Sveučilište u Rijeci • University of Rijeka
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T: (051) 406-500 • F: (051) 216-671; 216-091
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3.2. Course description

Generic information		
Head of Course	mr.sc. Rikard Miculinić	
Course	Engineering graphics	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	elective	
Year of Study	1.	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	3
	Number of Hours (L+E+S)	1+2

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The students will possess the knowledge and skills required to graphically solve technical problems and

1.2. Prerequisites for Course Registration

No conditions

1.3. Expected Learning Outcomes

Students will be able to:
1. To know the ISO standards of engineering graphics and the rules of technical drawing

1.4. Course Outline

The course contains the rules and recommendations of ISO and DIN standards for the design of the technical drawing (lines, formats and scales). Orthogonal projection on two and three planes (points

1.5. Modes of Instruction	X Lectures ☐ Seminars and workshops X Exercises ☐ E-learning ☐ Field work	X Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

In addition to the required tasks, the student is required to create a complex engineering drawing.

1.8. Assessment[1] of Learning Outcomes

Course attendanc	1.5	Class participation		Seminar paper	1	Experiment	
Written exam	0.5	Oral exam		Essay		Research	
Project		Continuous Assessment	1	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

70% in class, 30% in final exam; according to “Pravilnik o studijima Sveučilišta u Rijeci” and “Pravilnik o studiranju na Pomorskom fakultetu u Rijeci” (the regulations on Studies of the University of Rijeka and

1.10. Main Reading

Bukša, A., Grafičke komunikacije – Zbirka zadataka, Pomorski fakultet Rijeka, 2001.
Thomas Reed, Engineering Drawing, ISBN:9780713678574

1.11. Recommended Reading

1. Marunić, Gordana, Elementi inženjerske grafike, Rijeka,Tehnički fakultet, 1998.
2. Bogolyubov, S., Exercises in machine drawing, Moscow, Mir Publishers, 1989.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Bukša, A., Grafičke komunikacije – Zbirka zadataka, Pomorski fakultet Rijeka, 2001.	12/51	26
Thomas Reed, Engineering Drawing, ISBN:9780713678574	2	26

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once

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3.2. Course description

Generic information			
Head of Course	Associate professor Biserka Draščić Ban, PhD.		
Course	Mathematics 1		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	obligatory		
Year of Study	first		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		6
	Number of Hours (L+E+S)		45+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main objective of the course is to provide general educational content and education about the mathematical apparatus used in other basic and elective courses during undergraduate studies and to emphasize the importance of accurately expressing and defining all the terms used in the courses during study.

1.2. Prerequisites for Course Registration

none

1.3. Expected Learning Outcomes

1. To recognize basic concepts of linear algebra, real functions of one variable and differential calculus of functions of one variable.
2. To state and correctly explain basic results from linear algebra and diffrential calculus of functions of one variable.
3. To interpret basic operations with matrices, vector and determinants, to solve the systems of linear equations, and find the limit values and derivatives of real functions of one variable.
4. To master the application of differential calculus on describing real functions.

1.4. Course Outline

Elements of the set theory. Number sets N,Z Q,R,C. Elements of Combinatorics. Binomial and polynomial formula. Sequences. Determinants. Matrices. Systems of linear algebraic equations. Vecotrs. Mapping, relation, function of one variable. Limits of functions. Derivative. Differential. Theorems of differential calculus. Application of differential calculus on describing real functions.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Taking classes regularly and doing homework assignments.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1,5	Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Assesment of Learning is done through two partial written tests during Classes and through oral final exam.

Example od written test:

1) (outcome 1, 2 I 3) Calculate the following limits: a) $\lim_{n\to\infty}\left(\frac{n^2+1}{n^2-1}\right)^{n^2+2}$ b) $\lim_{x\to 1}\ln x \ln(x-1)$

2) (outcome 1, 2 I 3) Find z: $\frac{\dot{z}+|z|-\sqrt{9}}{2}=3+\frac{9}{2}i^9$

3) (outcome 1, 2 I 3) Find $A^{-1}\cdot B$ if:

$$A=\begin{bmatrix}3 & 0 & -2\\ 0 & 4 & 5\\ -4 & 0 & 6\end{bmatrix} i\ B=2I-A$$

4) (outcome 1, 2 i 3) Find the first derivative od the function

f (x) = $\frac{2x}{x^2-2x-3}+\sqrt{6-x^2}+\ln(x+5)$

5) (outcome 4) Describe and plot the function $f(x)=\frac{1-x^2}{x^2+1}$

PITANJA NA USMENOM (outcome 2):

1) The principle of mathematical induction
2) Gaussian method
3) Continuity of function
4) Extreme values of a function of one variable

1.10. Main Reading

1. R. Dobrosavljević, Ž. Glavan, I. Kitarović, Z. Zenzerović, Matematika I, Pomorski fakultet u Rijeci, 1982., Rijeka
2. B. P. Demidovič, Zadaci i riješeni primjeri iz matematičke analize : za tehničke fakultete, Tehnička knjiga, 2003., Zagreb

1.11. Recommended Reading

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
R. Dobrosavljević, Ž. Glavan, I. Kitarović, Z. Zenzerović, Matematika I, Pomorski fakultet u Rijeci.	8	60
B. P. Demidovič, Zadaci i riješeni primjeri iz matematičke analize : za tehničke fakultete,, Tehnička knjiga, Zagreb.	8	60

1.13. Quality Assurance

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3.2. Course description

Generic information			
Head of Course	Associate professor Biserka Draščić Ban, PhD.		
Course	Mathematics 2		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	obligatory		
Year of Study	First		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		6
	Number of Hours (L+E+S)		45+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main objective of the course is to provide general educational content and education about the mathematical apparatus used in other basic and elective courses during undergraduate studies and to emphasize the importance of accurately expressing and defining all the terms used in the courses during study.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. To recognize and correctly explain basic concepts of integral calculus of real functions of one variable, series, real functions of multiple variables and differential equations.
2. To sate and correctly explain basic concepts of integral calculus of real functions of one variable, series, real functions of multiple variables and differential equations.
3. To interpret basic calculations of indefinite integrals, series, real functions of two variables, and methods for solving differential equations.
4. To master the applications of definite integrals.

1.4. Course Outline

Primitive function, table of integrals. Integration methods. Definite integral. Properties of definite integral. Newton – Leibnizova formula. Infinite integral. Series. Convergence of series with positive real members, convergence criteria. Alternating series. Power series. Differential equations, homogenous, linear, Bernoullij equation. Real functions of multiple variables. LImits of functions of multiple variables. Partial derivatives. Total differential. Schwarz theorem. Extreme values of functions of multiple variables. Conditional extreme values.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Taking classes regularly and doing homework assignments.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1,5	Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Assesment of Learning is done through two partial written tests during Classes and through oral final exam.

Example od written test:

1) (outcomes 1, 2, and 3) Calculate: a) $\int \frac{4x+2}{x^2+x+1}dx$ b) $\int_0^{\frac{\pi}{4}} (\cos^2 x - \sin^2 x)\,dx$

2) (outcomes 4) Calculate the volume of a rotational object that is generated by rotation of the surface bounded by $y = -x^2 + 2$ i and $y = x$ around the x axis in the first quadrant. Draw the object.

3) (outcomes 1, 2, and 3) Solve
$$y'(y^3+1)(1+x^2) = xy$$

4) (outcomes 1, 2, I 3) Find extreme values of the function:
$$f(x,y) = x^2+2y^2+2xy-6x-10y+50$$

Example od oral exam (outcome 2):

1. Newton-Leibnitz formula
2. Cauchy's convergence criterium
3. Ekstreme values of functions of two variables

1.10. Main Reading

1. R. Dobrosavljević, Ž. Glavan, I. Kitarović, Z. Zenzerović, Matematika II, Pomorski fakultet u Rijeci, 1993., Rijeka
2. B. P. Demidovič, Zadaci i riješeni primjeri iz matematičke analize : za tehničke fakultete, Tehnička knjiga, 2003., Zagreb

1.11. Recommended Reading

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
R. Dobrosavljević, Ž. Glavan, I. Kitarović, Z. Zenzerović, Matematika I, Pomorski fakultet u Rijeci.	8	60
B. P. Demidovič, Zadaci i riješeni primjeri iz matematičke analize : za tehničke fakultete,, Tehnička knjiga, Zagreb.	8	60

1.13. Quality Assurance

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3.2. Course description

Generic information			
Head of Course	Mirjana Borucinsky, PhD		
Course	English Language 1		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Core		
Year of Study	1	1	
EstimatedStudentWorkloadandMethodsofInstruction	ECTS coefficient of Student Workload		4
	Number of Hours(L+E+S)		15+30+0

1.GENERALCOURSEDESCRIPTION

1.1. Course Objectives

The goal of the course is to develop the students' ability for written and oral communication in English language using the basic terminology related to the technology and organization of transport and different modes of transport.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

After passing the exam, the students will be able to do the following:

1. Show the four basic language skills in English: reading, writing, listening and speaking on B1 level (independent user) according to the Common European Framework of Reference for Languages (CEF).
2. Demonstrate language knowledge and skills for performing professional work in maritime business and transport in English.
3. Express oneself and discuss about professional topics in English.
4. Describe present, past and future events.
5. Translate simple sentences dealing with vocational topics from English into Croatian, using a dictionary.

1.4. Course Outline

Professional terminology and relevant elements of grammar (tenses – past, present, future) in selected professional written and spoken texts about the following extra-linguistic topics: Theoretical characteristics of technology and organization of transport. Basics of maritime transport technology. Transport technology in inland waterways. Basics of road transport technology. Basics of railroad transport technology. Air transport technology. Combined transport technologies.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

1st midterm exam, 2nd midterm exam, final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure of assessment of learning outcomes is performed according to the University of Rijeka Regulations on the Studies and the Regulations on the Studies of the Faculty of Maritime Studies in the following way:

- 70 % of outcomes are assessed through continuous assessment in class. The 1st midterm exam assesses the outcomes 1 and 2 (35 %), while the 2nd midterm exam assesses the outcomes 4 and 5 (35 %). The students need to gain at least 50 % on each midterm exam.
- The final exam assesses 30 % of learning outcomes (1-5), whereby the student must gain at least 50 % of points to pass.

Examples of outcome assessment in relation to the set outcomes are:

1. Define the difference between: *'traffic'*, *'transport'* and *'transportation'.*
2. See and explain the advantages of combined transport technologies using professional terminology.
3. Explain the relation between the subordinate and superordinate terms (*modes of transport - air, water, land transport).*
4. Describe present, past and future events.
5. Translate simple sentences from English into Croatian, using a dictionary.

1. 10. Main Reading

1. Evans, V., Dooley, J., Buchannan, D. 2013. *Logistics*. Express Publishing.
2. Grussendorf, M. 2009. *English for Logistics*. Oxford: OUP.
3. Luzer, J.; Spinčić, A. 2001. *Gramatička vježbenica za pomorce*. Rijeka: Pomorski fakultet.
4. Skračić, T. 2016. *Fairway. Coursebook for students of Maritime English*. Split: Redak Ltd.
5. Teaching material available on the e-learning platform Merlin.
6. MarEng

1.11. Recommended Reading

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Evans, V., Dooley, J., Buchannan, D. 2013. *Logistics*. Express Publish	5	55
Grussendorf, M. 2009. *English for Logistics*. Oxford: OUP.	5	55
Luzer, J.; Spinčić, A. 2001. *Gramatička vježbenica za pomorce*. Rijeka: Pomorski fakultet.	5	55
Skračić, T. 2016. *Fairway. Coursebook for students of Maritime*	5	55

[1] **NOTE**: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

English. Split: Redak Ltd.		
Teaching material available on the e-learning platform Merlin.	-	55

1.13. Quality Assurance

The quality of the course is monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and a survey is conducted among the students once per semester.

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3.2. Course description

Generic information			
Head of Course	Associate proffesor Biserka Draščić Ban, PhD		
Course	Statistics		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Mandatory		
Year of Study	first		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		2+2

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main course objective is to teach the students how to apply statistical methods to determine the natural laws of the observed traffic phenomena.

1.2. Prerequisites for Course Registration

none

1.3. Expected Learning Outcomes

1. To recognize the meaning and the task of statistics and the phases of statistical analysis
2. To recognize and analyze different kinds of data sets and their characteristics
3. To explain the terms of random variables and probability distributions
4. To differe the theoretical probability distributions, and connect them with empirical ones
5. To describe the sampling method and, by using the estimation methods and statistical testing on a random sample, make some conclusions about the population
6. To recognize the Chi-Square Test
7. To interpret the terms of correlation and regression

1.4. Course Outline

The meaning and the task of statistics. Graphical methods in data analysis. Relative numbers. Numerical data analysis. Random variables. Theoretical distribution functions. Chi-Square Test. Sampling method. Time series analysis. Correlation and regression.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____

1.6. Comments	

1.7. Student Obligations

Taking classes regularly and doing homework assignments.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation	0,5	Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Assessment of learning outcomes is done by conducting three partial written tests and by final exam (oral exam).

Examples:

Written exam:

1) (outcome 2) In period from 2010. until 2017. a certain mass phenomenon has been investigated and the following data was collected:

Year	Y	
2010	5565	
2011	5334	
2012	4734	
2013	4690	
2014	4497	
2015	4356	
2016	4172	
2017	3359	

a) Find the average number of occurences per year?
b) Determine the curve of the linear trend (with the origin in the center of the time period) and by it calculate the number of occurences that is expected in 2020.

2) (outcome 5) A statistical feature X has mean 9,72 and standard deviation 1,4. A sample of 36 statistical units gave the mean 8,93 . Is the difference between means statistically significant with the risk of 5%?

Oral exam questions:

1) (outcome 2) Make an example for attributive, numerical and time series, and for every one of them name the statistical indicators that can be calculated.
2) (outcomes 3 and 4) Say what is the probability of a certain, and of an impossible event. Name a few continuous probability distribution and a few discrete ones, and for every of them write down the DF.
3) (outcome 6) How (meaning by which statistical test) can we determine the correspondence of some empirical PD with a certain theoretical PD? Describe the procedure.
4) (outcome 7) Explain the meaning of the correlation and regression.

1.10. Main Reading

1. Z. Zenzerović, Statistički priručnik, Pomorski fakultet u Rijeci, Rijeka, 2004.

2. I. Šošić-V.Serdar, Uvod u statistiku, Školska knjiga, Zagreb, 2002.

1.11. Recommended Reading

1. Z. Zenzerović, Statističke metode u tehnologiji prometa, Fakultet za pomorstvo i saobraćaj, Rijeka, 1988.
2. T. Pogány-Z. Zenzerović, Statističke tablice s uputama za primjenu, Pomorski fakultet u Rijeci, Rijeka, 1993
3. J. Čaval, Statističke metode u privrednim i društvenim istraživanjima, Sveučilište u Rijeci, Rijeka, 1981.
4. I.Šošić, Zbirka zadataka iz statistike, Mikrorad, Ekonomski fakultet, Zagreb, 1998.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Z. Zenzerović, Statistički priručnik, Pomorski fakultet u Rijeci, Rijeka,	9	80
I. Šošić-V.Serdar, Uvod u statistiku, Školska knjiga, Zagreb, 2002.	5	80

1.13. Quality Assurance

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3.2. Course description

Generic information			
Head of Course	Full professor **Tanja Poletan Jugović, Ph.D**		
Course	**Freight forwarding**		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate/Bachelor		
Type of Course	Compulsory		
Year of Study	3		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Acquiring knowledge about the contributions and importance of the forwarding logistics in the transport and international trade systems. Legal determination of the system of the international forwarding. Knowledge of the international forwarder job structures, activities and tasks in the (international) physical and documentation flows of goods (cargo). Defining and simulating the tasks and activities of the forwarder and documentation and forms in the organization and providing of the import, export or transit job. Knowledge, interpretation and use of the Incoterms terms. Knowledge and monitoring of modern trends and choice in the business of international forwarders as logistics

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:

1. Define the relevant terms, characteristics and role of the forwarding in the modern traffic environment.
2. Define and interpret the role and importance of the forwarding logistics in the international trade system and the transport system.
3. Distinguish between legal sources, contracts, documents and documents governing the rights, obligations and responsibilities of the forwarder and other stakeholders in the international trade business.
4. Know and distinguish the basic tasks, activities and role of the international forwarder in the planning, organization and implementation of the import, export or transit business.
5. Know the specific operations and activities of the forwarder in the provision of complete logistics services that impose cargo specifics, customer and market requirements.
6. Distinguish the forms, transport documents and other documents within the import, export or transit business.
7. Know, interpret and use communication specifics of foreign trade entities using the Incoterms term.
8. Explain current trends, challenges and strategies in the development and affirmation of an international forwarder as a logistics operator.

1.4. Course Outline

The concept and relevant characteristics of the forwarders and forwarding (affirmation and development of the forwarding and logistics operators (3PL, 4PL ...) in the modern transport environment. Importance of the forwarding logistics in the transport system and in the international trading system. International forwarding as a system (characteristics, organizations for international forwarding, national and international forwarding associations). Legal regulation of the forwarding (legal framework, rights and obligations of the freight forwarders). Basic and special jobs, activities and tasks of the international freight forwarder. Incoterms terms. Modern trends and challenges in the business of international freight forwarders as logistics operators (global trends in logistics market, modern strategies of logistics operator, ...).

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Seminar work presentation, 1st colloquium, 2nd colloquium, final exam

1.8. Assessment[1] of Learning Outcomes

Course attendanc	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	0,5	Oral exam		Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluation of the acquired learning outcomes is carried out according to the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- 70% of the acquired learning outcomes within the 1st colloquium (25%), the 2nd colloquium (25%) and through the presentation of a research assignment - seminars (20%) are evaluated through continuous assessment during the class; the student must achieve at least 50% of points in each colloquium, and the presentation of the research assignment is evaluated on the basis of elaborated evaluation criteria;
- at the final exam 30% of the obtained learning outcomes are evaluated whereby the student must pass at least 50% of the points for passing the final exam.

