graphic communications	1	Listen to a lecture. By working independently on a computer, they become acquainted with the course content, obligations, literature and documents on the e-learning course page.	At the colloquium or the written and oral exam they define and explain the basic concepts.	**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.	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.	**4 h**
	3.	Fundamentals of geometric structures.	1, 2, 4	Listen to a lecture and read literature. The exercises demonstrate the rules of technical presentation. Independent exercise.	At the colloquium 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	**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 orthogonal projections; distinguish	**4 h**

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

					technical drawing; draw a technical drawing in an AutoCAD computer program.	
	14.	AutoCAD, self-made workshop drawing.	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**
	15.	Review, recapitulation, and preparation for the exam.	-	Listen to a lecture and read literature. They prepare individually for the exam.	-	**4 h**

3. EVALUATION OF STUDENT WORK

3.1. Student obligations

In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Full-time students are required to attend classes at least 70%, which is also a requirement for obtaining the lecturer`s signature. Students are required to bring equipment necessary for solving tasks and participating in lectures and exercises. Students who achieve the following during the course: from 0 to 49.9% of ECTS are graded fail and must take and pass a written exam (test), more than 50% - students earn the right to take the final exam for the course. Students can pass the final exam for the course in two ways: a) during the course by passing two colloquiums and the oral part of the exam; b) by passing the written and oral parts of the exam.

3.2. Student work monitoring (enter the share of ECTS credits for each activity so that the total number of ECTS credits corresponds to the course credit value)

Attending classes	2	Written exam	2 (without colloquiums)	Project	
Experimental work		Research		Practical work	
Essay		Report		Continuous check	
Colloquiums	2 (without written exam)	Seminar paper		Field works or Study trips	
Teaching activities		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 is estimated as:

Obligation	***Hours (estimated)***
7. Attending classes	60

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

4. GRADING SYSTEM

	Elements of evaluation	**Bad**	**Satisfying**	**Above average**
4.1. Evaluation of written exam	Technical drawing	Drawing incomplete, imprecise and sloppy. Made on inadequate paper size.	Drawing neatly crafted with a small number of imprecise errors, a clear distinction between types of lines.	Drawing very neatly made without errors.
	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 most of the rules of the technical view, correctly applies the basic, and with minor mistakes, the other elements of the technical view.	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.	Knows basic and some advanced commands in a computer program, uses them with minor errors. He is able to create a technical drawing in a computer program with a little help and suggestions.	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 reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supports them with examples. Knows the expert terminology.	Knowledge is at the level of analysis, synthesis and evaluation. Observes the principles of physical laws, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts and supports them with examples. Finds solutions that were not originally given. It notes correlations with related material. Fluent in professional terminology.

4.3. Forming the final grade according to the evaluation elements					
	Colloquiums/ Written exam	2	3	4	5
		10-12 points	13-15 points	16-17 points	18-20 points
	Colloquiums/ AutoCAD	2	3	4	5
		10-12 points	13-15 points	16-17 points	18-20 points
	The oral part of exem	2	3	4	5
		10-12 points	13-15 points	16-17 points	18-20 points

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)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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 via other media)	Koludrović, Ć.: Technical drawing in the image with computer applications, Rijeka, 2009. George O.: Basics of AutoCAD software 2008, MIŠ d.o.o. Zagreb, 2007.	-	City library City library
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Teaching materials from the lectures and exercises on the e-learning system of the Šibenik University of Applied Sciences for the course. Opalić, M., Kljajin, M., Sebastijanović, S.: Technical drawing, Zrinski d.d., Čakovec/Slavonski Brod, 2007. Klem N., Koški Ž., Otković I.: Technical drawing and CAD, Faculty of civil engineering, University of Osijek, Osijek 2006. Galeta T., Glazina V., Kljajin M.: AutoCAD Fundamentals of Technical Drawing, Faculty of mechanical engineering, University of Osijek, Slavonski brod, 2005.	-	on-line (e-learning) - - - On-line On-line

	Herold Z .: Computer and Engineering Graphics, Faculty of mechanical and naval engineering, University of Zagreb, Zagreb 2003. Budimir D .: Exercises from AutoCAD, Faculty of transport and traffic sciences, University of Zagreb, Zagreb 2010.		
5.3. Quality assurance methods 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).		

Theory of vehicle movement

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**THEORY OF VEHICLE MOVEMENT**	1.8. Course code in ISVU	142538 / 202104
1.2. Course lecturer	**Luka Olivari, master of mech., senior lecturer**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 15 + 0 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	7.
1.6. Year of study	2nd	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □
2. COURSE DESCRIPTION			
2.1. Course objectives	The aim of the course is to provide students with theoretical knowledge and practical examples to acquire the knowledge necessary to successfully solve the vehicle dynamics problems.		
2.2. Terms of course entry and required competences	Four-year secondary education completed; qualification level 4.2 according to the CROQF		
2.3. Learning outcomes on the study programme level	LO1: To apply and link professional terms from technology and organization of road traffic in written and oral communication with the professional public in Croatian and English.		
	LO2: To organize and implement team work, and critically judge the opinions and attitudes of team members.		
	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: To solve problems in traffic by using analytical and / or graphical methods.	
	LO13: To track trends in the development of technique, technology and safety in traffic.	
2.4. Expected learning outcomes on the course level (4-10 learning outcomes)	**Learning outcomes** by Bloom: (maximum 2 werbs for LO)	**Level of LO**: *1- memory,* *2- understanding,* *3- application,* *4- analysis,* *5- evaluation,* *6- synthesis.*
	1. Differentiate concepts in vehicle dynamics.	5
	2. Distinguish the drive engines, concepts and elements of transmission of road vehicles.	5
	3. Formulate the final equation of motion of the vehicle based on the traction forces and the resistance of the movement of the vehicle.	6
	4. Evaluate the fuel economy of a road vehicle.	5
	5. Analyze the properties and performance of the road vehicle under different operating conditions.	5
	6. Perform vehicle dynamics calculation for a road vehicle	6

2.5. Course content according to detailed curriculum schedule

Constructive 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). Area of study of vehicle motion theory. Exploitation of vehicle technical characteristics.	1	Listen to a lecture and read literature. The exercises demonstrate how to solve tasks. Independent task solving. Individual preparation for colloquiums.	At the colloquium or the written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	**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 written and oral exam, students: differentiate concepts from statics; solve numerical problems from the specified unit.	**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 STUDENT WORK

3.1. Student obligations

In accordance with the Rulebook on Study and the Rulebook on Assessment and Evaluation of Student Performance: Full-time students are required to attend classes at least 70%, which is also a requirement for obtaining the lecturer`s signature. All students must submit seminar paper (vehicle dynamics calculation), which is also a requirement for obtaining the lecturer`s signature. Students are required to bring a calculator and other equipment necessary for solving tasks and participating in lectures and exercises. Students who achieve the following during the course: from 0 to 49.9% of ECTS are graded F (fail) and must take and pass a written exam (test), more than 50% students earn the right to take the final exam for the course. Students can pass the final exam for the course in two ways: a) during the course by passing two colloquiums and the oral part of the exam; b) by passing the written and oral parts of the exam.