Examples of evaluating learning outcomes in relation to set learning outcomes are:

1. Define and explain the terms: forwarder, forwarding, logistics operator, 3PL, 4PL., ...
2. Explain the role and importance of forwarding logistics in international trade business.
3. List the basic legal sources governing the forwarding business and interpret the rights, obligations and responsibilities of the forwarder.
4. List and explain the basic tasks of the forwarder: Instruction, delivery of goods, conclusion of contracts and transportation, conclusion of transport insurance contracts, (...) and interpret the legal status and role of the forwarder within them.

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

5. Give and explain an example of a specific forwarder's business conditioned by a specific cargo / goods (...) and interpret the legal status, role of the shipper, and specific documents and documents within them.
6. Explain the purpose, function and information contained in the document - forms (… bill of lading / consignment note / customs declaration ...)
7. Explain the role of the Incoterms term and interpret the obligations of the seller and buyer in the example of concrete parity (EXW, CIF, FOB, ...).
8. Explain and describe the impact and effects of contemporary trends and phenomena on the logistics services market (globalization, computerization,…) on the development and affirmation of the logistics operators.

1.10. Main Reading

- Course materials available at e-learning platform - Merlin (https://moodle.srce.hr)
- Zelenika, R., Temelji logističke špedicije, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2005.

1.11. Recommended Reading

- Andrijanić, I., Aržek, Z., Prebežac, D., Zelenika, R., Transportno i špeditersko poslovanje, Zagreb, 2001.
- Incoterms 2010, Pravila tumačenja trgovinskih termina Međunarodne trgovinske komore, HGK, 2010
- Zelenika, R. Incoterms 2000 u teoriji i praksi – 100 savjeta i 100 primjera , Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2002.
- Zelenika, R., Međunarodna špedicija, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2000.
- Zelenika, R., Logistički sustavi, Ekonomski fakultet u Rijeci, Rijeka, 2005.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Course materials available at e-learning platform - Merlin (https://moodle.srce.hr)	-	55
Zelenika, R., Temelji logističke špedicije, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2005.	5	55

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 standard implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually, and a student survey is conducted once a semester.

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3.2. Course description

Generic information			
Head of Course	**Associate Professor Siniša Vilke, Ph.D.**		
Course	**Fundalmentals of transport technology**		
Study Programme	**Technology and organization of transport**		
Type of Course	Obligatory		
Year of Study	**1**		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		30 + 15

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The purpose of the course is to acquire basic knowledge of transport and transport technology, the basic characteristic of all branches of transport and features of their appearance forms and transport technologies.

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

1. To explain and construe individual transportation technologies and describe their progress
2. To identify and compare the strengths, weaknesses, and effectiveness of individual branches of traffic
3. To interpret and identify the dependence of the traffic-technical characteristics of the transport infrastructure on the progress of the transport process
4. To identify operational problems in the transportation process and to explain how to solve them
5. To interpret the specifics of land transport technology and its emergent forms
6. To discuss the specifics of water transport technology and its emerging forms
7. To interpret air traffic technology and describe appropriate technological processes
8. To prepare and present a presentation on a particular transportation technology or a given traffic solution

1.4. Course Outline

Theoretical features of technology and traffic organization. The basics of maritime transport technologies. Fundamentals of inland waterway traffic technology. Fundamentals of road transport technology. Fundamentals of rail transport technology. Fundamentals of air traffic technology. Operational problems in the transport process. Transportation technologies and related technological processes.

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1.5. Modes of Instruction	X Lectures X Seminars and workshops X Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

The student must attend at least 70% of the total hours of lectures and exercises, create and present a seminar paper, and have passed the exams (continuous assessment) to take the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam		Oral exam	1,5	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out by the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- *70% of the acquired learning outcomes within the 1st semester (25%), the 2nd semester (25%) and through the presentation of a research assignment - seminars (20%) are evaluated through continuous assessment during the class; the student must score at least 50% of points in each midterm, and the presentation of the research assignment is evaluated based on elaborated evaluation criteria;*
- at the final part of the exam, 30% of the obtained learning outcomes are evaluated whereby the student must pass at least 50% of the points for passing the final exam.

1.10. Main Reading

1. Zelenika, R.: Ekonomika prometne industrije, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2010.
2. Baričević, H.; Vilke, S.: Logistika i sigurnost kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2016.
3. Dundović, Č.: Pomorski sustav i pomorska politika, Pomorski Fakultet, Rijeka, 2005.
4. Radačić, Ž, i dr..: Tehnologija zračnog prometa I, Fakultet prometnih znanosti, Zagreb, 2008.

1.11. Recommended Reading

1. Baričević, H.: Tehnologija kopnenog prometa, Pomorski Fakultet, Rijeka, 2001.
2. Baričević, H: Promet u turizmu, Visoka škola za turistički Menadžment, Šibenik, 2003.
3. Badanjak, D., Bogović, B., Jenić, V.: Organizacija željezničkog prometa, Fakultet prometnih znanosti, Zagreb, 2006.
4. Županović, I.: Tehnologija cestovnog prometa, Fakultet prometnih znanosti, Zagreb, 2003.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Zelenika, R.: Ekonomika prometne industrije, Ekonomski fakultet u Rijeci, Rijeka, 2010.	10	55
Baričević, H.; Vilke, S.: Logistika i sigurnost kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2016.	10	55
Dundović, Č.: Pomorski sustav i pomorska politika, Pomorski Fakultet, Rijeka, 2005.	10	55
Radačić, Ž, i dr..: Tehnologija zračnog prometa I, Fakultet prometnih znanosti, Zagreb, 2008	10	55

1.13. Quality Assurance

The quality of study is constantly monitored by the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually and a student survey is conducted once a semester.

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3.2. Course description

Generic information			
Head of Course	**Full Professor Tanja Poletan Jugović, Ph.D.**		
Course	**Trade routes**		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate/Bachelor		
Type of Course	Compulsory		
Year of Study	1		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main objectives of the course are to acquire knowledge of the basic elements, principles and geo-transport, socio-economic and logistical factors for formation and distribution of the trade routes; analysis of relevant indicators for the formation of trade routes in the world, with an emphasis on the maritime and the land transport, and gaining knowledge of the basic assumptions for attracting the trade routes and valorizing traffic routes in the transport services market.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:

1. Properly define basic elements, legality and particularities for the formation of the trade routes.
2. Differentiate types of the trade routes according to different criteria.
3. Describe and interpret the geo-traffic, socio-economic and other logistical factors for the scheduling and consolidation of the trade routes.
4. Explain the general and specific characteristics of the state of development of contemporary traffic at world, regional and national level.
5. To substantiate the significance of the components for the valorisation and competitiveness of the transport routes (corridors) in the transport services market.
6. Analyze and interpret the intensity, dynamics and directions (international, national) of the trade routes with an emphasis on the maritime routes and the corridors as well as the other types of the transport routes (land, river and air corridors).
7. Compare the intensity, dynamics and structure of the trade routes according to the transport modes, types of goods and directions of movement (at world, regional and national levels).
8. Analyze and demonstrate the conditionality for the formation of the trade routes on major maritime routes, land corridors and reference terminals (port, land….)

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1.4. Course Outline

Relevant theoretical elements and determinants of the formation and distribution of trade routes. Geo-transport factors for the formation and distribution of the trade routes. Socio-economic factors for the formation and distribution of the trade routes. Other assumptions and criteria for the formation and distribution of the trade routes. The state and general characteristics of the trade routes in the world. International trade routes in the maritime transport. International trade routes in the land transport. International trade routes in the inland waterways transport. International trade routes in the air transport.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Seminar paper, seminar presentation, 1st colloquium, 2nd colloquium, the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	1	Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluation of the acquired learning outcomes is carried out according to the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- 70% of the acquired learning outcomes within the 1st colloquium (25%), the 2nd colloquium (25%) and through the presentation of a research assignment - seminars (20%) are evaluated through continuous assessment during the class; the student must achieve at least 50% of points in each colloquium, and the presentation of the research assignment is evaluated on the basis of elaborated evaluation criteria;
- at the final exam 30% of the obtained learning outcomes are evaluated whereby the student must pass at least 50% of the points for passing the final exam.

Examples of evaluating learning outcomes in relation to the learning outcomes are:

1. Define the basic elements of the formation of maritime trade routes.
2. Classify the trade routes according to the criterion of territorial coverage and orientation of the trade routes.
3. State the geo-traffic factors for the formation of the trade routes and argue for their relative or absolute significance.
4. List the leading maritime regions and associated major ports in the context of worldwide container cargo flows.

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

5. List and explain the economic and qualitative criteria (sub-criteria) in examining the competitiveness of the intermodal transport route.
6. Define and display the most significant maritime routes of the liquid cargo flows in the world.
7. Explain the intensity, structure and dynamics of the trade routes, using the example of a selected seaport.
8. Formulate and systematize commodity affirmation factors using the example of the Pan-European Corridor V - Branch Vb.

1.10. Main Reading

- Tanja Poletan Jugović, „Robni tokovi“, Pomorski fakultet, Sveučilište u Rijeci, 2014.
- Course materials available at e-learning platform Merlin (https://moodle.srce.hr)

1.11. Recommended Reading

- Jean-Paul Rodrigue „The Geography of Transport Systems“, Fourth Edition, (2017), New York, selected chapters; https://transportgeography.org/
- Statistic sources with recent statistical data (available at web): Statistical Yearbook of the Republic of Croatia, Croatian Bureau of Statistics, CRO, Zagreb etc.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Tanja Poletan Jugović , „Robni tokovi“, Pomorski fakultet, Sveučilište u Rijeci, 2014.	5	55
Course materials available at e-learning platform Merlin (https://moodle.srce.hr)	+	55

1.13. Quality Assurance

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3.2. Course description

Generic information			
Head of Course	Darko Glažar, PhD		
Course	Ship design and construction		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Mandatory		
Year of Study	1st		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		45 + 15 + 0 (3 + 1 + 0)

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The objective of the course is to acquaint students with the basic ship's dimensions and measures, transversal and longitudinal constructional elements, elementary conception of ship's strength and constructional features of different type of ships.

1.2. Prerequisites for Course Registration

No prerequisites

1.3. Expected Learning Outcomes

It is expected that the student will be able to:

1. Parse and apply International rules for ship's construction and historical development.
2. Parse and analyse type of ship construction, structural elements of longitudinal and transversal ship's strength.
3. Parse and define cargo system, ship’s equipment and ship's cargo handling equipment for different type of ships.
4. Parse and apply basic ship's dimensions and measures.
5. Properly apply the knowledge gained from the structural elements of longitudinal and transversal ship's strength in ship drawings and design.
6. Properly analyse ship's division toward purpose, type of cargo, navigational water categories, construction material, nature of shipping service, etc.
7. Define and parse technical and technological characteristics for different types of ships.

1.4. Course Outline

International rules for ship construction and historical development. Construction materials, welding, bulkheads, watertight bulkhead, watertight door. Type of ships. Structural elements of longitudinal and transversal ship's strength. Strength and stress of ship structure. Ship compartments, cargo compartments, navigation bridge and engine room. Ship's cargo handling equipment for different type of ships. Ship’s operational equipment.

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Type of rudders, remarks for different kind of rudders, propeller execution with main particularities. Geometrical ship's dimensions and measures. Ship drawings and design. General plan of ship with different system technology. Wind surface and under water area. Ship's division toward purpose, type of cargo, navigational water categories, construction material, nature of shipping service, etc. Technical and technological characteristics for General Cargo ships, Container Ships, Ro-Ro vessels, Bulk Carriers, Oil/Oil products and Chemical Tankers, Gas takers, Passenger liner and cruise ships and offshore vessels with different purpose and service.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Active attendance of classes over 70 %. Longitudinal and transversal ship drawing – student task. Passed two written exams. Final oral exams.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

70 % of the course grade is based through 2 written exams in class and 30 % of the course grade is based in the oral final exam according to the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka.

Continuous assessment: Each written exam must have at least 60 % score.
Final oral exam (learning outcomes 1- 7) checks the competences of theoretical knowledge where it is necessary to achieve a minimum of 50 % of the required theoretical knowledge.

1.10. Main Reading

1. Komadina, P., Brodovi multimodalne prijevozne tehnologije, Pomorski fakultet u Rijeci, Rijeka, 2001.
2. Komadina, P., Ro-Ro brodovi, Pomorski fakultet u Rijeci, Rijeka, 2001.
3. Komadina, P., Tankeri, Pomorski fakultet u Rijeci, Rijeka, 1994.
4. Buljan, I., Stabilnost brodova, Priručnik za pomorce, Školska knjiga Zagreb, Zagreb, 1982.

1.11. Recommended Reading

1. Vademecum Maritimus, Podsjetnik pomorcima, Pomorski fakultet u Rijeci, Rijeka, 2002.
2. Uršić, J., Stabilitet broda I. dio, Sveučilište u Zagrebu, Zagreb, 1968.
3. Uršić, J., Stabilitet broda II. dio, Sveučilište u Zagrebu, Zagreb, 1968.
4. Fatur, J., Teorija broda, Uredništvo časopisa Brodogradnja, Zagreb, 1954.
5. Milošević, M., i Š., Osnove teorije broda 1, Sveučilište u Zagrebu, Zagreb, 1981.
6. Milošević, M., i Š., Osnove teorije broda 2, Sveučilište u Zagrebu, Zagreb, 1981.
7. Barrass, B., Derrett, D. R., Ship stability for Masters and Mates, Elsevier, 2008.
8. Eyres, D. J., Ship Construction, Butterworth-Heinemann, London, 2007

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Teaching materials from the course Ship design and construction	MERLIN – online	
Ro-Ro brodovi	10	
Brodovi multimodalne prijevozne tehnologije	10	
Stabilnost broda	10	
Tankeri	10	

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with the European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once a year, exam passing results are analysed and appropriate measures are adopted.

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3.2. Course description

Generic information		
Head of Course	**Maja Redžić, mag.cin.**	
Course	**Physical education 1**	
Study Programme	**Technology and Organization of Transport**	
Level	**UNDERGRADUATE DEGREE PROGRAMME**	
Type of Course	core	
Year of Study	**1st**	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	**1**
	Number of Hours (L+E+S)	**0+30+0 (0+2+0)**

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goals of physical and health culture are:
- acquaintance with the principles of biopsychosocial characteristics of man
- acquiring knowledge about the factors that cause illnesses and injuries
- adopting a certain fund of motor information necessary for a more meaningful use of leisure time
- meeting the biopsychosocial human need for movement
- building humane interpersonal relationships
- increase of creative ability and adaptation to contemporary living and working conditions
- by training appropriate programs to train a person for independent and responsible care for the preservation and promotion of personal health, work and other abilities

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

1. Positive influence on anthropological characteristics (anthropometric characteristics)
2. Improve the acquisition of general and specific motor skills, knowledge, skills and habits
3. Apply, use preserving and promoting health
4. Maintain health status by exercising

1.4. Course Outline

Knowing the health status of students. Measurement and testing of motor skills and functional abilities. Passing and throwing the ball into the basket (K). Classic aerobics. Development of general motor skills. Ball manipulation (K). Elements of attack and defense (O). Closing the basket and catching the deflected ball (K). Basketball rules and application in the game. Improper posture - exercise and prevention. Preparatory Volleyball - Multiplayer play over the net (O). Basic elements of yoga. Development of an individual's creative abilities in sports expression in an individual sport

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1.5. Modes of Instruction	☐ Lectures ☐ Seminars and workshops X ☐ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments	Seminar paper is written by part-time students.	

1.7. Student Obligations

Active class attendance and activity in at least 70% of classes.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation		Seminar paper		Experiment	
Written exam		Oral exam		Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

College is not graded.

The motor movement is positively evaluated during the course of the student. Each teaching hour accurately monitors each (non) arrival and activity of the student on a separate whole semester's Physical and Health Education Records. The College of Physical and Health Education is evaluated for a particular semester by enrolling in the ISVU system "PASSED".

1.10. Main Reading

1.11. Recommended Reading

1.Redžić A., Redžić M.: Križobolja i tjelesno vježbanje, HSSR Sport za sve. Godina XXXVI, broj 93. 2018
2. Findak V.: Metodika tjelesne i zdravstvene kulture, Školska knjiga Zagreb, 1999.
3. Anderson B.: Stretching, Vježbe istezanja za svakodnevni fitness: trčanje, plivanje, tenis, biciklizam, skijanje, košarka, nogomet i ostale sportove, Gopal, d.o.o., Zagreb, 1997.
4. Anderson B., Burke E., Pearl B.: Fitnes za sve, Gopal, d.o.o., Zagreb, 1997.
5. Janković V. , N. Marelić.: Odbojka, Fakultet za fizičku kulturu Sveučilišta u Zagrebu, Zagreb 1995.
6. Kosinac, Z.: Kineziterapija, tjelesno vježbanje i sport kod djece i omladine oštećena zdravlja, Split, 1989.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.12. Number of Main Reading (Examples)

Title	*Number of examples*	*Number of students*

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the transience are analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information		
Head of Course	Mirjana Borucinsky, PhD	
Course	English Language 2	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Core	
Year of Study	1	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	4
	Number of Hours(L+E+S)	15+30+0

1.GENERAL COURSE DESCRIPTION		
1.1. Course Objectives		
The goal of the course is to develop the students' ability for written and oral communication in English language using the basic terminology related to the ship types, parts and dimensions, as well as the basics of engineering drawing.		
1.2. Prerequisites for Course Registration		
Passing the exam for English Language 1.		
1.3. Expected Learning Outcomes		
After passing the exam, the students will be able to do the following: 1. Show the four basic language skills in English: reading, writing, listening and speaking on B1 level (independent user) according to the Common European Framework of Reference for Languages (CEF). 2. Demonstrate language knowledge and skills for performing professional work in maritime business and transport in English. 3. Transform active statements into passive. 4. Express real and possible events using conditional clauses. 5. Translate simple sentences dealing with vocational topics from English into Croatian, using a dictionary.		
1.4. Course Outline		
Professional terminology and relevant elements of grammar (modal verbs, passive, conditional clauses) in selected professional written and spoken texts about the following extra-linguistic topics: types of ships, basic terms from ship construction, parts of a ship, ship dimensions, mathematical symbols and reading mathematical expressions, signalization in transport.		
1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		
1.7. Student Obligations		

1st midterm exam, 2nd midterm exam, final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure of assessment of learning outcomes is performed according to the University of Rijeka Regulations on the Studies and the Regulations on the Studies of the Faculty of Maritime Studies in the following way:

- 70 % of outcomes are assessed through continuous assessment in class. The 1st midterm exam assesses the outcomes 1, 2 and 3 (35 %), while the 2nd midterm exam assesses the outcomes 4 and 5 (35 %). The students need to gain at least 50 % of points on each midterm exam.
- The final exam assesses 30 % of learning outcomes (1-5), whereby the student must gain at least 50 % of points to pass.