3.2. Student work monitoring (enter the share of ECTS credits for each activity so that the total number of ECTS credits corresponds to the course credit value)

Attending classes	2	Written exam	1 (without colloquiums)	Project	
Experimental work		Research		Practical work	
Essay		Report		Continuous check	
Colloquiums	1 (without written exam)	Seminar paper	0,5	Field works or Study trips	
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:

Obligation	***Hours (estimated)***
11. Attending classes	60
12. Creating and Presenting seminar paper	15
13. Preparation for the Colloquium / exam through self-study	30
14. Oral exam individual preparation	15

4. GRADING SYSTEM

4.1. Evaluation of written exam

Elements of evaluation	**Bad**	**Satisfying**	**Above average**
Physical quantities and their units of measurement	Nonstandard physical units have not been converted to basic or have been converted wrong.	Nonstandard units have been converted to basic units with minor errors in calculation.	Nonstandard units have been converted to base units without error.

	Structure, traceability, legibility and orderliness of the procedure, diagrams and sketches	The task is not properly structured, it is not traceable, and it is not readable. Diagrams and sketches are non-existent, inaccurate, messy, unclear and ambiguous.	The task is satisfactorily structured, traceable and readable. The diagrams and sketches are meaningful, neat with minor errors.	The task is clearly structured, complete, very neat and legible. The diagrams are completely accurate, clear and very neat.
	Application of appropriate equation (formulas) and the final result.	Uses expressions that do not describe the problem specified, or incorrectly expresses the physical unit from the expression. Numeric values are not included in the expression. The end result is incorrect.	Uses expressions that describe the problem in question, accurately derives physical quantities from the expression, incorporates numerical values into the expression with smaller numbers, the final result has smaller deviations from the exact result.	Uses expressions that describe the problem in question, accurately derives physical quantities from expressions, lists units of measure without errors, the final result is completely accurate.
4.2. Evaluation of oral exam	Knowledge and expression.	It responds by memory, without a deeper understanding. Does not know or apply basic terms and concepts. Does not know how to apply or explain the contents of the course with examples.	It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts supports them with examples. Knows the expert terminology.	Knowledge is at the level of analysis, synthesis and evaluation. Observes the principles of physical laws, accurately and thoroughly explains the content of the material, and logically connects and explains the terms and concepts and supports them with examples. Finds solutions that were not originally given. It notes correlations with related material. Fluent in professional terminology.
4.3. Forming the final grade according to the evaluation elements				
	Colloquiums/ Written exam	2	3	4	5
		50-64,9%	65-79,9%	80-89,9%	90-100%
		50-64,9 points	65-79,9 points	80-89,9 points	90-100 points
	The oral part of exem	2	3	4	5
		50-64,9 points	65-79,9 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)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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 via other media)	Olivari L.: Theory of vehicle movement: a collection of tasks and instructions for drawing up a traction calculation, Polytechnic in Šibenik, Šibenik, 2023.	-	On-line (e-learning)
	Mikulić, D.: Motor vehicles: Theory of movement and construction (III edition), Polytechnic of Velika Gorica, Velika Gorica, 2020 (selected chapters)	5	On-line (e-learning)
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Lectures and exercises of the course Technical Mechanics.	-	On-line (e-learning)
	Perše, S., Višnjić, V.: Mechanical engineering in traffic, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2005. (selected chapters)	5	-
	Cerovac V.: Technique and safety of road traffic, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2001. (selected chapters)	5	-
	Vrhovski D., Nikšić M.: Basics of mechanical engineering - a collection of solved tasks, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2000. (selected chapters)	10	-
5.3. Quality assurance methods 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).

Traffic in tourism

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

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

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,* *6- synthesis.*
	1. define and explain the basic concepts in transport and tourism.	1, 2
	2. to analyze and compare the transport sectors in the tourism industry.	4, 2
	3. choose the form of tourist transport as part of a tourism product.	5
	4. use materials and tools to search scientific and professional literature in their native and English languages.	3
	5. present the acquired knowledge, ideas and solutions independently and in a team.	6

	Constructive allignement					
	no	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**Time needed**
2.5. Course content according to detailed curriculum schedule	91.	Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer at the seminar teaching, they are introduced to the course content and documents on the e-learning page of the course.	-	**2 h**
		Theoretical basis of traffic	1, 6	They listen to a lecture and read literature.	At the midterm or the written and oral exam they define the traffic system and state the division of traffic. Define traffic product and cite and explain the elements of production of transport products.	**1 h**
	92.	Interdependence of transport and tourism.	1	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper	At the colloquium or the written and oral exam, they can enumerate and explain ways of influencing tourism on traffic and explaining the impact of traffic on tourism. Explain the limiting impact of transport on	**6 h**

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

				brainstorming method and the discussion method on the topic are applied.	Seminar paper created and presented (using computer programs independently).	
	96.	Field teaching - travel agency Pražen putovanja d.o.o.	3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can explain the excursions and multi-day bus trips, explain the rental of road vehicles in the tourist destination and give an example of panoramic and shuttle transportation. Seminar paper created and presented (using computer programs independently).	**5 h**
	97.	Guest lecture in English: Tourism and Railways (Basic knowledge), Glacier Express - the slowest express Train in the World, the Trans-Siberian Railway (Russian tourism offer).	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can describe the first rail trip in the World. Give an example of rail transport as part of a tourism product and describe it. Define high-speed rail and give examples. Seminar paper created and presented (using computer programs independently).	**9 h**
	98.	The repetition and preparation for the colloquium. Colloquium I.	1, 2, 3, 4, 5	They listen to a lecture and read literature. They prepare individually for the colloquium.	-	**12 h**
	99.	Field teaching - Airport Zadar/Split	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can explain regular and charter air traffic. Explain the features of low-cost companies. Give examples of low cost airlines. Explain pick-up and departure technology for airport passengers. Give an example of air traffic services to tourists with special requirements.	**3 h**

	100.	Field teaching - Dogus Marine in Šibenik (Mandalina)	1, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can explain the purpose of marinas and rent a boat. Seminar paper created and presented (using computer programs independently).	**5 h**
	101.	Logistics in tourism	1, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can enumerate the elements of the logistics system and distinguish between the logistics models. Comment on the role of logistics processes in supplying a tourist destination. Seminar paper created and presented (using computer programs independently).	**6 h**
	102.	Economics of Exploitation of Traffic Vehicles and Traffic Infrastructure.	1, 2, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can state the determinants of the quality of the transport service in tourism. Define the fare and explain the specificities of costs and fares in individual traffic branches. Seminar paper created and presented (using computer programs independently).	**5 h**
	103.	Economics of Exploitation of Traffic Vehicles and Traffic Infrastructure.	1, 2, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the	At the colloquium or the written and oral exam they can define and list the types of oscillations. Explain measures to mitigate the effects of oscillations. Seminar paper created and presented (using computer programs independently).	**5 h**

				brainstorming method and the discussion method on the topic are applied.		
	104.	Parking in tourist destinations. Colloquium II.	1, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and the literature read, create a seminar paper that presents the acquired knowledge. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or written and oral exam knows define basic terms of parking and differentiate ways of parking in tourist destinations.	**3 h**
	105.	Concluding considerations. Repeating and preparing for the exam.	-	They listen to a lecture and prepare individually for the exam.	-	**17 h**

3. EVALUATION OF STUDENT WORK

3.1. Students` obligations	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course:from 0 - 24.9% of ECTS credits - they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% - are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and preparation of a mental map and case study, preparation and presentation of seminar work and two colloquium); b) during class (active participation in class and preparation of a mental map and case study, preparation and presentation of seminar work) and passing exams (written and oral part of the exam).					
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Attendance		Written exam	1,5 (without colloquia)	Project	
	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	
	Colloquium	1,5 (without written exam)	Seminar paper	0,5	Other	
	Class activity	0,5	Oral exam	0,5	Other	

3.3. Student workload	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)***
15. Attending classes	45
16. Creating and Presenting seminar paper	10
17. Preparation for the Colloquium / exam through self-study	35

4. FORMATION OF GRADES

4.1. Evaluation of a of seminar work

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

<table>
<tr><td>4.2. Grading of the colloguium / written and oral exam</td><td colspan="5"><table>
<tr><th>Bad</th><th>Satisfying</th><th>Above average</th></tr>
<tr><td>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.</td><td>It reproduces the basic concepts and without difficulty imparts new knowledge, understands the material, explains the terms and concepts that it supports with examples.</td><td>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.</td></tr>
</table></td></tr>
<tr><td rowspan="9">4.3. Forming the final grade according to the evaluation elements</td><td rowspan="2">Active attendance</td><td>70-75% of the presence</td><td>76-86% of the presence</td><td>87-100% of the presence</td><td>Case studies resolved</td></tr>
<tr><td>2 points</td><td>4 points</td><td>7 points</td><td>10 points</td></tr>
<tr><td rowspan="2">Seminar paper</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>5 points</td><td>7 points</td><td>8 points</td><td>10 points</td></tr>
<tr><td rowspan="3">Examination / Written examination</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>50-64,9%</td><td>65-79,9%</td><td>80-89,9%</td><td>90-100%</td></tr>
<tr><td>25 points</td><td>30 points</td><td>35 points</td><td>40 points</td></tr>
<tr><td rowspan="2">Oral part of the exam</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>25 points</td><td>30 points</td><td>35 points</td><td>40 points</td></tr>
<tr><td>4.4. Formation of final grade based on absolute distribution</td><td colspan="5"><table>
<tr><th>Percentage of adopted knowledge, skills and competences (teaching + final exam)</th><th>Numerous grade</th><th>ECTS grade</th></tr>
<tr><td>90 – 100%</td><td>5 (excellent)</td><td>A</td></tr>
<tr><td>80 – 89,9%</td><td>4 (very good)</td><td>B</td></tr>
<tr><td>65 – 79,9%</td><td>3 (good)</td><td>C</td></tr>
<tr><td>50 – 64,9%</td><td>2 (sufficient)</td><td>D</td></tr>
</table></td></tr>
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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
	Mrnjavac E.: Traffic in tourism, Faculty of tourism and hotel management, University of Rijeka, Opatija, 2006. (selected chapters) Maršanić R.: Parking in tourist destination, IQPLUS d.o.o., Rijeka, 2008.	5 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).		

Freight-distributional centres and terminals

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**FREIGHT-DISTRIBUTIONAL CENTRES AND TERMINALS**	1.8. Course code at ISVU	140777 / 202101
1.2. Course lecturer	**PhD Ana-Mari Poljičak, senior lecturer**	1.9. Course code at MOZVAG	-
1.3. Assistants and/or associates	-	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 30 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st- course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.
1.6. Year of study	2nd	1.13. Modernization	**X** yes ☐ no
1.7. Credit point (ECTS)	5	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % ☐

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

	LO6: Analyze and interpret relevant road transport facts needed to reach conclusions.	
	LO10: Compare and select technical and technological solutions for traffic and / or goods flows.	
2.4. Expected learning outcomes on the course level	**Learning outcomes** according to Bloom's taxonomy: (maximum 2 werbs for LO)	**Level of LO**: *1- memory,* *2- understanding,* *3- application,* *4- analysis,* *5- evaluation,* *6- synthesis.*
	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	106.	Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer at the seminar teaching, they are introduced to the course content and documents on the e-learning page of the course. at the seminar teaching, they are introduced to the methodology of writing seminar papers. They choose the topic of the seminar papers and the brainstorming method and the method of discussing the selected topic are applied.	-	**2 h**

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

	110.	Container terminals.	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they can define what containerization and container is, and list the advantages and disadvantages of containerization. Enumerate and describe container types. Describe container port terminals, their technological processes, types of warehouses and list loading and unloading devices. At the colloquium or written and oral exam knows enumerate the types of container ships at the colloquium or the written and oral exam. Define and describe 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**
	111.	Ro-Ro terminals.	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or written and oral exam knows define and describe Ro-Ro terminals, explained by technological processes of work on them, enumerate and describe the loading and unloading devices and describe storage. List the advantages and disadvantages of Ro-Ro technology.	**7 h**
	112.	LUF terminals. LASH terminals.	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the	At the colloquium or written and oral exam knows define and describe LUF and LASH terminals explain the technological processes of work on	**7 h**

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

	115.	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**
	116.	Terminals for the transhipment of oil and petroleum products. Terminals for transhipment of liquefied gases.	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group work on seminar teaching, the brainstorming method and the discussion method on the topic are applied.	At the colloquium or the written and oral exam they know how to define and describe the terminals for transhipment of oil and petroleum products and terminals for transhipment of liquefied gases. Explain their technological processes of work and the list of loading unloading devices. List the types of storage and explain storage. Enumerate and describe systems with buoys for cargo handling. Seminar paper created and presented (using computer programs independently).	**8 h**
	117.	Dangerous goods terminals. Terminals for the transhipment of heavy and very heavy loads. The terminals for the transhipment of wood and wood products.	1, 3, 4, 5	They listen to a lecture and read literature. At the seminar teaching, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems. In the group	At the colloquium or written and oral exam knows define and enumerate dangerous cargoes. List the systems by which the classification of the transport of dangerous goods is carried out. Describe the technological process of handling hazardous	**8 h**

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

3. EVALUATION OF STUDENT WORK

3.1. Students` obligations

In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: from 0 - 24.9% of ECTS credits - they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% - are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and development and presentation of seminar work and two colloquium); b) during class (active participation in class and development and presentation of seminar work) and passing exams (written and oral part of the exam).