Examples of outcome assessment in relation to the set outcomes are:

1. After reading the given text, answer the following: *What are the main characteristics of bulk carriers?*
2. Using modal verbs, give instructions, orders and requests.
3. Transform active statements into passive.
4. Express real and possible events using conditional clauses.
5. Translate simple sentences from English into Croatian, using a dictionary.

1.10. Main Reading

1. Capt. Sheppard, T. S., Evans, V., Dooley, J. 2013. *Merchant Navy*. Express Publishing.
2. Luzer, J.; Spinčić, A. 2001. *Gramatička vježbenica za pomorce*. Rijeka: Pomorski fakultet.
3. Van Kluijven, P. C. 2003. *The International Maritime Language Programme*. Alkmaar: Alk & Heijnen Publishers, pp. 62-97.
4. Teaching material available on the e-learning platform Merlin.
5. MarEng

1.11. Recommended Reading

1. Wieslawa , B. 2014. *Marine Engine English Underway*. Dokmar Maritime Publishers

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Capt. Sheppard, T. S., Evans, V., Dooley, J. 2013. *Merchant Navy*. Express Publishing	5	55
Luzer, J.; Spinčić, A. 2001. *Gramatička vježbenica za pomorce*. R fakultet.	5	55
Van Kluijven, P. C. 2003. *The International Maritime Language Programme*. Alkmaar: Alk & Heijnen Publishers, pp. 62-97.	5	55
Teaching material available on the e-learning platform Merlin.	-	55

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.13. Quality Assurance

The quality of the course is monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and a survey is conducted among the students once per semester.

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Table 2.

3.2. Course description

Generic information			
Head of Course	Ines Kolanović, Full Professor		
Course	Maritime System		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate Level		
Type of Course	Mandatory		
Year of Study	1.	Semester	II.
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30 + 0 + 15

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The objective of this course is to provide student knowledge of the basic features of the maritime economy and maritime system, with the importance of applying a systematic approach to the analysis of the maritime activities that make up these systems.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

It is expected that the student will be able:
1. Properly interpret the basic concepts: maritime industry, system, maritime system, maritime economy
2. To classify and systematically analyze system types according to different criteria
3. Recognize and interpret the importance of a systematic approach in the study of the maritime system
4. To argue the place and role of the maritime system in the transport and economic system of the Republic of Croatia
5. Analyze and explain the structure of individual activities of the maritime system

1.4. Course Outline

System concept and types. Systematic approach and systematic approach principles. The place and role of the maritime system in the economic and transport system of the Republic of Croatia. Subsystems of maritime system. Economic and non-economic activities of the maritime system.

1.5. Modes of Instruction		
	+ Lectures	+ Practical work
	☐ Seminars and workshops	☐ Multimedia and Network
	+ Exercises	☐ Laboratory
	☐ E-learning	☐ Mentorship
	☐ Field work	☐ Other _____

1.6. Comments

1.7. Student Obligations

Students are obliged to: attend at least 70% of classes, take part-tests, make a presentation on a given topic and pass the final exam.

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1.8. Assessment of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam	0,5	Oral exam		Essay		Research	
Project		Continuous Assessment	1,5	Presentation	0,5	Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The final grade is the sum of the points that student has achieved during the course (70% of the grade) and the points earned on the final exam (30% of the grade) according to the studies regulations at the University of Rijeka and at the Faculty of Maritime Studies in Rijeka.

- Continuous assessment:
  - 2 mid-terms - a minimum of 50% of the estimated number of points is required
  - presentation and defense of the presentation (individual assignment) - it is necessary to achieve at least 50% of the estimated number of points
- Final exam:
  - Final exam checks the completeness of knowledge - it is necessary to achieve a minimum of 50% of points.

Examples of Assessment of Learning Outcomes:

1. To define the terms: maritime industry, system, maritime system, maritime economy (LO1)
2. To explain system types according to the selected criterion (LO2)
3. Apply the principles of systematic approach (LO3) in a concrete example
4. To explain the relationship of the selected maritime subsystem to the maritime and economic system in the Republic of Croatia (LO4)
5. To analyze the technical and technological level of the seaport system as a subsystem of the maritime system (LO5)

1.10. Main Reading

1. Dundović, Č.: Pomorski sustav i pomorska politika, sveučilišni udžbenik, Pomorski fakultet u Rijeci. Rijeka, 2003.

1.11. Recommended Reading

1. Dundović, Č., Poletan-Jugović, T., Jugović, A., Hess, S.: Integracija i koordinacija lučkog i prometnog sustava Republike Hrvatske, Znanstvena monografija, Pomorski fakultet u Rijeci, Rijeka, 2006.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Pomorski sustav i pomorska politika	11	50

1.13. Quality Assurance

The quality of study is continuously monitored in accordance with the requirements of ISO 9001 and in accordance with the European Standards and Guidelines for Quality Assurance conducted at the Faculty of Maritime Studies in Rijeka. At the end of the semester, student evaluations are conducted in accordance with the Study Quality Manual at the University of Rijeka.

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3.2. Course description

Generic information		
Head of Course	Mato Tudor, Ph.	
Course	Applied computer science	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Obligatory	
Year of Study	1.	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	5
	Number of Hours (L+E+S)	30+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Adopting knowledge about the structure and principle of computer operation as well as knowledge about using computers in word processing and drafting spreadsheets. Training students to solve problems with a computer by developing algorithms and implementing them on a computer, using program packages to develop programs.

1.2. Prerequisites for Course Registration

No

1.3. Expected Learning Outcomes

After the exam is passed, students will be able to:

1. *Properly justify basic concepts of the structure and principle of operation of the computer*
2. *Describe different types of computer software support*
3. *Use the application program MS word for text processing*
4. *Use the application program MS Excel for spreadsheets*
5. *Write an algorithm in Just Basic programming language as a solution to a given problem*

1.4. Course Outline

Historical development. Digital computers. Physical data. Numerical systems. Logical expressions. Computer hardware. Input / output units. Computer working memory. Storage memory. Central processing unit. Software. System software support. Operating System (MS Windows). Software development (program development in Just Basic). Utilities. Application software. Word processor (MS Word). Spreadsheet program (MS Excel). Solving problems with computer. Algorithms and programs. Elements of algorithms. Describing algorithms. Algorithm commands in Just Basic programming language. Control structures of the algorithm and their description in Just Basic.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

The student is obliged to actively attend lectures and exercises and be present in at least 70% of classes. All continuous assessment *affect the grade, and none are satisfied with less than 50%.*

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1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out in accordance with the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- *During the course of the course, 70% of the learning outcomes obtained are evaluated through three proficiency tests, each of which must be positive (at least 50%).*
  The first proficiency test involves learning the learning outcomes of using the MS Word application program - 3rd learning outcome (25%):
  Examples of checking 3rd learning outcomes:
  – *Using the MS Word application format the given text.*
  The second knowledge test involves learning the learning outcomes of using an MS Excel spreadsheet application - 4th learning outcome (25%).
  Examples of checking 4th learning outcomes:
  – *Using the MS Excel application, draw a graph for the given data.*
  The third check involves checking the 5th learning outcome (20%) on writing algorithms in Just Basic as a solution to a given problem.
  Example of checking 5th learning outcomes:
  – *Write a program that will load 50 numbers and print the smallest number loaded.*

- *In the final part of the exam, 30% of the learning outcomes are evaluated. Student must have minimum of 50% to pass the final exam. The final exam checks the 1st and 2nd and the learning outcomes.*
  Examples of learning outcomes 1 and 2:
  – *Explain the basic characteristics of the processor.*
  – *Describe the different types of application software.*

1.10. Main Reading

– Tudor, M. Primjena elektroničkih računala, University of Rijeka, Faculty for Maritime Studies, Rijeka, 2010.
– Course material available on the eLearning system - Merlin (https://moodle.srce.hr)

1.11. Recommended Reading

– Tudor, M. Osnove primjene računala, University of Rijeka, Faculty for Maritime Studies Rijeka, 2003.
– Grundler, D. Primijenjeno računalstvo, Graphis, Zagreb, 2000.
– Grundler et al, ECDL, Osnovni program, PRO-MIL d.o.o., Varaždin, 2005.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.12. Number of Main Reading Examples

Title	*Number of*	*Number of students*
Tudor, M. Primjena elektroničkih računala, University of Rijeka, Faculty for Maritime Studies, Rijeka, 2010.	5	55
Course material available on the eLearning system - Merlin (https://moodle.srce.hr)		

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once a semester, a student survey is conducted. Once a year, the results of the transience are analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information			
Head of Course	Assoc. Prof. Goran Vukelić		
Course	Engineering Mechanics		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate		
Type of Course	Compulsory		
Year of Study	1		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		2+2

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Acquiring theoretical knowledge that is the basis for problem solving in the field of solid mechanics statics, kinematics and dynamics.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

1. Understanding the axioms of statics and laws of mechanics.
2. Applying the laws of mechanics to solve the problems of determining the reactions of rigid bodies on friction(less) surfaces.
3. Dimensioning of loaded beams.
4. Analyzing the strength of a loaded beam.
5. Applying the laws of mechanics onto the particle motion problems.
6. Analyzing the motion of a particle.

1.4. Course Outline

Colinear, concurrent, parallel and general planar system of forces. Resultant of a forces and equilibrium of a body. Moment of a system of forces. Force couple. Analysis of a system of forces. Friction. Pappus-Guldin theorems. Beams and trusses.
Normal and tangential stress. Stress and strain dependence. Allowed stress. Axial load, shear stress, torsion, bending, buckling. Dimensioning of beams and shafts.
Coordinate system and position of a body within. Motion. Degrees of freedom. Kinematics of a particle: rectilinear and curvilinear motion.
Dynamics of a particle: inertia, inertia force, D'Alembert principle. Work, energy and power.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments	-	

1.7. Student Obligations

Attending the lectures and exercises (min. 70%), attending the assessment and exams, submitting results of assignments.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation	0.5	Seminar paper		Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	1.5	Presentation		Practical work	
Portfolio							

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

According to the study rulebooks of University of Rijeka and Faculty of Maritime Studies:

- through continuous assessment during the semester (70% of learning outcomes)
  - 1. colloquium - learning outcomes 1-2 (25%),
  - 2. colloquium - learning outcomes 3-4 (25%),
  - short tests - learning outcomes 1-6 (20%),
- through final exam (30% of learning outcomes (5-6)) with passing rate set at min. 50% of final exam points.

Examples of evaluation in correlation to learning outcomes:

1. Determine equilibrium of a body exposed to a system of forces.
2. Determine free body diagram of a rigid body.
3. Dimensioning of a beam loaded with axial load, bending or torsional moment.
4. Comparing actual stress and strain with allowed stress and strain.
5. Determine motion equilibrium of a rigid body in planar movement.
6. Comparing the motion of several bodies based on a set criterion.

1.10. Main Reading

Brnić, J.: Mehanika i elementi konstrukcija, Školska knjiga, Zagreb, 1996.
Jecić, S.: Kinematika i dinamika, Tehnička knjiga, Zagreb, 1995.

1.11. Recommended Reading

Brnić, J.: Statika, Sveučilište u Rijeci, Tehnički fakultet, Rijeka, 2004.
J. Brnić, G. Turkalj: Nauka o čvrstoći I, Sveučilište u Rijeci, Tehnički fakultet, Rijeka, 2004.
Žigulić, R, Braut, S.: Kinematika, Sveučilište u Rijeci, Tehnički fakultet, Rijeka, 2012.
Krpan, M., Butković, M., Žigulić, R., Braut, S., Franulović, A.: Dinamika, Sveučilište u Rijeci, Tehnički fakultet, Rijeka, 2001.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Brnić, J.: Mehanika i elementi konstrukcija	5	55
Jecić, S.: Kinematika i dinamika, Tehnička knjiga, Zagreb, 1995.	5	55

1.13. Quality Assurance

According to ISO 9001 system set at Faculty of Maritime Studies, Rijeka. Once a year analysis of passing exam rate. Once a semester anonymous students online survey.

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3.2. Course description

Generic information		
Head of Course	**Maja Redžić, mag.cin.**	
Course	**Physical education 2**	
Study Programme	**Technology and Organization of Transport**	
Level	**UNDERGRADUATE DEGREE PROGRAMME**	
Type of Course	core	
Year of Study	**1st**	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	**1**
	Number of Hours (L+E+S)	**0+30+0 (0+2+0)**

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goals of physical and health culture are:
- acquaintance with the principles of biopsychosocial characteristics of man
- acquiring knowledge about the factors that cause illnesses and injuries
- adopting a certain fund of motor information necessary for a more meaningful use of leisure time
- meeting the biopsychosocial human need for movement
- building humane interpersonal relationships
- increase of creative ability and adaptation to contemporary living and working conditions
- by training appropriate programs to train a person for independent and responsible care for the preservation and promotion of personal health, work and other abilities

1.2. Prerequisites for Course Registration

Prerequisite for enrollment is a passed Physical and Health Education course 1

1.3. Expected Learning Outcomes

1. Positive impact on functional abilities
2. Develop more meaningful use of spare time
3. Evaluate and develop solving everyday motor tasks
4. To choose the possibility of solving motor tasks in urgent situations

1.4. Course Outline

Low and high start (technique refinement), cycling at different tempo. Heart rate measurement at rest, after exertion (running) and after running (2 minutes after running). Throwing the ball into the basket with special emphasis on precision (K). Service (upper and lower). Jump with the screw in place and move. Development of general motor skills (movement coordination, flexibility). Volleyball Element Technique (O). Hi aerobic. Volleyball Rules and Application (O). Work in basketball motor development teams (K). Realization of counter attack (K). Corrective gymnastics. Situational passing and lifting the ball (O). Testing and monitoring of motor skills and functional abilities.

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1.5. Modes of Instruction	☐ Lectures ☐ Seminars and workshops X ☐ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Active class attendance and activity in at least 70% of classes.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation		Seminar paper		Experiment	
Written exam		Oral exam		Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

College is not graded.

The motor movement is positively evaluated during the course of the student. Each teaching hour accurately monitors each (non) arrival and activity of the student on a separate whole semester's Physical and Health Education Records. The College of Physical and Health Education is evaluated for a particular semester by enrolling in the ISVU system "PASSED".

1.10. Main Reading

1.11. Recommended Reading

1.Redžić A., Redžić M.: Križobolja i tjelesno vježbanje, HSSR Sport za sve. Godina XXXVI, broj 93. 2018
2. Findak V.: Metodika tjelesne i zdravstvene kulture, Školska knjiga Zagreb, 1999.
3. Anderson B.: Stretching, Vježbe istezanja za svakodnevni fitness: trčanje, plivanje, tenis, biciklizam, skijanje, košarka, nogomet i ostale sportove, Gopal, d.o.o., Zagreb, 1997.
4. Anderson B., Burke E., Pearl B.: Fitnes za sve, Gopal, d.o.o., Zagreb, 1997.
5. Janković V. , N. Marelić.: Odbojka, Fakultet za fizičku kulturu Sveučilišta u Zagrebu, Zagreb 1995.
6. Kosinac, Z.: Kineziterapija, tjelesno vježbanje i sport kod djece i omladine oštećena zdravlja, Split, 1989.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.12. Number of Main Reading (Examples)

Title	*Number of examples*	*Number of students*

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the transience are analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information		
Head of Course	Mirjana Borucinsky, PhD	
Course	English Language 3	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Core	
Year of Study	2	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	4
	Number of Hours(L+E+S)	15+30+0

1.GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goal of the course is to develop the students' ability for written and oral communication in English language using the basic terminology related to the types of cargo, technology of ports and terminals and technology of cargo handling, warehousing and customs clearance.

1.2. Prerequisites for Course Registration

Successful completion of *English Language 2.*

1.3. Expected Learning Outcomes

After passing the exam, the students will be able to do the following:

1. Show the four basic language skills in English: reading, writing, listening and speaking on B2 level (independent user) according to the Common European Framework of Reference for Languages (CEF).
2. Demonstrate language knowledge and skills for performing professional work in maritime business and transport in English.
3. Notice and explain the differences in English and Croatian terminology related to the means of transport and transhipment.
4. Use plural of nouns, comparison of adjectives and adverb correctly in descriptions.
5. Translate simple sentences dealing with vocational topics from English into Croatian, using a dictionary.

1.4. Course Outline

Professional terminology and relevant elements of grammar (nouns, adjectives, pronouns, adverbs) in selected professional written and spoken texts about the following extra-linguistic topics: types of cargo, technology of ports ad terminals, cargo handling technology and means of transport and transhipment, warehousing and customs.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

1st midterm exam, 2nd midterm exam, final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure of assessment of learning outcomes is performed according to the University of Rijeka Regulations on the Studies and the Regulations on the Studies of the Faculty of Maritime Studies in the following way:

- 70 % of outcomes are assessed through continuous assessment in class. The 1st midterm exam assesses the outcomes 1, 3 and 5 (35 %), while the 2nd midterm exam assesses the outcomes 2 and 4 (35 %). The students need to gain at least 50 % of points on each midterm exam.
- The final exam assesses 30 % of learning outcomes (1-5), whereby the student must gain at least 50 % of points to pass.

Examples of outcome assessment in relation to the set outcomes are:

1. After reading the given text, explain the meaning of the expression '*last in-last out*'. (O1)
2. Explain the difference in meaning between: *wharf, pier, quay*. (O2)
3. What is the Croatian equivalent to '*straddle carrier*'. (O3)
4. Make a correct plural form of the nouns, comparison of adjectives and adverbs (O4).
5. Translate simple sentences from English into Croatian, using a dictionary. (O5)

1.10. Main Reading

1. Grussendorf, M. 2009. *English for Logistics*. Oxford: OUP.
2. Powell, D. et al. 2007. *Grammar practice for upper intermediate students*. Harlow: Pearson/Longman.
3. Skračić, T. 2016. *Fairway. Coursebook for students of Maritime English*. Split: Redak Ltd.
4. Teaching material available on the e-learning platform Merlin.