3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)

Attendance		Written exam	3 (without colloquia)	Project	
Experimental work		Research		Practical work	
Essay		Report		Continuous examination	
Colloquium	3 (without written exam)	Seminar paper	0,5	Other	
Class activity	0,5	Oral exam	1 (without colloquia)	Other	

3.3. Student workload

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)***
18. Attending classes	60
19. Creating and Presenting seminar paper	20
20. Preparation for the Colloquium / exam through self-study	70

4. GRADING SYSTEM

4.1. Evaluation of a of seminar work

Element of evaluation	**Bad**	**Satisfying**	**Above average**

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

	Bad	**Satisfying**	**Above average**
4.2. Grading of the colloguium / written and oral exam	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 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 elements	Active attendance	70-75% of the presence	76-86% of the presence	87-100% of the presence	Case studies resolved
		2 points	4 points	7 points	10 points
	Seminar paper	2	3	4	5
		5 points	7 points	8 points	10 points
	Examination / Written examination	2	3	4	5
		50-64,9%	65-79,9%	80-89,9%	90-100%

		25 points	30 points	35 points	40 points
	Oral part of the exam	2	3	4	5
		25 points	30 points	35 points	40 points

4.4. Formation of final grade based on absolute distribution	Percentage of acquired knowledge, skills and competences (teaching + final exam)	Numerous grade	ECTS grade
	90 – 100%	5 (excellent)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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. Required literature (available in the library and through other media)	Poljičak, A.-M., Ljubić Hinić, M.: Freight Terminals - Authorized script, Polytechnic of Šibenik, Šibenik, 2016.		Available online
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Dundović, Č.: Freight terminals, Faculty of Maritime Studies, University of Rijeka, Rijeka, 2002. Mlinarić T. J.: Freight-distributional centres, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 2013. Dundović, Č., Kesić, B.: Technology and organization of ports, Faculty of Maritime Studies, University of Rijeka, Rijeka, 2001. Kirinčić, J.: Ports and terminals, School book, Zagreb, 1991.	3 2 3	Available online
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.		

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

Transshipment resources

1. GENERAL INFORMATION 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 (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4.
1.6. Year of study	2nd	1.13. Modernization	**X** yes □ no
1.7. Credit point (ECTS)	6	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □

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

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

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

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

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

				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.	them. Prepared and presented seminar paper (independent use of computer programs). They know how to calculate the productivity of elevators.	
	127.	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**
	128.	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**
	129.	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 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	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 sketch crane elements and identify the crane class. Prepared and presented seminar paper (independent use of computer programs).	**8 h**

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

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

3. EVALUATION OF STUDENT WORK

3.1. Students` obligations

In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: from 0 - 24.9% of ECTS credits - they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% - are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can pass the final exam in the course in two ways: a) during classes through continuous monitoring of students (active participation in classes and preparation and presentation of seminar paper and two colloquia); b) during classes (active participation in classes and preparation and presentation of seminar paper) and taking exams (written and oral part of the exam).

3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)

Attendance		Written exam	4 (without colloquia)	Project	
Experimental work		Research		Practical work	
Essay		Report		Continuous examination	
Colloquium	4 (without written exam)	Seminar paper	0,5	Other	
Class activity	0,5	Oral exam	1(without colloquia)	Other	

3.3. Student workload

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)***
21. Attending classes	75
22. Creating and Presenting seminar paper	10
23. Preparation for the Colloquium / exam through self-study	95

4. GRADING SYSTEM

4.1. Grading of seminar work

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

	Terminology, writing style	Words and expressions low in line with official terminology. The writing style is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.	Words and expressions are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.	Words and expressions are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.
	Citing and referencing references	The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.

	Bad	**Satisfying**	**Above average**
4.2. Grading of the colloguium / written and oral exam	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 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 elements	Active attendance	70-75% of the presence	76-86% of the presence	87-100% of the presence	Case studies resolved
		2 points	4 points	7 points	10 points
	Seminar paper	2	3	4	5
		5 points	7 points	8 points	10 points
	Examination / Written examination	2	3	4	5
		50-64,9%	65-79,9%	80-89,9%	90-100%
		25 points	30 points	35 points	40 points
	Oral part of the exam	2	3	4	5
		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%	5 (excellent)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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. Required literature (available in the library and through 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 Zagreb, Zagreb, 2004. (selected chapters) Bognolo, D., Kršulja, M.: Transhipment means - Collection of solved tasks, Polytechnic of Rijeka, Rijeka 2017. (selected chapters) Boris Ribarić: Examples of solved tasks in the subject of handling machinery, Faculty of transport and traffic sciences, University of Zagreb, Zagreb 1994 (selected chapters)	0 0 3 0	Available online
5.2. Supplementary literature (at the time of the submission of changes and / or additions to the study program)	Serdar J.: Transmissions and elevators, Lexicographic Institute "M. Krleža", Zagreb, 1995.	5	
5.3. Quality assurance methods 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).

Traffic and ecology

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

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

	LO4: To apply knowledge from the field of natural and technical sciences to problems in road traffic.	
	LO6: To analyze and present relevant facts from the field of traffic needed to reach conclusions.	
	LO11: To identify, predict and propose solutions in road traffic technology and technique.	
	LO13: To track trends in the development of technique, technology and safety in traffic.	
2.4. Expected learning outcomes on the course level	**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. 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
	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

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

				course content and documents on the e-learning course page.		
		Fundamental Ecological principles.	1, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam students define fundamental ecological concepts. They describe the role of ecology as a science, describe the difference between ecology and environmental protection, define the role of Darwin. They know to sketch and explain the population growth in the ecosystem relative to the environmental capacity.	**4 h**
	137.	Ecological factors.	1, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam students can name, distinguish and give an example of an ecological factor.	**4 h**
	138.	Circulation of substances in the ecosystem. The role of energy in the Ecosystem.	1, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam students can define and describe the role of macro-elements in the environment, describe macro-elements cycles and explain the role of human impact in cycles of circling. In a colloquy or written and oral exam students can describe the role of solar energy for the functioning of the ecosystem, list members of the nutrition chain, and distinguish organisms with regard to the trophy.	**4 h**
	139.	Pollution and degradation of the environment. Traffic caused Environmental Degradation.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually, in pairs or Socrates threes made mental map and solve case studies thus presenting the appropriateness of previously acquired knowledge and	In a colloquy or written and oral exam students can define what environmental degradation is and how it comes to it, give an example of environmental degradation, analyse and conclude how environmental degradation occurs and compare how traffic causes degradation	**10 h**

				presenting adopted knowledge and ideas, discuss issues.	of the environment. Created mental map. Solved case study.	
	140.	Pollution and air degradation. Anthropogenic climate change.	1, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam students can define and describe the underlying concepts of air pollution, enumerate and distinguish natural and anthropogenic sources of air pollution, predict the effects of polluted air and the consequences of phenomena such as: greenhouse effect, global warming, climate change, acid rain, ozone depletion, analyse the impact of air pollution on the atmosphere, human health, plant and animal life and material heritage. Created and Presented seminar paper (by independent use of computer programs).	**10 h**
	141.	Road motor vehicles as sources of air pollution	1, 3, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam they can define and describe types of ICE exhaust gases, give an example and interpret the impact of exhaust gas on motor vehicles on the air, human health and plant and animal life. Created and Presented seminar paper (by independent use of computer programs).	**8 h**
	142.	View of mitigation and / or rehabilitation measures. The role of catalyser and λ-probe. Alternative fuels in road traffic.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students	In a colloquy or written and oral exam they can define and describe the material, role and mode of catalyser and λ probes, enumerate and describe alternative fuels in road traffic, choose	**10 h**

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

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

					independent use of computer programs).	
	148.	Noise and vibration in road traffic.	1, 2, 3, 4, 5, 6, 7	Listen to the lecture and read the literature. Listen to the lecture and read the literature. At the seminar student individually explore the content of this topic area by searching the database and based on it and read literature students write seminar paper thus presenting the acquired knowledge and making their own ideas, and ways to solve problems. Methods of brain storm and discussion on the exposed topic is applied in the whole group.	In a colloquy or written and oral exam students can define and describe the underlying concepts of noise pollution, enumerate road noise sources, predict the effects of noise on human health and propose measures to reduce noise in and out of the vehicle. Created and Presented seminar paper (by independent use of computer programs).	**6 h**
	149.	Ecologically acceptable forms of traffic.	1, 2, 3, 5, 6, 7	Listen to the lecture and read the literature.	In a colloquy or written and oral exam they can describe and critically evaluate the most environmentally acceptable form of traffic, analyse this choice in the historical and contemporary context of traffic technology, give an example of the impact of air and rail traffic on the environment.	**6 h**
	150.	Concluding Considerations / Repeating and Preparing for Exam.		Listen to the lecture and individual preparation for the exam.	-	**20 h**
3. EVALUATION OF STUDENT WORK						
3.1. Students` obligations	In accordance with the Book of Rules and the Rulebook on Student Assessment and Evaluation: for all regular students attend at least 70% attendance. Part-time students have the obligation to attend at least 50% of lectures. All students must create, present and positively colloquy seminar paper. Students who have during the course achieved: from 0 – 24,9% ECTS credits- is rated unsuccessful and cannot get ECTS credits and must re-enrol the subject in the next academic year; from 25 – 49,9% ECTS credits - is rated inadequate and has to come out and pass the test (exam). A written exam can be held in a regular or extraordinary exam period; more than 50% ECTS credits - students have the right to access the final exam of the subject. Students can pass the final exam in two ways: a) during the course through continuous student attendance (active participation in the lessons, creating mental map, solving					

	case studies, making and presenting the seminar paper and passing two colloquia); b) during the course (active participation in the lessons, creating mental map, solving case studies, creating and presenting the seminar paper) and passing the exam (written and oral exam).					
3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)	Attendance		Written exam	2 (by submitting both colloquiums the student is relieved of an written examination)	Project	
	Experimental work		Research		Practical work	
	Essay		Report		Continuous examination	
	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)	

3.3. Student workload

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)***
24. Attending classes	45
25. Creating and Presenting seminar paper	10
26. Preparation for the Colloquium / exam through self-study	65

4. GRADING SYSTEM

4.1. Seminar paper grading

Valuation Element	**Poor**	**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.	The paper is well-structured with a clear distinction between the introduction, the main part of the text and the conclusions

				that are perfectly logically linked to one another.
	Terminology, writing style	Words and phrases are low harmonized with official terminology. Writing style is not appropriate, sentences are too long, modest vocabulary, and frequent and repeated grammatical mistakes.	Words and phrases are aligned with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and has little grammatical errors.	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.

4.2. Colloquium / exam grading	**Poor**	**Satisfying**	**Above average**
	Give answer by memory, no deeper understanding. Does not know and does not apply the basic terms and concepts. Cannot apply or explain the contents of the course.	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.

4.3. Creating a final grade according to evaluation elements					
	Active participation in the lessons	70-75% of attendance	76-86% of attendance	87-100% of attendance	Created mental map. Solved case study.
		2 points	4 points	7 points	3 points
	Seminar paper	2	3	4	5
		5 points	7 points	8 points	10 points
	Colloquium / written exam	2	3	4	5
		50-64,9%	65-79,9%	80-89,9%	90-100%
		25 points	30 points	35 points	40 points

	Oral exam	2	3	5	5
		25 points	30 points	35 points	40 points

4.4. Creating a final grade according to absolute allocation	Percentage of adopted knowledge, skills and competences (teaching + final exam)	Numerous grade	ECTS grade
	90 – 100%	5 (excellent)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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)	European Parliament and Council of the European Union: "White Paper - A Single European Transport Space Platoon - A Road to a Comprehensive Transport System Resourcefully Managing Resources", COM (2011) 144 final, 2011.		Available On-line
	Golubić, J.: Traffic and environment, Faculty of transport and traffic sciences, University of Zagreb, Zagreb, 1999.	5	
	Radić Lakoš, T. Environmental management in Tourism, Polytechnic in Šibenik, Šibenik, 2022. (selected chapters)		Available On-line
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Radić Lakoš, T.: Environmental management, Polytechnic of Šibenik, Šibenik, 2018. (selected chapters)		Available On-line
	Glavač, V.: Introduction to global ecology, Croatia University Edition, Zagreb, 2001.	5	
	Udovičić, B.: Human and environmental, Kigen, Zagreb, 2009.	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. information on the course and contact with the teacher	It is obligatory for every student to regularly inform about the course, teaching and teaching activities. All information about teaching or any delay in teaching will be published on the e-learning pages of the course and on the web pages of the Šibenik University. Students can contact the teachers during the consultation term (at least one hour per week), while brief questions and explanations can be addressed during classes. It is possible to ask questions by e-mail (from the official e-mail address from the domain @ vus.hr) that will be answered in a short time (no later than five working days from the receipt of e-mail).

Traffic corridors and merchandise flows

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**TRAFFIC CORRIDORS AND MERCHANDISE FLOWS**	1.8. Course code in ISVU	140771 / 202099
1.2. Course lecturer	**Darijo Šego, univ. spec. traff., senior lecturer**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	**PhD Luka Vukić, assistant college professor**	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 30 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4
1.6. Year of study	2nd	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □

2. COURSE DESCRIPTION	
2.1. Course objectives	The goal is that students on the basis of theoretical knowledge and case studies: become familiar with the creation and development of all transport modes, analyze and comment of commodity exchange (trade) in the World and Croatia, distinguish the main transport corridors in Europe and Croatia.
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.
	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 traffic needed to reach conclusions.
	LO10: To compare and choose technical and technological solutions in traffic and/or goods flows.
	LO12: To set up a minor traffic process and critically evaluate it.