1.11. Recommended Reading

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Grussendorf, M. 2009. *English for Logistcs*. Oxford: OUP.	5	45
Powell, D. et al. 2007. *Grammar practice for upper intermediate students.* Harlow: Pearson/Longman.	5	45
Skračić, T. 2016. *Fairway. Coursebook for students of Maritime English*. Split: Redak Ltd.	5	45
Teaching material available on the e-learning platform Merlin.	-	45

1.13. Quality Assurance

[1] **NOTE**: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

The quality of the course is monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and a survey is conducted among the students once per semester.

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Table 2.

3.2. Course description

Generic information			
Head of Course	Ines Kolanović, Full Professor		
Course	Port and Terminal Technology		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate Level		
Type of Course	Mandatory		
Year of Study	2.	Semester	III.
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		45 + 15+ 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The objective of this course is to provide students to be able to identify, to analyze and to explain the technical and technological features of ports and terminals, as well as traffic and technological processes at port terminals.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

It is expected that the student will be able:
1. Properly interpret the basic concepts: transport technology, port and terminal technology, transport and technological process
2. Systematically analyze and interpret the elements and relationship of the port, transport and economic systems
3. Recognize and distinguish the basic features of port-maritime facilities in connection with the realization of the port services
4. To classify port warehouses according to different criteria and to clarify with a concrete example
5. To explain the technical and technological characteristics of the terminal on a concrete example for different types of cargo
6. To distinguish and compare technological processes at port terminals

1.4. Course Outline

Conceptual explanations: transport technology, port and terminal technology, traffic and technological process. Impact of technological changes in shipping on the development of ports and terminals. Port infrastructure and superstructure. Port and terminal planning and design. Port-maritime facilities. Port warehouses. Special purpose ports. River ports. Types of terminals. Port terminal capacity assessment methodology. Technological processes at port terminals. Specialized terminals.

1.5. Modes of Instruction	+ Lectures ☐ Seminars and workshops + Exercises ☐ E-learning	+ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship

	☐ Field work	☐ Other _____
1.6. Comments		

1.7. Student Obligations

Students are obliged to: attend at least 70% of classes, take part-time exams, make seminar work and pass the final exam.

1.8. Assessment of Learning Outcomes

Course attendance	2	Class participation		Seminar paper	0,5	Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

- The final grade is the sum of the points that student has achieved during the course (70% of the grade) and the points earned on the final exam (30% of the grade) according to the studies regulations at: the University of Rijeka and the Faculty of Maritime Studies in Rijeka.
- Continuous assessment:
  2 mid-terms - a minimum of 50% of the estimated number of points is required;
  seminar paper (individual assignment) - a minimum of 50% of the estimated number of points is required;
- Final exam:
  The final exam checks the completeness of knowledge in the field of port and terminal technology - it is necessary to earn a minimum of 50% of points.

<u>Examples of Assessment of Learning Outcomes</u>:
1 Define terms: transport technology, port and terminal technology, transport and technological process (LO1)
2. Show and comment relationship of the port, transport and economic system with the example of the Republic of Croatia (LO2)
3. In the specific example, highlight the basic features of the port-maritime facilities (LO3)
4. Group the port warehouses in accordance with the different criteria (LO4)
5. Combine the technical and technological features of one type of terminal on the concrete example (LO5)
6. Designing technological processes at the port terminal (LO6)

1.10. Main Reading

1. Dundović, Č.: Lučki terminali, sveučilišni udžbenik, Pomorski fakultet u Rijeci, Rijeka, 2002.
2. 2. Dundović, Č., Kesić, B.: Tehnologija i organizacija luka, sveučilišni udžbenik, Pomorski fakultet u Rijeci, Rijeka, 2001.

1.11. Recommended Reading

1. Dundović, Č., Poletan-Jugović, T., Jugović, A., Hess, S.: Integracija i koordinacija lučkog i prometnog sustava Republike Hrvatske, Znanstvena monografija, Pomorski fakultet u Rijeci, Rijeka, 2006.
2. Ivaković, Č.: Božičević, D., Smoljić, Lj., Đaković, N.: Osnove vodnog prometa, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 1997.
3. Agerschou, H., Lundgren, H., Sorensen, T., Ernst, T., Korsgaard, J.: Planning and Design of Ports and Marine Terminals, A. Wiley - Interscience Publication, New York, 1985.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*

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Tehnologija I organizacija luka	9	50
Lučki terminali	13	50

1.13. Quality Assurance

The quality of study is continuously monitored in accordance with the requirements of ISO 9001 and in accordance with the European Standards and Guidelines for Quality Assurance conducted at the Faculty of Maritime Studies in Rijeka. At the end of the semester, student evaluations are conducted in accordance with the Study Quality Manual at the University of Rijeka.

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3.2. Course description

Generic information		
Head of Course	PhD Svjetlana Hess	
Course	Quantitative Methods in Transport	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Mandatory	
Year of Study	2.	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	6
	Number of Hours (L+E+S)	45+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main objective of this course is to empower the student to apply quantitative methods in the field of transport technology, by adopting techniques and obtaining solutions (manually and using a software package). Also to be able to apply the acquired knowledge on real transportation processes and comprehensively analyze the results for optimal and efficient decision making.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

1. To describe and interpret fundamental theoretical principles of the methods applicable to transport
2. To define a specific problem in transport and to determine the decision criterion
3. To collect data and set up a model, to choose the appropriate method for solving the problem and find the optimal solution of a particular practical problem in transport
4. To solve the real transport problem by applying the appropriate method
5. To choose the optimal solution considering the criteria and limitations set, also to interpret the optimal and possible alternative solutions
6. To solve the transportation problem using a software package

1.4. Course Outline

The theoretical background of quantitative methods in transportation. Maximum, minimum and mixed constraint problems (Graphical Method and Simplex Method). Northwest Corner Method, Least Cost Method, Vogel Method. Stepping Stone Method. Assignment problems in transport, Hungarian method. Emphasis is placed on solving techniques (manually and using a software package) and examples of applying quantitative methods in optimization the specific practical problems in transportation, where quantification and optimization of transport services is required.

1.5. Modes of Instruction	☒ Lectures	☒ Practical work
	☐ Seminars and workshops	☐ Multimedia and Network
	☒ Exercises	☒ Laboratory
	☐ E-learning	☐ Mentorship
	☐ Field work	☐ Other _____

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1.6. Comments	

1.7. Student Obligations

Active class participation with at least 70% attendance. Creating work assignments during class. Passing tests for continuous monitoring ad assessment including the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendanc	2.5	Class participation	0.5	Seminar paper		Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Evaluation procedure:
70% of the grade through exams for students' continuous monitoring/assessment and 30% of the grade through final exam as follows:

- continuous assessment through 2 exams and 4 test assignments
- final exam (written): checking the understanding of total acquired knowledge in the field of quantitative methods and their application to specific transport or logistics problems.

Valuation examples:

1. write the theoretical background for one of the quantitative methods applicable to transport technology
2. define an arbitrary transport problem and determine the appropriate criterion
3. design a practical problem, describe how to collect the data, set up a model, and identify the appropriate method for solving the problem and finding the optimal solution
4. solve the transport problem using the appropriate quantitative method
5. interpret the solution, compare the results obtained and choose the optimal solution considering criteria and limitations set
6. solve a practical transport problem using a software package

1.10. Main Reading

- Brajdić, I., Matematički modeli i metode poslovnog odlučivanja, Fakultet za menadžment u turizmu i ugostiteljstvu, Opatija, 2013.
- Barković, D., Operacijska istraživanja, Ekonomski fakultet, Osijek, 2001.
- Zenzerović, Z., Operacijska istraživanja, Zbirka zadataka, Fakultet za pomorstvo i saobraćaj, Rijeka, 1983.

1.11. Recommended Reading

- Pašagić, H., Matematičke metode u prometu, Fakultet prometnih znanosti, Zagreb, 2003.
- Babić, Z., Linearno programiranje, Ekonomski fakultet u Splitu, Split, 2010.
- Lukač, Z., Neralić, L., Operacijska istraživanja, Element, Zagreb, 2012.
- Kalpić, D., Mornar, V., Operacijska istraživanja, Fakultet elektrotehnike i računarstva, Zagreb, 1996.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Barković, D., Operacijska istraživanja, Ekonomski fakultet, Osijek, 2001.	5	55
Brajdić, I., Matematički modeli i metode poslovnog odlučivanja, Fakultet za menadžment u turizmu i ugostiteljstvu, Opatija, 2013.	5	55

1.13. Quality Assurance

The studying quality is monitored following the ISO 9001 system, as well as European standards and guidelines for quality assurance, carried out at the Faculty of Maritime Studies, University of Rijeka. Analysis of exam passing is done once a year, and once a semester a survey is conducted among students.

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3.2. Course Description

Generic information		
Head of Course	Igor Vio, PhD	
Course	Maritime Administrative Law and Law of the Sea	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Core (compulsory course)	
Year of Study	2	
Estimated Student Workload and Methods of Instruction	ECTS Coefficient of Student Workload	4
	Number of Hours (L+E+S)	45 + 0 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Students should become familiar with international and national legal framework regulating the boundaries of national jurisdiction at sea, rights and duties of states at sea, their mutual relations related to exploration and exploitation of marine and submarine resources and their protection, their relations concerning war and neutrality in armed conflicts at sea, as well as safety of navigation and protection of the marine environment, organization of maritime administration, labour relations of seafarers, flag state and port state control, maintenance of order in ports and harbours, and regime of maritime domain.

1.2. Prerequisites for Course Registration

none

1.3. Expected Learning Outcomes

1. To list and compare the international conventions and other sources of the international law of the sea, to describe its basic principles and to explain their influence on the regimes of navigation of ships in various parts of the sea, as well as on the regime of the exploitation of the resources of the sea and the seabed.
2. To explain the regime of entry and navigation of various foreign ships (merchant, government, military, fishing or scientific) and foreign yachts and boats in internal waters, territorial sea and protected ecological and fishery zone of the Republic of Croatia.
3. To enumerate and interpret rules and regulations of international maritime law governing the safety of navigation and the protection of the marine environment.
4. To explain the structure and describe the activities of the International Maritime Organization (IMO) and the European Maritime Safety Agency (EMSA).
5. To list the laws and regulations of the Republic of Croatia in the area of maritime administrative law and explain their application to ships and other maritime vessels and crafts, maritime navigation, sea lanes, pilotage and order in ports.
6. To describe the organization of the maritime administration in the Republic of Croatia, explain the role and organization of harbour master's offices, to enumerate their functions, highlight the features of the certificate of registration and other ship documents and books, indicate the principles and procedures of inspection, explain the technical control and list other activities of the Croatian Register of Ships.
7. To explicate the legal regulation of the maritime domain and seaports in the Republic of Croatia, describe the concept of the maritime domain and highlight the features of its concession, interpret the notion and list the types of seaports, and to describe the structure of the port authority and indicate its activities.

1.4. Course Outline

Part I: International Law of the Sea: definition and codification: UNCLOS I, II and III - Geneva Conventions (1958) and UN Convention on the Law of the Sea (1982); internal waters, ports, bays, historic bays and historic waters, archipelagic waters, regime of islands, territorial sea, contiguous zone, straits used for international navigation, canals, continental shelf, exclusive economic zone, maritime boundary delimitation, area, high seas, land-locked states, geographically disadvantaged states, enclosed and semi-enclosed seas, marine scientific research, marine pollution, marine and submarine areas of the Republic of Croatia, status of foreign ships in Croatian internal waters and territorial sea; International Law of Armed Conflicts at Sea: rights and duties of neutral and belligerent states, war zones at sea, status of neutral ships in convoy, status of military and merchant ships in armed conflicts, naval blockade, contraband of war.
Part II: International Maritime Organization (IMO) – structure, goals and functions. International conventions on safety of navigation and protection of the marine environment: SOLAS, COLREG, LOADLINES, TONNAGE, INTERVENTION, LDC, MARPOL, OPRC, AFS and BWC. Principles of ISM and ISPS Code, Paris Memorandum of Understanding on Port State Control, problems of flags of convenience. European Maritime Safety Agency (EMSA) - structure and functions. Master and crew, STCW Convention, Maritime Labour Convention and other Conventions and Resolutions of the International Labour Organization (ILO). Croatian maritime legislation, Maritime Code, harbour master's offices and inspection of safety of navigation, categories of navigation, sea lanes, pilotage, ships – legal regime, ownership, nationality, registration, classification, name and call sign, ship registers, ship's documents, log book. Croatian Register of Ships, technical supervision of ships, jurisdiction – flag state, coastal state and port state jurisdiction. Maritime Domain and Seaports Act, concept of maritime domain, concessions, definitions and characteristics of ports and harbours, concessions for port activities, port fees.

1.5. Modes of Instruction		
	☒ Lectures	☐ Practical work
	☐ Seminars and workshops	☐ Multimedia and Network
	☐ Exercises	☐ Laboratory
	☐ E-learning	☐ Mentorship
	☐ Field work	☐ Other _____

1.6. Comments	

1.7. Student Obligations

a) Students' main obligations are active course attendance with the preparation and presentation of seminar paper and they are required to pass two mid-term exams.

b) As a prerequisite for the final exam, students must score at least 35 out of a possible 70 points (50%) during the classes.

c) Students must score at least 15 out of a possible 30 points on final exams (50%).

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	1,0	Oral exam		Essay		Research	
Project		Continuous Assessment	1,0	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The evaluation procedure consists of continuous examination of knowledge in the form of two tests and a final exam. Examples of evaluating learning outcomes during classes and on the final exam:

1. Compare the concept and legal regime of the contiguous zone according to the Convention on the Territorial Sea and Contiguous Zone (1958) and the UN Convention on the Law of the Sea (1982).
2. Indicate and explain conditions for entry and navigation of ships, yachts and boats of foreign nationality in internal waters of the Republic of Croatia, including their stay in seaports and shipyards.
3. List and discuss international acts regulating the protection of the marine environment from pollution.
4. Describe the structure of the International Maritime Organization (IMO) and highlight the role and functions of each body (Assembly, Council, Secretariat, Committees and Subcommittees).
5. Interpret the term and types of pilotage according to the provisions of the Maritime Code of the Republic of Croatia, specify and the rights and duties of the pilot, and explain potential responsibility and liability of the pilot and of the pilot company.
6. Describe the structure of the maritime administration in the Republic of Croatia, highlight the most important powers of harbour master's office, and in particular explain and describe the rules of procedure for maritime offenses.
7. Explain the legal concept of maritime domain and indicate which parts of land and sea have this status.

1.10. Main Reading

Luttenberger, Axel, Pomorsko upravno pravo, Pomorski fakultet, Rijeka, 2005.
Luttenberger, Axel, Osnove međunarodnog prava mora, Pomorski fakultet, Rijeka, 2006.
Luttenberger, Axel, Pomorsko ratno pravo, Pomorski fakultet, Rijeka, 2008.

1.11. Recommended Reading

Capar, Rudolf, Međunarodno pravo mora, Pomorski fakultet, Rijeka, 1994.
Capar, Rudolf, Međunarodno pomorsko ratno pravo, Školska knjiga, Zagreb, 1989.
Grabovac, Ivo, Pomorsko pravo, Knjiga I: Pomorsko javno i upravno pravo,VPŠ Split, 2001
Grabovac, Ivo – Petrinović, Ranka, Pomorsko javno, upravno i radno pravo, Pomorski fakultet, Split, 2006.
Ibler, Vladimir, Međunarodno pravo mora i Hrvatska, Barbat, Zagreb, 2001.
Rudolf, Davorin, Međunarodno pravo mora, JAZU, Zagreb, 1985.
Pomorski zakonik, N.N. 181/04. (s kasnijim izmjenama i dopunama)
Zakon o pomorskom dobru i morskim lukama, N.N. 158/03. (s kasnijim izmjenama i dopunama)

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Osnove međunarodnog prava mora	Sufficient (in library and book shop)	75
Pomorsko ratno pravo	Sufficient (in library and book shop)	75
Pomorsko upravno pravo	Sufficient (in library and book shop)	75

1.13. Quality Assurance

Quality assurance of the course performance is continuously monitored according to ISO 9001 system applied at the University of Rijeka Faculty of Maritime Studies. An analysis of results of the final exams and a student survey are conducted and appropriate measures are adopted for each academic year.

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3.2. Course description

Generic information			
Head of Course	Dr. sc. Neven Grubišić		
Course	Traffic Engineering and Microsimulation		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Obligatory		
Year of Study	2.		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		45+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

To gain knowledge of the methods and engineering techniques, analytic and microsimulation tools used by traffic engineers in solving operational traffic problems

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. To explain main parameters of traffic stream and compare relationships between them
2. To calculate traffic capacity, v/c ratio and level of service
3. To identify and manage conflict traffic flows
4. To design the main elements of transport network, select values and attributes for objects for a given urban area with at least one intersection using the programming manual
5. To assign traffic flows by transport modes and vehicle categories for a given traffic volumes within transport network
6. To set-up signal controllers in simulated environment for the target intersection, depending on the traffic flow parameters
7. To test traffic behavior of observed network and compare the results in minimum three time periods and for minimum two traffic scenarios using micro-simulation

1.4. Course Outline

Traffic stream parameters: traffic flow, speed, headway, spacing. Traffic behavior, vehicle dynamics, road geometry. Type and structure of traffic stream, uninterrupted and interrupted traffic stream. Relation between parameters. Applied statistic in traffic engineering. Volume and capacity, v/c ratio, level of service. Data collection, traffic counts and measurements. Management of traffic flow. Intersections and intersection traffic control. Signal controllers, signal programming and management. Definition and purpose of traffic microsimulations. Vissim simulator. Design of transport network. Modeling of turns and routes, traffic composition and vehicle class distribution. Private and public transport objects and attributes. Intersection control and management: conflict area, priority rules, safety gaps. Set-up and adjustment of signal controllers and signal phasing. Evaluation of results. Calibration and validation. Data collection and measurement objects. Simulation configuration, initiation and control.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☒ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☒ Other SW.SIMULATOR_____
1.6. Comments	Lectures and assignments are performed in a specialized classroom	

1.7. Student Obligations

Students are required to attend classes regularly and actively participate in lab exercises.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2,5	Class participation	0,5	Seminar paper		Experiment	
Written exam	0,5	Oral exam	0,5	Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	1
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Attending classes
Class attendance: Learning outcomes 1-7: 10 pts
Activity during assignments
Interactive participation in the design of the basic elements of roads, intersections and traffic signs: Learning outcomes 1-4: 20 pts
Practical works on simulator
Results and their interpretations obtained for key traffic measurements: Learning outcomes 5-7: 40 pts

Maximum of 70 credits or 70% of total score during teaching process is available. Maximum of 30 credits or 30% of total score may be earned during final exam.

Examples of evaluation by individual learning outcome:
1. Calculate the speed and density of traffic flow for a given road section and given time intervals, compare and analyze results (I1)
2. In the given example, explain the dynamics of the relationship between the volume and capacity of the road with respect to time interval of measurements (I2)
3. Calculate the amount of conflict points based on vehicle movements at the intersection (I3)
4. Using a computer program, draw the main elements of traffic network (I4)
5. Based on intersection survey data, define the vehicle composition, assign traffic volumes to approach lanes and compose routes and movements for vehicles and pedestrians (I5)
6. Set-up signal groups and adjust signal cycle and signal phases for target intersection for a given volume of traffic, change distribution of flow and adjust signal time intervals (I6)
7. Create scenarios of traffic flow for a given section of roadway, allocate detectors and export results using a microsimulation tool (I7)

1.10. Main Reading

1. Dadić, I., Kos, G., Ševrović, M.: Teorija prometnog toka, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2014.
2. Šraml, M., Jovanović, G.: Mikrosimulacije u prometu (radni udžbenik s primjenom VISSIM-a), Univerza v Mariboru, Fakulteta za gradbeništvo, Maribor, 2014.

1.11. Recommended Reading

1. Roess, R., McShane, W., Prassas, E: Traffic Engineering, Prentice Hall, New Jersey, 1998.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Dadić, I., Kos, G., Ševrović, M.: Teorija prometnog toka, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2014	accessible online	40
Šraml, M., Jovanović, G.: Mikrosimulacije u prometu (radni udžbenik s primjenom VISSIM-a), Univerza v Mariboru, Fakulteta za gradbeništvo, Maribor, 2014.	accessible online	40

1.13. Quality Assurance

The quality is monitored in accordance with ISO 9001 standard carried out at the Faculty of Maritime Studies. The results of passed exams are analyzed once a year and proper measures taken.

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3.2. Course description

Generic information		
Head of Course	**Full professor Tanja Poletan Jugović, Ph. D.** **Associate professor Siniša Vilke, Ph. D.**	
Course	**Cargoes in transport**	
Study Programme	Technology and Organization of Transport	
Type of Course	Compulsory	
Year of Study	2	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	5
	Number of Hours (L+E+S)	45 + 15

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Defining relevant terms and manifestations of products, goods, and cargo in transport. Understanding the role and meaning of knowing the nature of materials and freight in traffic. Getting to know the nature of materials and cargo in traffic as essential prerequisites for the organization of transport and transport manipulations. Knowledge of basic and specific classifications, divisions and categorization of cargo. Analysis of basic cargo characteristics and ways of testing the quality of cargo properties. Defining the specificities and rules of transportation, transshipment, storage, packaging, and signaling of certain types of cargo (liquid cargo, bulk cargo, general cargo, dangerous cargo, oversized cargo ...) with respect to different modes of transport (road, rail, naval, air ...).

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:

1. To distinguish between types of basic and specific division of cargo/goods in relation to different criteria.
2. To distinguish international trade classifications of goods in traffic.
3. To define and interpret the concept of freight/goods quality in transport.
4. Properly to define the basic characteristics and characteristics of freight/goods in transport.
5. To describe and interpret specific properties and characteristics of particular types of cargo (within a group of liquid, bulk, general, oversi□ed loads).
6. To distinguish and explain ways of testing the properties of particular types of cargo/goods.
7. To distinguish and interpret the rules and specifics of transportation of particular types of cargo.
8. To explain and distinguish between the systems of marking goods for particular types of cargo.
9. To define and distinguish between basic and specific types of (transport) packaging (palleti□ation, containeri□ation, ...).
10. To describe and compare the rules, requirements, and specifics of packaging, packaging, and signage of particular types of cargo.

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1.4. Course Outline

Relevant terms and manifestations of products, goods, and goods in transport; Meaning of knowledge of the nature of materials in transport, Concept of quality of goods in transport; Classification and nomenclature of goods in transport, Goods identification and marking systems; Packaging and packaging of goods in transit; Basic material properties and testing; raw and non-metallic raw materials; General cargo; bulk cargo; Other important dry cargoes in traffic; Liquid cargo; Gas cargo; Perishable cargo; Heavy and oversi□ed cargo; Ha□ardous Substances in Transport.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Seminar paper, seminar presentation, 1st colloquium, 2nd colloquium, the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	1	Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluation of the acquired learning outcomes is carried out according to the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- 70% of the acquired learning outcomes within the 1st colloquium (25%), the 2nd colloquium (25%) and through the presentation of a research assignment - seminars (20%) are evaluated through continuous assessment during the class; the student must achieve at least 50% of points in each colloquium, and the presentation of the research assignment is evaluated on the basis of elaborated evaluation criteria;
- at the final exam 30% of the obtained learning outcomes are evaluated whereby the student must pass at least 50% of the points for passing the final exam.

Examples of evaluating learning outcomes about set learning outcomes are:

1. To list and sort the basic types of cargo according to the criterion of aggregate condition, value, and quality of the cargo and other specific criteria for the division of cargo/goods in traffic.
2. To explain and highlight the importance of trade classification of goods in traffic.
3. To define and describe the basic definitions of the concept of freight/goods quality in transport.
4. To describe and explain the basic characteristics and characteristics of particular cargo/commodity groups.
5. Specify and interpret specific characteristics of particular cargo types (wood, cotton, hazardous cargo, ...).

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

6. State and explain the rules and specifics of the transport of dangerous goods.
7. Define the types and evaluate the importance of cargo (goods) signaling (logistical) in logistics and transport processes.
8. Sort and explain the characteristics of each type of transport packaging.
9. Highlight the most important rules and requirements for the packaging, packaging, and signage of liquid, bulk, general and hazardous cargo types.

1.10. Main Reading

- Hrvoje Baričević, Tanja Poletan Jugović, Siniša Vilke, Tereti u prometu, Pomorski fakultet u Rijeci, Sveučilište u Rijeci, 2010.
- Course materials for e-course (T. Poletan Jugović) available at e-learning platform – Merlin

1.11. Recommended Reading

- Džanić, H., Tehnologija materijala u prometu, Fakultet prometnih znanosti Zagreb, Sveučilište u Zagrebu, Zagreb, 1989.
- Musil, B., Pregrad, N., Turina, N., Žerjal, B., Poznavanje robe, Ekonomski fakultet Zagreb, Zagreb, 1997.
- Turina, N, i dr., Poznavanje robe, Zagreb, 1997.
- Štrumberger, N., Rukovanje materijalima u prometu, Fakultet prometnih znanosti, Sveučilište u Zagrebu, Zagreb, 2000.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
H. Baričević, T. Poletan Jugović, S. Vilke, Tereti u prometu , Pomorski fakultet u Rijeci, Sveučilište u Rijeci, 2010.	5	74
Course materials for e-course (T. Poletan Jugović) available at e-learning platform – Merlin	-	74

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 standard implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually, and a student survey is conducted once a semester.

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3.2. Course description

Generic information		
Head of Course	Maja Redžić, mag.cin.	
Course	**Physical education 3**	
Study Programme	**Technology and Organization of Transport**	
Level	**UNDERGRADUATE DEGREE PROGRAMME**	
Type of Course	core	
Year of Study	**2nd**	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	**1**
	Number of Hours (L+E+S)	**0+30+0 (0+2+0)**

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goals of physical and health culture are:
- acquaintance with the principles of biopsychosocial characteristics of man
- acquiring knowledge about the factors that cause illnesses and injuries
- adopting a certain fund of motor information necessary for a more meaningful use of leisure time
- meeting the biopsychosocial human need for movement
- building humane interpersonal relationships
- increase of creative ability and adaptation to contemporary living and working conditions
- by training appropriate programs to train a person for independent and responsible care for the preservation and promotion of personal health, work and other abilities

1.2. Prerequisites for Course Registration

Prerequisite for enrollment is a passed Physical and Health Education course 2

1.3. Expected Learning Outcomes

1. Application of acquired knowledge in everyday life
2. Creating humane interpersonal relationships that depend on the health of the individual and society as a whole
3. Improve knowledge of the factors that cause the injury and illness of gifted individuals.
4. To choose the possibility of solving motor tasks in urgent situations

1.4. Course Outline

The importance and application of warm-up, stretching and relaxation exercises in daily physical activities. Testing and testing motor skills and functional abilities. Developing a kinesthetic feel for the ball. Low aerobic. Absorbent on hands, on feet. Development of general motor skills (Static, explosive and repetitive power). Laying the ball out of motion. Deflection of the ball top, middle and high in volleyball (O). Three-way game (O). Refereeing rules: double ball running, steps, personal foul (K). Personal defense tactics and assault against personal defense (K). Stretching. Development of an individual's creative abilities in sports expression in an individual sport discipline with recreational influence. Yoga in function of health prevention.

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1.5. Modes of Instruction	☐ Lectures ☐ Seminars and workshops X ☐ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Active class attendance and activity in at least 70% of classes.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation		Seminar paper		Experiment	
Written exam		Oral exam		Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

College is not graded.

The motor movement is positively evaluated during the course of the student. Each teaching hour accurately monitors each (non) arrival and activity of the student on a separate whole semester's Physical and Health Education Records. The College of Physical and Health Education is evaluated for a particular semester by enrolling in the ISVU system "PASSED".

1.10. Main Reading

1.11. Recommended Reading

1. Findak V.: Metodika tjelesne i zdravstvene kulture, Školska knjiga Zagreb, 1999.
2. Anderson B.: Stretching, Vježbe istezanja za svakodnevni fitness: trčanje, plivanje, tenis, biciklizam,
skijanje, košarka, nogomet i ostale sportove, Gopal, d.o.o., Zagreb, 1997.
3. Anderson B., Burke E., Pearl B.: Fitnes za sve, Gopal, d.o.o., Zagreb, 1997.
4. Janković V. , N. Marelić.: Odbojka, Fakultet za fizičku kulturu Sveučilišta u Zagrebu, Zagreb 1995.
5. Kosinac, Z.: Kineziterapija, tjelesno vježbanje i sport kod djece i omladine oštećena zdravlja, Split, 1989.
6. Šnajder V., D. Milanović : Atletika, hodanja , trčanja, Fakultet za fizičku kulturu Sveučilišta u Zagrebu, Zagreb, 1991.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.12. Number of Main Reading (Examples)

Title	*Number of examples*	*Number of students*

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the transience are analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information			
Head of Course	Dr. sc. Alen Jugović, full professor		
Course	Port economics		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate		
Type of Course	Core		
Year of Study	2nd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Acquiring the necessary knowledge in the field of organization and management of seaports, paying particular attention to introducing students to:

- *specificity of port management of national and county significance in the Republic of Croatia,*
- *models of management of seaports in the world,*
- *determining gravity zones,*
- *port functions,*
- *designing the organization,*
- *economic indicators and other factors that depend on the performance of each port.*

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:

1. Explain the basic concepts of ports and port system
2. Explain port features as creators of multiplier effects
3. List the types of seaports
4. Analyze port development trends
5. Understand the importance and impact of particular phenomena (globalization, informatization etc.) on the development and competitiveness of ports
6. Analyze and apply basic economic settings to individual cases from port practice (calculation of travel costs, fares, etc.).

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1.4. Course Outline		
THE ROLE AND IMPORTANCE OF PORTS. Port definition, division of ports and port terminology. HISTORICAL DEVELOPMENT OF PORTS. The development of ports from ancient times to the present. INTERNATIONAL MARITIME TRAFFIC AND PORTS. Development of international maritime freight transport. Port development as a consequence of the incensement in maritime freight traffic. FACTORS RELEVANT FOR THE DEVELOPMENT OF PORTS. Natural benefits of the ports. Technical benefits of the ports. Labor organization in the ports. Customs regime. Tariffs and tariff policy. Economic strength of the port hinterland. The role of the state in port development and port policy measures. Political relations. GRAVITATION ZONES IN PORTS. The concept and significance of the gravitations zones in ports. Factors relevant for determining the size of the gravitational region. Methods for determining the size of the gravitational region. PORT FUNCTIONS. Port traffic, trade and industrial function. PARTICIPANTS IN THE PORT BUSINESS. Administration bodies and business entities. ORGANIZATION OF PORT SYSTEM COMPONENTS. Zoning and specialization. PORT AND PORT BUSINESS POLICY. Forms of management in ports. PORT SYSTEM DEVELOPMENT PLANNING. Port development planning methodology. Port traffic forecast. Financial and economic evaluation of the plan. Types of development plans. Long-term, mid-term and short-term plans. BASIC ORGANIZATION OF PORT BUSINESS. The concept and types of freight in ports. Traffic and technological process in the ports. Documents in the port business. Daily operational planning. Improvement of the traffic-technological process and business system in the ports. Port jamming. ECONOMIC INDICATORS OF BUSINESS PERFORMANCE. Determining the value of the port service. Port fees and tariffs, port revenues. Costs in the port business. Labor productivity. Business efficiency. Business profitability.		
1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		
1.7. Student Obligations		
Attending classes Attending exercises Classroom activity Exams (continuous assessment) and tests Final exam		

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1.8. Assessment[1] of Learning Outcomes

Course attendance	0,5	Class participation	0,5	Seminar paper		Experiment	
Written exam	2	Oral exam		Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Assessment is carried out by conducting two exams (continuous assessment), two tests during the classes and the final exam.

1. *Define the term port.*
2. *List the regional participants that the port business can have influence on.*
3. *List how ports are divided by purpose.*
4. *Explain how changes in technology affect seaport business.*
5. *Explain how globalization affects port competitiveness.*
6. *List what the port taxes consist of.*

1.10. Main Reading

1. Jugović; A.: Upravljanje morskom lukom, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013.
2. Kesić, B.: Ekonomika luka, Pomorski fakultet, Rijeka 2003.

1.11. Recommended Reading

1. Jugović; A.: Upravljanje morskom lukom, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013.
2. Kesić, B.: Ekonomika luka, Pomorski fakultet, Rijeka 2003.
3. Theo Notteboom, Athanasios Pallis and Jean-Paul Rodrigue (2020) Port Economics, Management and Policy, New York: Routledge, 2020.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Jugović; A.: Upravljanje morskom lukom, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013.	30	40
Kesić, B.: Ekonomika luka, Pomorski fakultet, Rijeka 2003. (dio)	20	40
Wayne, K.Talley: Port economics, Routledge – Taylor and Francis Group, London and New York, 2009.	3	40

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies in Rijeka.

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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3.2. Course description

Generic information		
Head of Course	Mirjana Borucinsky, PhD	
Course	English Language 4	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Core	
Year of Study	2	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	4
	Number of Hours(L+E+S)	15+30+0

1.GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goal of the course is to develop the students' ability for written and oral communication in English language using the basic terminology related to freight forwarding, basic characteristics of shipping documents and international regulations for interpreting commercial terms (INCOTERMS).

1.2. Prerequisites for Course Registration

Successful completion of *English Language 3.*

1.3. Expected Learning Outcomes

After passing the exam, the students will be able to do the following:

1. Show the four basic language skills in English: reading, writing, listening and speaking on B2 level (independent user) according to the Common European Framework of Reference for Languages (CEF).
2. Demonstrate language knowledge and skills for performing professional work in maritime business and transport in English.
3. Fill in forms and documents (bill of lading, charter party, notice of readiness, etc.) correctly in English.
4. Interpret and translate international regulations for interpreting commercial terms (INCOTERMS).
5. Ask questions and use complex lexical and syntactic forms correctly in written and oral expression in vocational language.
6. Translate simple sentences dealing with vocational topics from English into Croatian, using a dictionary.

1.4. Course Outline

Professional terminology and relevant elements of grammar (syntax of simple sentences, complex independent and subordinate sentences, word formation) in selected professional written and spoken texts about the following extra-linguistic topics: international freight forwarding, shipping documents (bill of lading, charter party, notice of readiness, etc.), regulations for interpreting commercial terms (INCOTERMS).

1.5. Modes of Instruction		
	☒ Lectures	☐ Practical work
	☐ Seminars and workshops	☐ Multimedia and Network
	☒ Exercises	☐ Laboratory
	☐ E-learning	☐ Mentorship
	☐ Field work	☐ Other _____

1.6. Comments	

1.7. Student Obligations

1st midterm exam, 2nd midterm exam, final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure of assessment of learning outcomes is performed according to the University of Rijeka Regulations on the Studies and the Regulations on the Studies of the Faculty of Maritime Studies in the following way:

- 70 % of outcomes are assessed through continuous assessment in class. The 1st midterm exam assesses the outcomes 1, 2 and 4 (35 %), while the 2nd midterm exam assesses the outcomes 3, 5 and 6 (35 %). The students need to gain at least 50 % of points on each midterm exam.
- The final exam assesses 30 % of learning outcomes (1-6), whereby the student must gain at least 50 % of points to pass.

Examples of outcome assessment in relation to the set outcomes are:

1. After reading the given text, describe and explain the procedure of notice, arrival and acceptance of a foreign ship in port. (O1)
2. Explain the meaning of the term 'charterer' and name the Croatian equivalents. (O2)
3. Fill in the appropriate terms in the forms and documents (bill of lading, charter party, notice of readiness, etc.) in English. (O3)
4. Match the international commercial term with its definition (i.e. FOB – *free on board*). (O4)
5. Transform statements into questions. (O5)
6. Translate a professional text from Croatian into English, using a dictionary. (O5)

1.10. Main Reading

1. Allison, J., Towend, J. 2017. *In Company*. 3.0. Logistics. MacMillan Publishers Limited.
2. Evans, V., Dooley, J., Buchannan, D. 2013. *Logistics*. Express Publishing.
3. Grussendorf, M. 2009. *English for Logistcs*. Oxford: OUP.
4. Powell, D. et al. 2007. *Grammar practice for upper intermediate students*. Harlow: Pearson/Longman.
5. Pritchard, B. 2001. *English in shipping*. Pomorski fakultet, Rijeka.
6. Teaching material available on the e-learning platform Merlin.