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,* *6- synthesis.*
	1. Present and comment on the historical development of the traffic branches.	6, 3
	2. List and explain the main factors for the creation and development of commodity flows.	1, 2
	3. Analyze and evaluate world trade in goods.	4, 5
	4. Present and comment on the traffic connection of the Republic of Croatia.	6, 4
	5. List and compare major transport corridors in Europe 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.	4
	7. Use materials and tools to search scientific and professional literature in native and English languages.	3
	8. Present the acquired knowledge, ideas, problems, and solutions independently and in a team.	6

2.5. Course content according to detailed curriculum schedule	**Constructive allignement**					
	No	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**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.	-	**2 h**
	2.	Geo-traffic factors of formation and location of commodity flows (General geo-traffic factors, natural predispositions, socio-economic factors)	2, 7, 8	They listen to a lecture and read literature. At the seminar class, they individually explore the content of this topic area by searching the database, and on the basis of it and reading the literature, create a seminar paper that presents the acquired	At the colloquium or the written and oral exam students know how to define, numerate and distinguish the main factors for the formation and development of commodity flows (general, natural and socio-	**6 h**

				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 presents their own ideas, and ways to solve problems.	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. Seminar paper created and presented (by computer programs).	**6 h**

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

				knowledge and presents their own ideas, and ways to solve problems.	Croatia in the road, rail, air, pipeline and inland waterway transport. Seminar paper created and presented (by computer programs).	
	10.	Merchandise and traffic flows in the modern world (Concept and characteristics of traffic flow, commodity flows of food, raw materials, and industrial products)	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 define the concept of goods traffic. Categorize, analyze and evaluate the world trade of food, raw materials, and industrial products. List the countries with the largest importers and exporters of all types of goods. Seminar paper created and presented (by computer programs).	**6 h**
	11.	Merchandise and traffic flows in the modern world (Concept and characteristics of traffic flow, commodity flows of food, raw materials, and industrial products)	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 define the concept of goods traffic. Categorize, analyze and evaluate the world trade of food, raw materials, and industrial products. List the countries with the largest importers and exporters of all types of goods. Seminar paper created and presented (by computer programs).	**6 h**
	12.	Merchandise and traffic flows of the Republic of Croatia (import and export of products, merchandise and traffic flows of the Republic of Croatia in land, water, and air)	3, 4, 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 analyze and evaluate the trade of products in the Republic of Croatia. List the products that the Republic of Croatia imports/exports the most. Present, critically evaluate and comment on the traffic connection of the Republic of Croatia in all branches of traffic. Seminar paper	**6 h**

					created and presented (by computer programs).	
	13.	Marco Polo Program (program objective, program activities, program projects)	6, 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 the written and oral exam, students can define the goal and strategy of the Marco Polo program. Distinguish activities Marco Polo. Critically evaluate the professional video films program. Seminar paper created and presented (by computer programs).	**4 h**
	14.	European Union White Paper on Transport (White Paper titles, key content areas, preparing the European transport area for the future, visions for developing a competitive and sustainable transport system, strategy - what needs to be done)	6, 7, 8	They listen to a 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 define objective and strategy of the current EU White Paper on transport. Comment on EU professional projects in the field of transport. Seminar paper created and presented (by computer programs).	**6 h**
	15.	Final considerations/Repeating and preparing for the exam.	-	They listen to a course lecture and prepare individuals for the exam.	-	**40 h**

3. EVALUATION OF STUDENT WORK						
3.1. Student obligations	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar papers. Students who have achieved during the course: from 0 - 24,9% ECTS credits are rated unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (written and oral part of the exam).					
3.2. Student work monitoring (enter the share of ECTS credits for each activity so that the total	Attending classes	1	Written exam	1 (without colloqiums)	Project	
	Experimental work		Research		Practical work	

number of ECTS credits corresponds to the course credit value)	Esaay		Report		Continuous check	
	Colloquiums	1 (without written part of exam)	Seminar paper	0,5	(other)	
	Teaching activities	1	The oral part of exam	0,5	(other)	

3.3. Student work-load

The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:

Obligation	***Hours (estimate)***
27. Attending classes	30
28. Creating and Presenting seminar paper	30
29. 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 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 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 are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.	Words and expressions are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.
Citing and referencing references	The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.

4.2. Gradeing of the colloquium/written and oral exam	**Bad**		**Satisfying**		**Above average**
	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 elements	Active attendance on class	70-75% attendance	76-86% attendance	87-100% attendance	Mental map created, Case studies resolved
		2 points	4 points	7 points	3 points
	Seminar paper	2	3	4	5
		5 points	7 points	8 points	10 points
	Colloquiums/ Written part of exam	2	3	4	5
		50 - 64,9%	65 - 79,9%	80 - 89,9%	90 - 100%
		25 points	30 points	35 points	40 points
	Oral part of exam	2	3	5	5
		25 points	30 points	35 points	40 points
4.4. Formation of the final grade based on the absolute distribution	Percentage of acquired knowledge, skills and competencies (teaching + final exam)		Numerical grade		ECTS grade
	90 – 100%		5 (excellent)		A
	80 – 89,9%		4 (very good)		B
	65 – 79,9%		3 (good)		C
	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**	**Number of copies in the library**	**Availability via other media**
	Šego Darijo: Traffic corridors and merchandise flows, Script for internal use, Polytechnic of Sibenik, Šibenik 2016.	-	e-learning system
	Strategy for Transport Development of the Republic of Croatia for the Period 2014-2030. (selected chapters)	-	Internet website
	World trade organization http://www.wto.org/ (selected chapters)		Internet website
	Transport in EU http://ec.europa.eu/transport/index_en.htm(selected chapters)		Internet website
	Central Bureau of Statistics of the Republic of Croatia https://www.dzs.hr/		Internet website
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Teaching materials from lectures and seminars on the e-Learning system of the Sibenik University of Applied Sciences for the mentioned course.	-	e-learning system
	International trade statistics https://www.trademap.org/Index.aspx		Internet website
	UN agency for food http://www.fao.org/home/en/		Internet website
5.3. Quality assurance methods 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).		