1.11. Recommended Reading

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Allison, J., Towend, J. 2017. *In Company*. 3.0. Logistics. MacMillan Publishers Limited.	5	45
Evans, V., Dooley, J., Buchannan, D. 2013. *Logistics*. Express Publish	5	45
Grussendorf, M. 2009. *English for Logistcs*. Oxford: OUP	5	45
Powell, D. et al. 2007. *Grammar practice for upper intermediate*	5	45

students. Harlow: Pearson/Longman.		
Pritchard, B. 2001. *English in shipping*. Pomorski fakultet, Rijeka	5	45
Teaching material available on the e-learning platform Merlin.	-	45

1.13. Quality Assurance

The quality of the course is monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and a survey is conducted among the students once per semester.

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3.2. Course description

Generic information			
Head of Course	PhD Svjetlana Hess		
Course	Transport Demand Planning		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate		
Type of Course	Mandatory		
Year of Study	2.		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

To empower the student in applying methods for determining the existing and future demand in transport.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:
1. Define the term of transportation supply and demand
2. Explain and examine the factors that affect the transport demand
3. Distinguish between qualitative and quantitative forecasting methods
4. Compare and consider the advantages and limitations of forecasting methods in a particular problem
5. Choose and apply a method or combination of methods to determine the transport demand
6. Evaluate current demand and predict the future transport demand (using computer support)
7. Explain the results obtained and discuss their application in a real business environment

1.4. Course Outline

Defining the concept of transport supply and demand. Transport demand influencing factors. Role of model in forecasting transport demand. Applying qualitative and quantitative methods for forecasting transport demand. Demand estimation using regression analysis: model set up, data collection, determination of demand function form, testing the regression results. Usage of the appropriate software package.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☒ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Active class participation with at least 70% attendance. Creating work assignments during class. Passing tests for continuous monitoring ad assessment including the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1.5	Class participation		Seminar paper		Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	2.5	Presentation		Practical work	
Portfolio							

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Evaluation procedure:
70% of the grade through exams for students' continuous monitoring/assessment and 30% of the grade through final exam as follows:

- continuous assessment through 2 exams and 2 test assignments
- final exam (written): checking the understanding of total acquired knowledge in the field of transportation demand forecasting methods and their application to specific transport or logistic problem.

Examples for evaluation of learning outcomes:

1. define the term of transport supply and demand
2. sort and list the factors that affect the transport demand
3. list the basic features of qualitative and quantitative forecasting methods
4. explain where a transport forecasting method is applied in practice
5. design a practical case, describe the data collection method, set up the model and determine the appropriate solving method
6. based on the solution obtained, forecast the future transport demand for a certain period
7. justify the implementation of a forecasting method in practice

1.10. Main Reading

- Hess, S., Planiranje prometne potražnje, Sveučilište u Rijeci, Pomorski fakultet u Rijeci, Rijeka, 2010.
- Salvatore, D., Ekonomija za menadžere, McGraw-Hill Inc., MATE, Zagreb, 1994.
- Šošić, I., Serdar, V., Uvod u statistiku, Školska knjiga, Zagreb, 1997.

1.11. Recommended Reading

- Kmenta, J., Počela ekonometrije, MATE d.o.o., Zagreb, 1997.
- Jones, H., Twiss, B.C., Forecasting Technology for Planning Decisions, The Macmillan Press Ltd., 1980.
- Hanke, J.E., Reitsch, A. G., Understanding Business Statistics, Irwin, Boston, 1991.
- Statistical sources with current statistics on transportation, trade, goods flow, port traffic, etc. available on the following websites: https://www.wto.org; https://unctad.org; https://info.isl.org.; https://ec.europa.eu/eurostat/; https://www.dzs.hr. (…) and various transport companies' websites as well.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Hess, S., Planiranje prometne potražnje, Sveučilište u Rijeci, Pomorski fakultet u Rijeci, Rijeka, 2010.	5	55
Salvatore, D., Ekonomija za menadžere, McGraw-Hill Inc., MATE, Zagreb, 1994.	5	55
Šošić, I., Serdar, V., Uvod u statistiku, Školska knjiga, Zagreb, 1997.	5	55

1.13. Quality Assurance

The studying quality is monitored following the ISO 9001 system, as well as European standards and guidelines for quality assurance, carried out at the Faculty of Maritime Studies, University of Rijeka. Analysis of exam passing is done once a year, and once a semester a survey is conducted among students.

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3.2. Course description

Generic information			
Head of Course	Dr. sc. Neven Grubišić		
Course	Route planning		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Obligatory		
Year of Study	2.		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		30+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

To gain knowledge of the traffic route and trip planning, transport vehicles scheduling and cargo distribution within the virtual environment using computer simulation tools.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. To solve at least one transport network problem applying graph theory methods and appropriate algorithms.
2. To apply right method for calculation of traffic assignment, route choice and optimal number of resources in the given case.
3. To explain dependencies of key elements for determination of time-window allocation in container shipping.
4. To interlink minimum 2 typical tactical problems in vessel route planning with cargo characteristics and shipping category.
5. To determine acceptable vehicle scheduling in minimum 3 cases according to route plan using a computer software tool.
6. To organize cargo distribution lots according to dedicated timeframe and route plan using computer software tool.
7. To calculate trip performances for a minimum of 3 indicators using computer program and to explain the results.

1.4. Course Outline

Terms and definition of transport networks and problem area. Graph theory: implementation in transport network modeling. Capacity and network flows: law of stable traffic flow, flows with one input and output node, network cut, maximum flow, algorithms for maximum flow optimization. Minimum spanning tree methods and algorithms, the shortest path methods and algorithms. Shortest path in stochastic network. Route planning on transport network. Eulerian tour. Traveling salesman problem. Time-space vehicle scheduling plan, Multi terminal scheduling, Optimal tour planning. Public transport scheduling. Crew assignment. Shipping routing, and cargo allocation. Port inventory routing.
Computer simulation: trip order, trip route initiation, cargo load management, route optimization, alternative route choice, dynamic trip tracking, destination matrix, time and cost management.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☒ Other SW.SIMULATOR_____
1.6. Comments	Lectures and assignments are performed in a specialized classroom	

1.7. Student Obligations

Students are required to attend classes regularly and actively participate in lab exercises.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation	1	Seminar paper		Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	1
Portfolio							

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Attending classes
Class attendance: Learning outcomes 1-7: 10 pts
Activity during assignments
Interactive participation in the design of route planning: Learning outcomes 1-4: 20 pts
Practical works with simulation tool
Results and their interpretations obtained for key traffic measurements: Learning outcomes 5-7: 40 pts

Maximum of 70 credits or 70% of total score during teaching process is available. Maximum of 30 credits or 30% of total score may be earned during final exam.

Examples of evaluation by individual learning outcome:
1. Calculate the shortest path from origin to destination using Dijkstra algorithm (I1)
2. Shipping line timetable is present, calculate minimum number of vessels (vehicles) for a given case (I2)
3. Allocate berths and cranes to ships depending on cargo-stowage plan and draw scheduling plan for cargo loading/unloading using heuristic methods (I3)
4. Explain impact of vessel rotation on port storage inventory and cargo distribution (I4)
5. Using computer simulation tool set-up routing plan and monitor cargo delivery process (I5)
6. Create scheduling plan, arriving and departure lists (I6)
7. Calculate bunker, labor and toll costs for a tour using computer simulation (I7)

1.10. Main Reading

1. Mehanović, M.: Mreže u saobraćaju i komunikacijama, Univerzitet u Sarajevu, Fakultet za saobraćaj i komunikacije, Sarajevo, 2015.
2. Bauk, S.I.: Kvantitativne metode optimizacije u funkciji naučnog menadžmenta, Ekonomska laboratorija za istraživanje tranzicije Podgorica, Podgorica, 2011

1.11. Recommended Reading

1. Pašagić, H.: *Matematičke metode u prometu*, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb,
2. Toth, P., Vigo, D.: *Vehicle Routing: Problems, Methods, and Applications*, Siam, Philadelphia, 2014.
3. Zanjirani-Farahani, R.; Rezapour, S., Kardar, L.: *Logistics Operations and Management*, Elsevier, 2011.
4. Hillier, F., Liberman, G.: Introduction to Operations Research, McGraw-Hill, NewYork, 2005.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Mehanović, M.: *Mreže u saobraćaju i komunikacijama*, Univerzitet u Sarajevu, Fakultet za saobraćaj i komunikacije, Sarajevo, 2015.	5	40
Bauk, S.I.: Kvantitativne *metode optimizacije u funkciji naučnog menadžmenta*, Ekonomska laboratorija za istraživanje tranzicije Podgorica, Podgorica, 2011.	4	40

1.13. Quality Assurance

The quality is monitored in accordance with ISO 9001 standard carried out at the Faculty of Maritime Studies. The results of passed exams are analyzed once a year and proper measures taken.

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3.2. Course description

Generic information		
Head of Course	Assist. prof. Livia Maglić, phD	
Course	Material handling equipment	
Study Programme	Technology and Organization of Transport	
Level	Bachelor	
Type of Course	Core	
Year of Study	2nd	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	5
	Number of Hours (L+E+S)	30+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goal of the course is to familiarize students with the material handling equipment and their exploitation features depending on the type of cargo and handling techniques.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

1. Define the basic terms of transport, transfer, transshipment, material handling equipment.
2. Explain the role and importance of material handling equipment in the transport process.
3. Classify material handling equipment by type of cargo and technological process of transshipment.
4. Explain and determine the factors determining the exploitation characteristics of the material handling equipment.
5. Compare and give an example of the application of types of material handling equipment, depending on the technological process of transshipment.
6. Explain how to evaluate, select and determine the required number of material handling equipment.
7. Comprehend and explain the importance of the safety aspect during operations with particular material handling equipment.
8. Determine the productivity, operating class, stability, and a load of material handling equipment.

1.4. Course Outline

Definition of terms of transport, transfer, and transshipment. Types and basic features of transshipment. The productivity of the material handling equipment. Determination of the operating class, safe working load and working speeds of material handling equipment. Cargo lifting gears for handling loads. Documentation, inspection, and testing of material handling equipment. Safety management of material handling equipment.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

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1.7. Student Obligations

1. Two colloquiums
2. Design and present a project assignment
3. Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	2,0	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1,0	Essay		Research	
Project	0,5	Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out according to the Regulations on Studies of the University of Rijeka and the Rulebook on Studies at the Faculty of Maritime Studies in Rijeka as follows:

• 70% of the acquired learning outcomes are evaluated through continuous knowledge assessment during the teaching process: through the 1st colloquium - learning outcomes 1-4 (25%), 2nd colloquium - 5-8 (25%), project assignment - learning outcomes 1-8 (20%);

• 30% of the acquired learning outcomes (1-8) are evaluated at the final part of the exam, with a minimum of 50% of available points necessary for passing the final exam.

Examples of evaluating learning outcomes respecting set learning outcomes are:

1. Define the term transport.
2. Specify the basic sizes in the material flow technology for the requirements of cargo transfer with continuous material handling equipment.
3. Explain and describe the basic criteria for the classification of material handling equipment.
4. Classify and explain the utilization coefficients of the safe working load capacity of the material handling equipment.
5. Explain the relation of routes as one of the indicators of valuation of the operation of material handling equipment.
6. Classify and describe the safety precautions when operating with a crane.
7. Calculate and explain theoretical and exploitative productivity on a given numerical example.
8. Calculate the relevant parameters for determining the operating class of a quay crane for the given example.

1.10. Main Reading

- Course presentations available on the e-learning system Merlin
- Dundović, Č., Prekrcajna sredstva prekidnog transporta, Pomorski fakultet u Rijeci, Rijeka, 2005.
- Mavrin, I., Transporteri, Fakultet prometnih znanosti, Zagreb, 1999.

1.11. Recommended Reading

- Maglić, L. Optimizacija raspodjele kontejnera na slagalištu lučkoga kontejnerskog terminala, doctoral thesis 2015.
- Burič, A.M., Zbirka riješenih zadataka iz pretovarne mehanizacije, Univerzitet Crne Gore, Podgorica, 2010.
- Vladić, J., Transportna i pretovarna sredstva i uređaji: neprekidni i automatizovani transport, Fakultet tehničkih nauka, Novi Sad, 2005.
- Vladić, J., Mehanizacija i tehnologija pretovara: neprekidni transport i specifične mašine i uređaji, Fakultet tehničkih nauka, Novi Sad, 2005.
- Bukumirović, M., Zbirka riješenih zadataka iz elemenata transportnih sredstava i uređaja 2, Univerzitet u Beogradu, Saobraćajni fakultet, Beograd, 2003.
- Matić, A., Prekrcajna sredstva u pomorskom transportu 1, Veleučilište u Dubrovniku, Dubrovnik, 2000.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Dundović, Č., Prekrcajna sredstva prekidnog transporta, Pomorski fakultet u Rijeci, Rijeka, 2005.	6	70
Mavrin, I., Transporteri, Fakultet prometnih znanosti, Zagreb, 1999.	6	70

1.13. Quality Assurance

The quality of study is continuously observed under the ISO 9001 system and following European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies, University of Rijeka. An analysis of the exams is given annually, and a survey among students is conducted by the semester.

1 **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities he course. Use empty fields for additional activities.

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3.2. Course description

Generic information		
Head of Course	**Full professor Damir Zec, Ph.D** **Associate professor Siniša Vilke, Ph.D.**	
Course	**Transport safety**	
Study Programme	**Technology and organization of transport**	
Type of Course	Obligatory	
Year of Study	2	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	5
	Number of Hours (L+E+S)	45 + 15

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The purpose of the course is to acquire basic knowledge of the safety and health at work in the maritime, road, rail and air transport systems.

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

1. To discuss the regulations on international and national transport safety and safety at work
2. To explain occupational safety requirements and describe safeguards in shipboard and port work
3. To explain the principles and measures aiming to ensure safe port operations
4. To classify dangerous goods and explain procedures for the dangerous goods transport
5. To understand the principles of port safety
6. To interpret the application of different forms of ITS applicable in land transport safety
7. To interpret time intervals and intersection signal phases and to identify traffic conflict areas on intersection examples
8. To identify, interpret and compare safety elements in structural design of roads and intersections

1.4. Course Outline

International regulations dealing with transport and occupational safety ystems. Legal foundations, principles, and implementation of occupational safety rules. Protection of workers on board and in port. Safeguards in port and shipboard work. Dangerous cargoes. Fire protection. Road safety. Railway safety. Application of the ITS in land transport security. Basic features of the air traffic safety systems. Improvement of safety, education, and prevention in all branches of transport.

1.5. Modes of Instruction	X Lectures X Seminars and workshops X Exercises ☐ E-learning ☐ Field work	X Practical work ☐ Multimedia and Network X Laboratory ☐ Mentorship ☐ Other _____

1.6. Comments	

1.7. Student Obligations

The student must attend at least 70% of the total contact hours, develop and present a seminar paper, pass the preliminary exams (continuous assessment) to take the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project	1	Continuous Assessment	1	Presentation		Practical work	
Portfolio							

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out by the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- *70% of the acquired learning outcomes within the 1st semester (25%), the 2nd semester (25%) and through the presentation of a research assignment - seminars (20%) are evaluated through continuous assessment during the class; the student must score at least 50% of points in each midterm, and the presentation of the research assignment is evaluated based on elaborated evaluation criteria;*
- *at the final part of the exam 30% of the obtained learning outcomes are evaluated whereby the student must pass at least 50% of the points for passing the final exam.*

Examples of evaluating learning outcomes with set learning outcomes are:

1. Explain the basic legal requirements applicable to the transport safety systems
2. Describe the occupational safety and security requirements applicable to the shipboard and port work
3. Describe the port safe working procedure(s)
4. Describe dangerous goods transport framework and explain the main safety procedures
5. Describe the principles and application of port safety measures
6. Explain the different forms of ITS applications in road and rail safety systems
7. Determine time intervals and phases of signaling traffic devices and collisions of traffic flow
8. Describe the safety elements of a road construction project

1.10. Main Reading

1. Capar, R., Pravne osnove zaštite na radu, Fakultet za pomorstvo i saobraćaj, Rijeka, 1989.
2. Zec, D., Siguran rad u luci, Fakultet za pomorstvo i saobraćaj, Rijeka, 1991.
3. Matković, M., Protupožarna zaštita na brodovima, Fakultet za pomorstvo i saobraćaj, Rijeka, 2000.
4. Baričević, H., Tehnologija kopnenog prometa, Pomorski fakultet, Glosa, Rijeka, 2001.
5. Božičević, J., Topolnik, D., Infrastruktura cestovnog prometa, Zagreb, 1996.
6. Cerovac, V., Tehnika i sigurnost prometa, fakultet prometnih znanosti, Zagreb, 1997.

1.11. Recommended Reading

1. Međunarodna konvencija o sigurnosti ljudskih života na moru, 1974
2. Međunarodni kodeks o prijevozu opasnih tvari morem (IMDG)
3. Međunarodni kodeks za gradnju i opremanje brodova za prijevoz ukapljenih plinova (IGC),
4. Međunarodni kodeks za gradnju i opremanje brodova za prijevoz opasnih kemikalija u razlivenom stanju (IBC),
5. Zakon o prijevozu opasnih tvari Republike Hrvatske, Narodne novine«, br. 97/93., 34/95, 151/03
6. Accident prevention on board ship at sea and in port, ILO, 1969
7. Fundamental principles of occupational safety and health, ILO, 2001
8. Božičević, J. Ceste I. i II., Zagreb, 1993.
9. Happ, Z., Rotim, J., Mihoci, F., Sigurnosni aspekti hrvatskog cestovnog prometa, Suvremeni promet, god 16, broj
3-4, 1996.
10. Highway Manual Capacity, Highway Research Board, Washington DC, 1985. i 1994.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Capar, R., Pravne osnove zaštite na radu, Fakultet za pomorstvo i saobraćaj, Rijeka, 1989.	4	45
Zec, D., Siguran rad u luci, Fakultet za pomorstvo i saobraćaj, Rijeka, 1991.	7	45
Matković, M., Protupožarna zaštita na brodovima, Fakultet za pomorstvo i saobraćaj, Rijeka, 2000.	5	45
Baričević, H., Tehnologija kopnenog prometa, Pomorski fakultet, Glosa, Rijeka, 2001.	13	45
Božičević, J., Topolnik, D., Infrastruktura cestovnog prometa, Zagreb, 1996.	6	45
Cerovac, V., Tehnika i sigurnost prometa, fakultet prometnih znanosti, Zagreb, 1997.	4	45

1.13. Quality Assurance

The quality of study is constantly monitored by the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually and a student survey is conducted once a semester.

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3.2. Course description

Generic information		
Head of Course	Maja Redžić, mag.cin.	
Course	**Physical education 4**	
Study Programme	**Technology and Organization of Transport**	
Level	**UNDERGRADUATE DEGREE PROGRAMME**	
Type of Course	core	
Year of Study	**2nd**	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	**1**
	Number of Hours (L+E+S)	**0+30+0 (0+2+0)**

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goals of physical and health culture are:
- acquaintance with the principles of biopsychosocial characteristics of man
- acquiring knowledge about the factors that cause illnesses and injuries
- adopting a certain fund of motor information necessary for a more meaningful use of leisure time
- meeting the biopsychosocial human need for movement
- building humane interpersonal relationships
- increase of creative ability and adaptation to contemporary living and working conditions
- by training appropriate programs to train a person for independent and responsible care for the preservation and promotion of personal health, work and other abilities

1.2. Prerequisites for Course Registration

Prerequisite for enrollment is a passed Physical and Health Education course 3

1.3. Expected Learning Outcomes

After completing the course, students will be able to:
1. Better mental and physical health
2. Pursuing a physically active lifestyle
3. Promoting the value of an active and healthy lifestyle
4. Develop the ability to create by motor expression according to the characteristics of the gifted individuals.

1.4. Course Outline

Running technique (short sections), cycling at different tempo up to 6 minutes. Kinesitherapy exercises for spinal preservation. Personal Defense, Player Takeover (K). Skip the screw in place and move. Online game, forward elevator (O). Basic aerobics. Roll-step, bounce with a hammer, over one shoulder with a reel. Garbage - attack element, defense block element (O). One-on-two play (K). Two- and three-player counter-attack (K). Stretching, relaxing and relaxation exercises. Situational play (O). Measurement and evaluation of motor skills and functional abilities of an organism. Hi-low aerobics. Covering the ground when performing and expecting service (O).

1.5. Modes of Instruction	☐ Lectures ☐ Seminars and workshops X ☐ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Active class attendance and activity in at least 70% of classes.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation		Seminar paper		Experiment	
Written exam		Oral exam		Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

College is not graded.

The motor movement is positively evaluated during the course of the student. Each teaching hour accurately monitors each (non) arrival and activity of the student on a separate whole semester's Physical and Health Education Records. The College of Physical and Health Education is evaluated for a particular semester by enrolling in the ISVU system "PASSED".

1.10. Main Reading

1.11. Recommended Reading

1. Findak V.: Metodika tjelesne i zdravstvene kulture, Školska knjiga Zagreb, 1999.
2. Anderson B.: Stretching, Vježbe istezanja za svakodnevni fitness: trčanje, plivanje, tenis, Biciklizam, skijanje, košarka, nogomet i ostale sportove, Gopal, d.o.o., Zagreb, 1997.
3. Anderson B., Burke E., Pearl B.: Fitnes za sve, Gopal, d.o.o., Zagreb, 1997.
4. Janković V. , N. Marelić.: Odbojka, Fakultet za fizičku kulturu Sveučilišta u Zagrebu, Zagreb 1995.
5. Kosinac, Z.: Kineziterapija, tjelesno vježbanje i sport kod djece i omladine oštećena zdravlja, Split, 1989.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.12. Number of Main Reading (Examples)

Title	*Number of examples*	*Number of students*

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the transience are analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information			
Head of Course	Dario Ogrizović, PhD		
Course	E-business		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Elective		
Year of Study	3rd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30 + 15 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

E-business refers to the application of information technology and computer networks, mainly the Internet, in the process of buying and selling goods, services and information, but also applies to smart and social commerce, e-learning, e-services, e-government, social cooperation, shared economics, innovation, mobility, communication and information discovery using artificial intelligence, analytics and big data.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. Explain the theoretical basics of e-business related to system types, models, methods, mechanisms, management programs and benefits.
2. Describe the methods and models for selling goods, services and information using computer networks from business to individual customers.
3. List and distinguish between electronic and mobile commerce, their content and implementations.
4. Describe social networks and applications for social commerce and social enterprise systems, advertising, CRM and entertainment.
5. Describe connected smart commerce, internet of things and smart applications.
6. Describe consumer behaviour on the Internet, marketing and advertising in a web environment.
7. List security issues and their solutions in e-business.
8. Differentiate and systematize types of e-payments, mobile payments and digital currencies.
9. Indicate the ethical, legal, social and business environments in which e-business operates.

1.4. Course Outline

Theoretical foundations of e-business Methods and models for the sale of goods, services and information using computer networks Content and implementations of electronic and mobile commerce Social networks, applications for social commerce and social enterprise systems, advertising, CRM and entertainment Connected smart commerce, internet of things and smart applications Consumer behaviour on the Internet, marketing and advertising in a web environment Security issues and their solutions in e-business Types of e-payments, mobile payments and digital currencies in e-business Ethical, legal, social and business environments

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☒ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

The student must attend at least 70% of the total hours of lectures and exercises, and must have passed the exams (continuous assessment) to take the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam	1,0	Oral exam		Essay		Research	
Project	0,5	Continuous Assessment	1,0	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The process of evaluation of the acquired learning outcomes takes place during continuous assessments (through 2 midterm examinations - total 70%) and at the final part of the exam (30%).

Examples of evaluating learning outcomes in relation to the learning outcomes that are set are:

1. Explain the theoretical basics of e-business that relate to system types, models, methods, mechanisms, management programs and benefits.
2. Describe the methods and models for selling goods, services and information using computer networks.
3. List the electronic and mobile commerce, their content and implementations.
4. Describe social networks and applications for social commerce and social enterprise systems, advertising, CRM and entertainment.
5. Describe connected smart commerce, internet of things and smart applications.
6. Describe consumer behaviour on the Internet, marketing and advertising in a web environment.
7. List security issues and their e-commerce solutions.
8. Sort and organize e-commerce, mobile payments and digital currency e-business types.
9. List the ethical, legal, social and business environments in which e-business operates.

1.10. Main Reading

1. Turban, E., et al. Electronic commerce 2018: A managerial and social networks perspective. Springer, 2017.
2. Schneider, G., P. Electronic Commerce, Gengage Learning, 2017.
3. Study materials available at e-learning platform (https://moodle.srce.hr)

1.11. Recommended Reading

Jelassi, T., et al. Strategies for E-business: Creating Value Through Electronic and Mobile Commerce: Concepts and Cases. 3rd ed. Harlow, England: FT Prentice Hall, 2014.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Turban, E., et al. Electronic commerce 2018: A managerial and social networks perspective. Springer, 2017.	10	40
Schneider, G., P. Electronic Commerce, Gengage Learning, 2017.	10	40
Jelassi, T., et al. Strategies for E-business: Creating Value Through Electronic and Mobile Commerce: Concepts and Cases. 3rd ed. Harlow, England: FT Prentice Hall, 2014.	10	40

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually and a student survey is conducted once a semester. All data, including exam, written work and assessment, are at all times public data for all students who have enrolled in the course (on the e-learning platform).

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3.2. Course description

Generic information			
Head of Course	Dario Ogrizović, PhD		
Course	Cloud Computing		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Elective		
Year of Study	3rd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30 + 15 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Cloud computing brings a simpler and more flexible environment for the end user, theoretical basics and virtualization as the basis for the emergence of cloud computing are explained. Basic service models, implementations and major cloud computing service providers are presented.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. Explain the theoretical basics of cloud computing related to the foundations, etymology and properties of computing clouds
2. Present virtualization as the basis for the emergence of cloud computing and the type of virtualizations
3. List and distinguish between service models and cloud computing implementations
4. Describe and compare the major cloud computing service providers using historical view, global network of data centres and CDN hubs
5. Distinguish and systematize the types and purpose of available public and private cloud computing services

1.4. Course Outline

Theoretical basics of cloud computing
Foundations, etymology and properties of computing clouds
Virtualization
Cloud computing service models
Cloud computing implementation models
The major cloud computing service providers
Global network of data centres and CDN hubs
Type and purpose of available cloud computing services

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1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☒ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

The student must attend at least 70% of the total hours of lectures and exercises, and must have passed the exams (continuous assessment) to take the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam	1,0	Oral exam		Essay		Research	
Project	0,5	Continuous Assessment	1,0	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The process of evaluation of the acquired learning outcomes takes place during continuous assessments (through 2 midterm examinations - total 70%) and at the final part of the exam (30%).

Examples of evaluating learning outcomes in relation to the learning outcomes that are set are:

1. Explain the foundations, etymology and properties of cloud computing
2. List and explain the types of virtualization as the basis for the emergence of cloud computing
3. List and sort cloud computing service models and cloud computing implementation models
4. Compare and describe the major cloud computing service providers
5. Classify and systematize the types and purpose of available public and private cloud computing services

1.10. Main Reading

1. Erl, T.: Cloud Computing: Concepts, Technology & Architecture, The Prentice Hall Service Technology Series, 2013.
2. Chopra, R.: Cloud Computing: An Introduction, Mercury Learning & Information, 2017.
3. Study materials available at e-learning platform (https://moodle.srce.hr)

1.11. Recommended Reading

1. Kavis, M.J.: Architecting the Cloud: Design Decisions for Cloud Computing Service Models (SaaS, PaaS, and IaaS), Wiley, 2014.
2. Rafaels, R.: Cloud Computing: From Beginning to End, CreateSpace Independent Publishing Platform, 2015.

Selected scientific papers from journals:

1. Journal of Cloud Computing, ISSN: 2192-113X
2. Future Generation Computer Systems, ISSN: 0167-739X

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Erl, T.: Cloud Computing: Concepts, Technology & Architecture, The Prentice Hall Service Technology Series, 2013.	5	20
Chopra, R.: Cloud Computing: An Introduction, Mercury Learning & Information, 2017.	5	20
Kavis, M.J.: Architecting the Cloud: Design Decisions for Cloud Computing Service Models (SaaS, PaaS, and IaaS), Wiley, 2014.	5	20
Rafaels, R.: Cloud Computing: From Beginning to End, CreateSpace Independent Publishing Platform, 2015.	5	20

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually and a student survey is conducted once a semester. All data, including exam, written work and assessment, are at all times public data for all students who have enrolled in the course (on the e-learning platform).

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3.2. Course description

Generic information			
Head of Course	Renato Ivče, PhD, Professor		
Course	Maritime transport technology		
Study Programme	Technology and Organization of Transport		
Level	University undergraduate study program		
Type of Course	Optional		
Year of Study	3.		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		3
	Number of Hours (L+E+S)		**(30 + 15 + 0)**

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The objective of the course is to acquaint students with the importance of ship maintenance system, methods of maintenance, direct and indirect costs of maintenance. Introduce students to corrosion processes, effects on ship's structure, need for corrosion protection and methods of corrosion protection. Especially, indicates to the importance of maintaining handling and deck equipment, and other parts of vessel which have significant impact on its safety.

1.2. Prerequisites for Course Registration

No prerequisites for course registration

1.3. Expected Learning Outcomes

1. - Explain and apply international and national rules and codes relating to the handling and transport of cargo
2. - Define the types of cargo significant in maritime transport and analyse the general requirements for sea transport
3. - Define and apply requirements when transporting various types of dry cargo by sea.
4. - Define and apply requirements when transporting various types of liquid cargo by sea
5. - Compare the transport and transhipment effectiveness of ships of various technologies

1.4. Course Outline

International regulations, regulations, recommendations and standards related to cargo handling. Cargo carrying capacity of the ship. Deadweight of the ship. Principles of cargo planning for ships of different technologies. General cargo maritime transportation technology. Container maritime transportation technology. Bulk cargo maritime transportation technology. Technology of maritime transportation of liquid cargo. Maritime transportation of wood. Technology of maritime transportation of refrigerated cargo.

1.5. Modes of Instruction	☐ Lectures X ☐ Seminars and workshops ☐ Exercises X ☐ E-learning ☐ Field work	x☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		
1.7. Student Obligations		
Active attendance of classes and at least 70% of completed classes for admission to the exam. Successful passing colloquiums and the final oral exam		
1.8. Assessment[1] of Learning Outcomes		

Course attendance	1,5	Class participation		Seminar paper	0,3	Experiment	
Written exam		Oral exam		Essay		Research	
Project		Continuous Assessment	0,5	Presentation		Practical work	
Portfolio		Final exam	0,7				

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam is carried out in accordance with the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:
through continuous assessment of knowledge during the classes, 70% of the acquired learning outcomes are evaluated through the 1st colloquium - learning outcomes 1-3 (25%), 2nd colloquium - learning outcomes 3-5 (25%), preparation expert problem-assignment - learning outcome 3 (20%); At the same time, the student must achieve a minimum of 52% of points in colloquium, 30% of the acquired learning outcomes (1-5) are evaluated at the final oral exam, and the student must achieve a minimum of 50% of points for passing the final exam.
Examples of evaluating learning outcomes in relation to set learning outcomes are:
1. Define and explain the application of the BLU code,
2. Define and explain the principle of basic division of dry cargo.
3. Formulate and apply requirements for the carriage of general cargo by sea,
4. Formulate and apply requirements for the transport of liquefied gases by sea,
5. Compare the transportation performance of container vessels and ro-ro vessels

1.10. Main Reading

1. Vranić D., Ivče R., Tereti u pomorskom prometu D.J.House, Cargo Work, Butterworth-Heinemann
2. Vranić, D., Kos, S., Morska kontejnerska transportna tehnologija
3. Komadina, P. , Brodovi multimodalnog transportnog sustava
4. Komadina P. Tankeri

1.11. Recommended Reading

1. Vranić D., Ivče R., Tereti u pomorskom prometu
2. Biblioteka pomorskog časnika, sv. 1,
3. Biblioteka pomorskog časnika sv. 2,
4. Biblioteka pomorskog časnika sv. 3,
5. Biblioteka pomorskog časnika sv. 4.
6. Međunarodni pravilnici i kodeksi koji se odnose na rukovanje i prijevoz tereta morem

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Cargo Work	*unlimited*	40
Morska kontejnerska transportna tehnologija	*7*	40
Prijevoz ukapljenih plinova morem	*6*	40

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with the European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies in Rijeka. Once a year, exam passing results are analysed and appropriate measures are adopted

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Table 2

Course description

COURSE DESCRIPTION							
Course instructor	Axel Luttenberger, Ph.D., Full Professor						
Name of the course	Commercial and Transport Law						
Study programme	Undergraduate study Technology and Organization of Transport						
Status of the course	mandatory						
Year of study	3rd						
ECTS credits and manner of instruction	ECTS credits	5 ECTS					
	Number of class hours (L+E+S)	45+0+0					
1. Course objectives							
Training the students for acquiring requisite knowledge concerning the theory of state and law, property law evaluation for acquiring indispensable knowledge and competence in contracting procedures, as well as legal analysis of some kinds of contracts, with the overview of effects of contractual and non-contractual obligations from legal side.							
2. Course enrolment requirements							
None							
3. Expected learning outcomes							
Following certain learning period, students will be capable to analyse the basics of property rights, to interpret a legal framework of a particular company, evaluate and compare specific contracts, and to distinguish contractual from non-contractual obligations. Transport law.							
4. Course content							
Introduction to law. Property rights (ownership, possession). General provisions of Company Act and types of companies. General provisions of civil law and specific contracts, with special emphasis on contractual and non-contractual obligations in tourism and hospitality industry. Transport law.							
5. Manner of instruction	☐ x lectures ☐ x seminars and workshops ☐ exercises ☐ distance learning ☐ fieldwork		☐ individual assignments ☐ multimedia and network ☐ laboratories ☐ mentorship ☐ other				
6. Comments							
7. Student responsibilities							
The students are obliged to attend the lectures and demonstrate the results of seminar paper.							
8. Monitoring of student work[1]							
Class attendance	0,5	Class participation	0,5	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	

[1] IMPORTANT: Enter the appropriate proportion of ECTS credits for each activity so that the total number of credits equals the ECTS value of the course. Use empty fields for additional activities.

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Project		Continuous assessment	2,5	Report		Practical work	
Portfolio		Final exam	1,5				

9. Assessment of learning outcomes in class and at the final exam (procedure and examples)

Assessment and evaluation of students in classes and at the final exam is conducted under the Rulebook on students' evaluation at the Faculty of Maritime Studies. For each course it is made a detailed course syllabus which coordinates activities, student load, learning outcomes and evaluation methods.

10. Mandatory literature (at the time of submission of study programme proposal)

1. Gorenc, Vilim, Pravo trgovačkih društva, Školska knjiga, Zagreb, Visoka poslovna škola, Zaprešić, 2010.
2. Slakoper, Zvonimir, Kačer, Hrvoje, Luttenberger, Axel, Mikrorad, Osnove prava trgovačkih ugovora i vrijednosnih papira, Zagreb, 2009.

11. Optional/additional literature (at the time of submission of the study programme proposal)

1. Zakon o trgovačkim društvima, Narodne novine, 111/93., 34/99., 121/99., 52/00., 118/03., 107/07., 146/08., 137/09., 152/11., 111/12. , 111/93., 34/99., 121/99., 52/00., 118/03., 107/07., 146/08., 137/09., 152/11., 111/12., 68/13., 110/15., 40/19.
2. Zakon o obveznim odnosima, Narodne novine, 35/05., 41/08.,125/11. , 35/05., 41/08.,125/11., 78/15., 29/18.