Modern traffic systems

1. GENERAL INFORMATION ABOUT THE COURSE			
1.1. Course title	**MODERN TRAFFIC SYSTEMS**	1.8. Course code at ISVU	270665 / 270666
1.2. Course lecturer	**Darijo Šego, univ. spec. traff., senior lecturer**	1.9. Course code at MOZVAG	-
1.3. Assistants and/or associates	**PhD Ana-Mari Poljičak, senior lecturer**	1.10. Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 30 + 0)
1.4. Study program (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	3.
1.6. Year of study	1st	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.	
2.4. Expected learning outcomes on the course level	**Learning outcomes according to Bloom's taxonomy:**	***Level of LO:*** *1- remembering,* *2- understanding,* *3- application,* *4- analysis,* *5- evaluation,* *6- synthesis*
	1. to enumerate and explain the elements and branches of the transport system.	1, 2
	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

	Constructive alignment					
	no	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**Time needed**
2.5. Course content according to detailed curriculum schedule	**151.**	Introduction into the course and detailed plan.	-	They listen to a lecture. During the individual work on the computer, they are introduced to the course content and documents on the e-learning page of the course.	-	**2 h**
		Definition of traffic. Historical development of traffic branches.	1, 2, 4	Listen to lectures and read literature.	In colloquium or the written and oral exam they define the system and elements of the transport system and explain the interdisciplinary nature of the transport system, and state the historical	**4 h**

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

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

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

<table>
<tr><td>3.1. Students` obligations</td><td colspan="6">In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students' attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar paper. Students who have achieved during the course: from 0 - 24.9% of ECTS they are rated unsuccessful and cannot earn ECTS credits and must re-enroll in the next academic year; from 25-49.9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in regular or extraordinary exam period; more than 50% students have the right to take the final exam. Writing a seminar paper is a prerequisite for obtaining a signature. Students can take the final exam in the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and two exams); b) during class (active participation in class and passing exams (written and oral part of the exam).</td></tr>
<tr><td rowspan="5">3.2. Monitoring student work (enter the share of ECTS credits for each activity so that the total number of ECTS points corresponds to the credit score of the course)</td><td>Attendance</td><td>1</td><td>Written exam</td><td>1 (without colloquia)</td><td>Project</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Research</td><td></td><td>Practical work</td><td></td></tr>
<tr><td>Essay</td><td></td><td>Report</td><td></td><td>Continuous examination</td><td>1</td></tr>
<tr><td>Colloquium</td><td>1 (without written exam)</td><td>Seminar paper</td><td>0,5</td><td>Other</td><td></td></tr>
<tr><td>Class activity</td><td>0,5</td><td>Oral exam</td><td>1</td><td>Other</td><td></td></tr>
<tr><td>3.3. Student workload</td><td colspan="6">The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:
<table>
<tr><th>Obligation</th><th>Hours (estimate)</th></tr>
<tr><td>30. Attending classes</td><td>30</td></tr>
<tr><td>31. Creating and Presenting seminar paper</td><td>30</td></tr>
<tr><td>32. Preparation for the Colloquium / exam through self-study</td><td>120</td></tr>
</table></td></tr>
<tr><td colspan="7">4. GRADING SYSTEM</td></tr>
<tr><td>4.1. Grading of seminar work</td><td colspan="6">
<table>
<tr><th>Element of evaluation</th><th>Bad</th><th>Satisfying</th><th>Above average</th></tr>
<tr><td>Organization</td><td>The paper is not organized in a logical order and lacks structure.</td><td>The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.</td><td>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.</td></tr>
<tr><td>Terminology, writing style</td><td>Words and expressions low in line with official terminology. The writing style</td><td>Words and expressions are in line with official terminology. The writing style</td><td>Words and expressions are aligned with official terminology and show an</td></tr>
</table></td></tr>
</table>

		is not appropriate, the sentences are too long, of a modest vocabulary and with frequent and repeated grammatical errors.	is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.	understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.
	Citing and referencing references	The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.

4.2. Grading of the colloquium / written and oral exam	**Bad**	**Satisfying**	**Above average**
	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 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 elements					
	Active attendance	70-75% of the presence	76-86% of the presence	87-100% of the presence	Case studies resolved
		0 points	0 points	0 points	0 points
	Seminar paper	2	3	4	5
		Made and handed over	Made and handed over	Made and handed over	Made and handed over
	Examination / Written examination	2	3	4	5
		50-64%	65-80%	81-90%	91-100%
		25-32 points	33-40 points	41-45 points	46-50 points
	Oral part of the exam	2	3	5	5
		25-32 points	33-40 points	41-45 points	46-50 points

4.4. Formation of final grade based on absolute distribution	Percentage of acquired knowledge, skills and competences (teaching + final exam)	Numerical grade	ECTS grade
	90 – 100%	5 (excellent)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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. 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 0 0	No No Yes
5.3. Quality assurance methods that ensure the acquisition of knowledge, skills and competences	Quality control of students' work and the acquisition of necessary knowledge and skills will be ensured through interactive work. Keeping records of students' attendance and activity in the classroom and information obtained about student progress through the midterm will provide the information needed for further guidance to students in order to increase their work efficiency. Students will be instructed in their rights and obligations as well as working methods and required literature. Quality assurance system indicators: Student survey, monitoring of CES annual data on annual employment status of students, employer survey and Alumni Association.		
5.4. Informing about the course and contacting the teacher	It is the responsibility of each student to be regularly informed about the course, the coursework, and the classroom activities. All notices of classes or possible adjournment will be published in a timely manner on the e-learning site of the course and on the website of the Šibenik University. Students can contact teachers during the consultation period (at least one hour per week), while for short questions and explanations they can be contacted during class. It is also possible to ask questions by e-mail (from the official e-mail address at @ vus.hr), which will be answered as soon as possible (no later than five working days after receiving the e-mail).		

Traffic logistic

1. GENERAL INFORMATION ABOUT THE COURSE			
1.3. Course title	**TRAFFIC LOGISTIC**	1.8. Course code in ISVU	140773 / 202084
1.4. Course lecturer	**Darijo Šego, univ. spec. traff., senior lecturer**	1.9. Course code in MOZVAG	-
1.3. Assistants and/or associates	-	Forms of teaching (number of hours Lecturing + Practical exercises + Seminars + e-learning)	(30 + 0 + 30 + 0)
1.4. Study programme (professional undergraduate, and professional graduate)	Professional undergraduate study of Traffic	1.11. Level of e- learning application (1st, 2nd, 3rd level), percentage of on line course performance (max. 20%)	1st, course materials are on-line, 0%
1.5. Course status (obligatory, optional)	Obligatory	1.12. Number of course revisions	4
1.6. Year of study	1st	1.13. Modernization	**X** yes □ no
1.7. Credit score (ECTS)	4	1.14. Percentage estimate of course changes and/or supplements	Less than 20% **X** More than 20 % □
2. COURSE DESCRIPTION			
2.1. Course objectives	The goal is to get students on the basis of theoretical knowledge and case studies: learn about the elements of the logistics system, identify and overcome logistical processes and activities that are related to storage, transportation, and traffic, mastering the modern logistics concepts and strategies.		
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.		
	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.		
	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.		
	LO7: To apply computer tools for analysis and comparison 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.		

	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.	
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,* *6- synthesis.*
	1. Define and differentiate basic terms and division in logistics, warehousing, and freight forwarding.	1, 2
	2. Analyze and extract information and communication technologies in transport logistics.	4, 2
	3. Select, evaluate and categorize services in the warehouse business.	3, 5
	4. Choose the appropriate packaging and analyze the optimal shipment on the pallet and means of transport.	5, 4
	5. Compare and connect ways of transportation of products, organization of distribution and performance of city logistics.	4, 6
	6. Propose ways of doing urban logistics, handling of products and reduction of inventory costs.	6
	7. Use materials and tools to search the scientific and professional literature in their native and English languages.	3
	8. Present the acquired knowledge, ideas, problems, and solutions independently and in a team.	6

2.5. Course content according to detailed curriculum schedule	**Constructive allignement**					
	No	**Thematic unit**	**LO of the course**	**Content/teaching methods**	**Evaluation**	**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.	-	**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	At the colloquium or the written and oral exam, students know how to	**4 h**

		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.	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.	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.	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 database, and on the basis of it and reading	At the colloquium or the written and oral exam, students can distinguish, describe and present the warehouse equipment. Choose adequate racks and forklifts for the storage of	**4 h**

				the literature, create a seminar paper that presents the acquired knowledge and presents their own ideas, and ways to solve problems.	products and internal transport. Seminar paper created and presented (by computer programs).	
	6.	Freight terminals and Freight-transportation centers (concept and division, development goals of Freight-transportation center, functions, services, 3PL)	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 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 basic terms of the Freight terminals 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 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 propose ways of manipulating with products (packaging, palletizing) and reducing the cost of supplies (supply chain). Define and describe Supply Chain and Just in time procurement. Identify the difference between	**4 h**

					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 nad 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 knowledge and presents their own ideas, and ways to solve problems.	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 the pallet. Seminar paper created and presented (by computer programs).	**4 h**

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

					products. Suggest ways of manipulation with the products and reducing inventory costs.	
	15.	Final considerations/Repeating and preparing for the exam.	-	They listen to a course lecture and prepare individuals for the exam.	-	**62 h**

3. EVALUATION OF STUDENT WORK

3.1. Student obligations	In accordance with the Rulebook on Study and the Rulebook on Student Assessment and Evaluation: for all full-time students attendance of at least 70%. Part-time students are required to attend a class of at least 50%. All students must create, present and positively colloquy seminar papers. Students who have achieved during the course: from 0 - 24,9% ECTS credits are rated unsuccessful and cannot earn ECTS credits, and must re-enroll in the next academic year; from 25 - 49,9% are assessed by insufficient and must pass and pass the written exam (test). Written exam (test) can be held in a regular or extraordinary exam period; more than 50% - students have the right to take the final exam. Students can take the final exam from the course in two ways: a) during the course of teaching through continuous monitoring of students (active participation in classes and through two exams); b) passing the exam (written and oral part of the exam).					
3.2. Student work monitoring (enter the share of ECTS credits for each activity so that the total number of ECTS credits corresponds to the course credit value)	Attending classes	1	Written exam	1 (without colloqiums)	Project	
	Experimental work		Research		Practical work	
	Esaay		Report		Continuous check	
	Colloquiums	1 (without written part of exam)	Seminar paper	0,5	(other)	
	Teaching activities	1	The oral part of exam	0,5	(other)	

3.3. Student work-load

The student's workload on all bases amounts to 1 ECTS point for 30 hours of work per semester and is estimated as:

Obligation	***Hours (estimate)***
33. Attending classes	30
34. Creating and Presenting seminar paper	30
35. Preparation for the Colloquium / exam through self-study	60

4. GRADING SYSTEM

4.1. Evaluation of seminar paper	**Elements of evaluation**	**Bad**	**Satisfying**	**Above average**

	Organization	The paper is not organized in a logical order and lacks structure.	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion.	The paper is well structured with a clear distinction between the introduction, the main body of the text and the conclusion, which are logically interconnected.
	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 are in line with official terminology. The writing style is appropriate, the sentence structure is clear, the vocabulary is appropriate and there are few grammatical errors.	Words and expressions are aligned with official terminology and show an understanding of their meaning. The writing style is excellent, the sentences are clear and concise, the vocabulary is rich and there are no grammatical errors.
	Citing and referencing references	The sources are not listed at all. The references do not fit the topic and show a cursory approach to exploring the topic.	The sources are listed but incomplete and with errors. The references are relevant to the topic and show a satisfactory research attitude.	The sources are accurately, completely and consistently listed. The references are appropriate, their list is "rich" and comprehensive and shows a detailed research approach.
4.2. Gradeing of the colloquium/written and oral exam	**Bad**		**Satisfying**	**Above average**
	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 elements	Active attendance on class	70-75% attendance	76-86% attendance	87-100% attendance	Mental map created, Case studies resolved
		2 points	4 points	7 points	3 points
	Seminar paper	2	3	4	5
		5 points	7 points	8 points	10 points
	Colloquiums/	2	3	4	5

	Written part of exam	50 - 64,9%	65 - 79,9%	80 - 89,9%	90 - 100%
		25 points	30 points	35 points	40 points
	Oral part of exam	2	3	5	5
		25 points	30 points	35 points	40 points

4.4. Formation of the final grade based on the absolute distribution	Percentage of acquired knowledge, skills and competencies (teaching + final exam)	Numerical grade	ECTS grade
	90 – 100%	5 (excellent)	A
	80 – 89,9%	4 (very good)	B
	65 – 79,9%	3 (good)	C
	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**	**Number of copies in the library**	**Availability via other media**
	Ivakovic C., Stankovic R., Šafran M.: Freight Forwarding and Logistics Processes, Faculty of Transport and traffic sciences, University of Zagreb, Zagreb, 2010 (selected chapters)	-	City of Sibenik library
	Mlinarić Josip T.: Freight-transport Centers, Faculty of Transport and traffic sciences, University of Zagreb, 2013 (selected chapters)	-	PDF (Internet website)
	Zelenika R.: Logistics Systems, University of Rijeka, Faculty of Economics, Rijeka, 2005 (selected chapters)	2	
	Bloomberg D.: Logistics, MATE, Zagreb School of Economics and Management, Zagreb, 2006 (selected chapters)	-	City of Sibenik library
5.2. Additional literature (at the moment of changes and/or amended of study programme)	Teaching materials from lectures and seminars on the e-Learning system of the Sibenik University of Applied Sciences for the mentioned course.		e-learning system
	Zelenika R.: Transport Systems, University of Rijeka, Faculty of Economics, Rijeka, 2001.		City of Sibenik library
	Zelenika R.: Transport and freight forwarding business, University of Rijeka, Faculty of Economics, Rijeka, 2001.		City of Sibenik library
	Logistics www.logistika.com.hr		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	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).