12. Number of assigned reading copies in relation to the number of students currently attending the course

Title	*Number of copies*	*Number of students*
Gorenc, Vilim, Pravo trgovačkih društva, Školska knjiga, Zagreb, Visoka poslovna škola, Zaprešić, 2010.	10	40
Slakoper, Zvonimir, Kačer, Hrvoje, Luttenberger, Axel, Mikrorad, Osnove prava trgovačkih ugovora i vrijednosnih papira, Zagreb, 2009.	10	40
power point presentation on Lumens		

13. Quality monitoring methods that ensure the acquisition of exit knowledge, skills and competences

The quality of the program, the teaching process, the teaching skills and the level of the material acceptance will be established by means of a written evaluation of the extensive questionnaires and in other ways envisaged by the accepted standards, in accordance with the Rulebook on Quality Assurance and Improvement of the University of Rijeka and the Quality Assurance and Improvement of the Faculty of Maritime Studies.

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3.2. Course description

Generic information		
Head of Course	**Radoslav Radonja, Ph. D., assistant professor**	
Course	**Ecology in Transport**	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate	
Type of Course	Elective	
Year of Study	**3**	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	**3**
	Number of Hours (L+E+S)	**2 + 0 + 0**

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main goal of the course is to acquire knowledge about the principles and laws of environmental protection, and understanding of theoretical, technical and legislative considerations of the relationship between organisms, biotopes and sources of pollution in traffic, and especially the part related to marine environment.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After passing the exam, it is expected that students will be able to do the following:
1. Correctly interpret the basic concepts of ecology
2. Explain and interpret the harmful impact of pollutants in traffic on the biocenosis and the environment in a particular biotope
3. List and explain the protocols and annexes of the MARPOL 73/78 Convention
4. Explain the categories of pollutants according to the annexes and their harmful impact
5. State and explain the legislative requirements and documentation on board related to pollution prevention
6. Argue the requirements of the Ballast Water Convention and assess their impact on the environment
7. State and explain the harmful effects of underwater anti-fouling paints
8. Analyze and compare sources of sound pollution in traffic
9. List the requirements of the Convention on the Recycling of the Ships and explain prudent disposal procedures
10. Discuss possible scenarios related to sustainable development and climate change

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1.4. Course Outline

Basic concepts of ecology. Traffic pollutants and their harmful effects. Marine ecosystem factors and protection of the marine environment. Ship as a source of pollution. Marpol 73/78 (protocols and annexes). Ballast Water Convention. Convention against anti-fouling paints. Ship Recycling Convention. Sound and light pollution. Assumed possible scenarios related to sustainable development and climate change.

1.5. Modes of Instruction	X Lectures ☐ Seminars and workshops ☐ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Active class attendance, 1st colloquium, 2nd colloquium and final oral exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,0	Class participation	0,5	Seminar paper		Experiment	
Written exam		Oral exam	0,5	Essay		Research	
Project		Continuous Assessment	1,0	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes takes place in accordance with University's and Faculty's normative acts as follows:

- through continuous testing of knowledge during classes, 70% of the acquired learning outcomes are evaluated through the 1st colloquium - learning outcomes 1-2 (20%), 2nd colloquium - learning outcomes 3-6 (50%), while the student must realize a minimum of each colloquium 50% points;
- at the final part of the exam, 30% of the acquired learning outcomes are evaluated (1-10), whereby the student must realize a minimum of 50% of points in order to pass the final exam.

Examples of evaluating learning outcomes in relation to set learning outcomes are:

1. Explain what studies ecology as a science? What is the difference between abiotic and biotic factors? Why is water said to be the most important abiotic factor? ...
2. What is meant by the term "oil on board" and what does the spread and movement of the oil spill on the water depend on? List and explain the basic processes of oil decomposition? What are the harmful effects of pollutants from the exhaust gases of vehicles on the environment, and which on human health and why? ...
3. What does the Marpol 73/78 Convention consist of and what does Annex 1 (or 2 or 3 or… 6) deal with? To which ships does it apply / does it not apply? What are the exceptions? What are special and what are particularly sensitive marine areas? ...
4. According to Annex 2 of Marpol 73/78 of the Convention, where are unhealthy substances listed in bulk and how are they classified? According to Annex 3 of the Marpol 73/78 Convention, where are dangerous substances listed and how are they classified? ...
5. According to Annex 5 of the Marpol Convention, what documentation must a ship have? According to Annex 3 of Marpol 73/78 of the Convention, what are the conditions of packing and marking of cargo, requirements for accompanying documentation, packing and labeling, and how to handle empty packing? ...
6. What is the potential environmental hazard of ballast water coming from a tanker unloading / loading cargo at a tanker terminal and why? What is the difference between clean and separate ballast on an oil tanker? ...
7. What impact on the ship comes from the accumulation of fouling on the hull? What environmental hazards come from TBT underwater anti-fouling paints? ...
8. How does noise pollution from traffic affect the environment and people? What are the possible sources of noise and what is the difference between land and sea noise pollution? ...
9. Explain the term so-called. "Green passports" on board? Explain the difference in costs and the impact on people and the environment between ship recycling by stranding and recycling in a recycling shipyard? ...
10. What are the causes that can lead to the opening of the so-called. northern sailing routes and what are the possible consequences? How can a further increase in atmospheric temperature affect 'permafrost' and what are the possible consequences? Why is a ship considered the most environmentally friendly means of transport despite being heavily polluted? ...

1.10. Main Reading

1. Teacher lectures - available in electronic form
2. Klepac, R.: Osnove ekologije, JUMENA, Zagreb 1990.
3. IMO, MARPOL 73/78., Consolidated Edition, London 2013.

1.11. Recommended Reading

1. https://www.pfri.hr/web/dokumenti/uploads_nastava/20180227_184357_zec_ZMMO_v.1.5_web.pdf
2. Golubić, J. Promet i okoliš, Fakultet prometnih znanosti u Zagrebu, Zagreb, 1999.
3. Dorčić, I.: Osnove čišćenja uljnih zagađenja, SKTH, Zagreb
4. Botkin, D., Keller, E., Environmental science, J. Wiley & sons, Inc., New York, 1995.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*

Teacher lectures - available in electronic form	-	60
IMO, MARPOL 73/78., Consolidated Edition, London 2013.	1	60
Klepac, R.: Osnove ekologije, JUMENA, Zagreb 1990.	1	60

1.13. Quality Assurance

Course quality review carried in accordance with ISO 9001 system and European standards and guidance for quality assurance carried through on Maritime faculty. Student Success is evaluated, and corrective measure implemented yearly.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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3.2. Course description

Generic information		
Head of Course	Sandra Tominac Coslovich, PhD, Associate professor	
Course	English Language 5	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Elective	
Year of Study	3	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	4
	Number of Hours (L+E+S)	15+30+0

1.GENERAL COURSE DESCRIPTION

1.1.Course Objectives

The goal of the course is to master the basic and specialist linguistic knowledge in English to enable students to understand, interpret and use terms related to agency business and legal regulations relevant for performing professional work, as well as for written and spoken business communication in maritime affairs and transport.

1.2.Prerequisites for Course Registration

Successfully completing English language 4

1.3.Expected Learning Outcomes

The students will be able to:

1. Show the four basic language skills in English: reading, writing, listening and speaking at B2 level (independent user) according to the Common European Framework of Reference for Languages (CEF).
2. Demonstrate language knowledge and skills for performing professional work in maritime business and transport in English.
3. Speak about and discuss professional topics in English.
4. Translate texts from the professional field from English into Croatian and vice versa.
5. Present a topic from agency business in English.

1.4.Course Outline

Professional vocabulary (terminology, compounds, collocations, lexical sets), characteristics of the discourse/texts from relevant fields of vocation, relevant elements of grammar (syntax of complex sentences, lexical characteristics of discourse, pragmalinguistic elements) in selected professional written and spoken texts about the following extra-linguistic topics: maritime insurance, P&I clubs, maritime accidents, maritime business correspondence.

1.5.Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6.Comments		

1.7.Student Obligations

1st midterm exam, 2nd midterm exam, presentation, final exam

1.8.Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1	Presentation	0,5	Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9.Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure of assessment of learning outcomes is performed according to the University of Rijeka Regulations on the Studies and the Regulations on the Studies of the Faculty of Maritime Studies in the following way:

70 % of outcomes are assessed through continuous assessment in class. The 1st midterm exam assesses the outcomes 1, 2 (30 %), while the 2nd midterm exam assesses the outcomes 3 and 4 (30 %). The outcome 5 is assessed though the presentation (10 %). The students need to gain at least 50 % of points on each midterm exam.
The final exam assesses 30 % of learning outcomes (1-5), whereby the student must gain at least 50 % of points to pass.

Examples of outcome assessment in relation to the set outcomes are:

1. Single out the collocations and other forms of multi-word units from the specialized text.
2. Following the given hints, compose an official enquiry by e-mail regarding the insurance cover.
3. State and explain the kinds of risks covered by P&I insurance.
4. Translate the part of institutional clauses about cargo insurance from English into Croatian using suitable terminology.
5. Present a topic from the field of agency business in English using appropriate terminology.

1.10. Main Reading

1. Ashley, A. 2003. *Oxford Handbook of Commercial Correspondence*. Oxford Univeristy Press.
2. B.J.Naterop, E.Weis, E.Haberfellner: *Business Letters for All*, OUP,1987
3. Pritchard, B. 2001. *English in Shipping*, selected units on Merlin (moodle.srce.hr)
4. Teaching materials available on the e-learning platform Merlin.

1.11. Recommended Reading

1. S.S.Weeney: *English for Business Communication*, CUP, second edition

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Ashley, A. 2003. *Oxford Handbook of Commercial Correspondence*. Oxford Univeristy Press.	5	25
B.J.Naterop, E.Weis, E.Haberfellner*: Business Letters for All*, OUP,19	5	25
Pritchard, B. 2001. *English in Shipping*. https://www.pfri.uniri.hr/bopri/Shipping.html	5	25
Teaching materials available on the e-learning platform Merlin.	Available online	25

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1.13.	*Quality Assurance*
The quality of the course is monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and a survey is conducted among the students once per semester.	

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3.2. Course description

Generic information			
Head of Course	Prof. Dr. Bojan Hlača		
Course	Port Logistics		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Elective		
Year of Study	3		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	5	
	Number of Hours (L+E+S)	30 +15 +0	

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The basic objective of the course is to acquaint students with terminals by type of cargo in logistics systems, cargo flows, and intermodal centers with the analysis of the evolution of ports in the supply chain.

1.2. Prerequisites for Course Registration

No

1.3. Expected Learning Outcomes

1. Explain the basic features of terminals by type of cargo in logistics systems
2. Explain and describe cargo flows
3. Explain and describe the term port
4. Analyze the evolution of ports into the supply chain
5. Describe ports and terminals as intermodal centers
6. Describe ports as commodity transport centers
7. Explain how to measure port efficiency
8. Explain how to choose the north or south Europe traffic route
9. Analyze the selection of container port by liner shipping companies

1.4. Course Outline

Terminals by type of cargo in logistics systems. Cargo flows. Ports. The evolution of ports into the supply chain. Ports and terminals as intermodal centers. Measuring port efficiency. Choosing a north or south Europe traffic route. Selection of container port by liner shipping companies.

1.5. Modes of Instruction	X Lectures ☐ Seminars and workshops X Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

1. attending classes,
2. attendance at exercises (seminar, case study, practical work)
3. written exam (colloquiums 1 and 2)
4. final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	0,5	Class participation		Seminar paper	1,5	Experiment	
Written exam	3	Oral exam		Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	
Portfolio							

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The process of evaluation of the acquired learning outcomes takes place during continuous assessment (through 2 tests 40%, Seminar / Case Study 20%, Activity 10%), and at the final part of the exam 30%.

Examples of evaluating learning outcomes in relation to set learning outcomes are:
1. Describe the functional role of the terminal by type of cargo as a logistics system?
2. Describe the transformation of cargo flows?
3. Provide also a general description of the type of data that describes the terminal goods flows?
4. Analyze the port in logistics systems and describe what ports they need to own?
5. Describe the evolution of the supply chain relative to ports?
6. Explain the value-added logistics and development of VAL services in ports?
7. Describe the maritime conditions for the use of north and south European routes?
8. Analyze the strategy of arriving at a designated port by shipping companies?
9. Explain and describe the basic parameters for deciding a liner to arrive at a particular port?
10. Explain the concept of competitiveness of the traffic route on the example of Port of Rijeka?

1.10. Main Reading

1. Hlača, B.: Logistika luka, Merlin, E-Learning System, Faculty of Maritime Studies, Rijeka, 2017
2. Hlača, B.: Lučka logistika, University of Rijeka, Faculty of Maritime Studies, Rijeka 2016.

1.11. Recommended Reading

1. Branch, A.E.: Global Supply Chain Management and International Logistics, Taylor & Francis e-Library, New York, 2008. Chung - Yee Lee, Qiang Meng, Handbook of Ocean Container Transport Logistics, The Hong Kong University of Science and Technology, National University of Singapore, Hong Kong, Singapore, 2015.
2. Bichou, K.: Port Operation, Planning and Logistics, Lloyds Practical Shipping Guides, Oxon, UK 2013.
3. Burns, M.G., Port Management and Operation, Boca Raton, U.S. 2015.
4. COELLI, T., PRASADA Rao D.S., BATTESE, G.E.: An introduction to Efficiency and Productivity Analysis, Kluwer Accademic Publishers, Boston, Dordercht and London, 1998.
5. LANGEN, P.W., Port competition and selection in contestable hinterlands, Rotterdam 2005.
6. NOTTEBOOM, T.E., Container Port Competition in Europe, Antwerpen, 2014.
7. WANG, S., Efficient Global Containers Transport Network Design, Singapoore, 2014.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An annual analysis of the exams is made, and once a semester a survey is conducted among students (attachment to the description of the faculty)

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3.2. Course description

Generic information			
Head of Course	Full professor **Tanja Poletan Jugović, Ph.D**		
Course	**International forwarding**		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate/Bachelor		
Type of Course	Compulsory		
Year of Study	3		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Acquiring knowledge about the contributions and importance of the forwarding logistics in the transport and international trade systems. Legal determination of the system of the international forwarding. Knowledge of the international forwarder job structures, activities and tasks in the (international) physical and documentation flows of goods (cargo). Defining and simulating the tasks and activities of the forwarder and documentation and forms in the organization and providing of the import, export or transit job. Knowledge, interpretation and use of the Incoterms terms. Knowledge and monitoring of modern trends and choice in the business of international forwarders as logistics

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:

1. Define the relevant terms, characteristics and role of the forwarding in the modern traffic environment.
2. Define and interpret the role and importance of the forwarding logistics in the international trade system and the transport system.
3. Distinguish between legal sources, contracts, documents and documents governing the rights, obligations and responsibilities of the forwarder and other stakeholders in the international trade business.
4. Know and distinguish the basic tasks, activities and role of the international forwarder in the planning, organization and implementation of the import, export or transit business.
5. Know the specific operations and activities of the forwarder in the provision of complete logistics services that impose cargo specifics, customer and market requirements.
6. Distinguish the forms, transport documents and other documents within the import, export or transit business.
7. Know, interpret and use communication specifics of foreign trade entities using the Incoterms term.
8. Explain current trends, challenges and strategies in the development and affirmation of an international forwarder as a logistics operator.

1.4. Course Outline

The concept and relevant characteristics of the forwarders and forwarding (affirmation and development of the forwarding and logistics operators (3PL, 4PL ...) in the modern transport environment. Importance of the forwarding logistics in the transport system and in the international trading system. International forwarding as a system (characteristics, organizations for international forwarding, national and international forwarding associations). Legal regulation of the forwarding (legal framework, rights and obligations of the freight forwarders). Basic and special jobs, activities and tasks of the international freight forwarder. Incoterms terms. Modern trends and challenges in the business of international freight forwarders as logistics operators (global trends in logistics market, modern strategies of logistics operator, ...).

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Seminar work presentation, 1st colloquium, 2nd colloquium, final exam

1.8. Assessment[1] of Learning Outcomes

Course attendanc	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	0,5	Oral exam		Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluation of the acquired learning outcomes is carried out according to the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- 70% of the acquired learning outcomes within the 1st colloquium (25%), the 2nd colloquium (25%) and through the presentation of a research assignment - seminars (20%) are evaluated through continuous assessment during the class; the student must achieve at least 50% of points in each colloquium, and the presentation of the research assignment is evaluated on the basis of elaborated evaluation criteria;
- at the final exam 30% of the obtained learning outcomes are evaluated whereby the student must pass at least 50% of the points for passing the final exam.

Examples of evaluating learning outcomes in relation to set learning outcomes are:

1. Define and explain the terms: forwarder, forwarding, logistics operator, 3PL, 4PL., ...
2. Explain the role and importance of forwarding logistics in international trade business.
3. List the basic legal sources governing the forwarding business and interpret the rights, obligations and responsibilities of the forwarder.
4. List and explain the basic tasks of the forwarder: Instruction, delivery of goods, conclusion of contracts and transportation, conclusion of transport insurance contracts, (...) and interpret the legal status and role of the forwarder within them.

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

5. Give and explain an example of a specific forwarder's business conditioned by a specific cargo / goods (...) and interpret the legal status, role of the shipper, and specific documents and documents within them.
6. Explain the purpose, function and information contained in the document - forms (… bill of lading / consignment note / customs declaration ...)
7. Explain the role of the Incoterms term and interpret the obligations of the seller and buyer in the example of concrete parity (EXW, CIF, FOB, ...).
8. Explain and describe the impact and effects of contemporary trends and phenomena on the logistics services market (globalization, computerization,…) on the development and affirmation of the logistics operators.

1.10. Main Reading

- Course materials available at e-learning platform - Merlin (https://moodle.srce.hr)
- Zelenika, R., Temelji logističke špedicije, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2005.

1.11. Recommended Reading

- Andrijanić, I., Aržek, Z., Prebežac, D., Zelenika, R., Transportno i špeditersko poslovanje, Zagreb, 2001.
- Incoterms 2010, Pravila tumačenja trgovinskih termina Međunarodne trgovinske komore, HGK, 2010
- Zelenika, R. Incoterms 2000 u teoriji i praksi – 100 savjeta i 100 primjera , Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2002.
- Zelenika, R., Međunarodna špedicija, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2000.
- Zelenika, R., Logistički sustavi, Ekonomski fakultet u Rijeci, Rijeka, 2005.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Course materials available at e-learning platform - Merlin (https://moodle.srce.hr)	-	55
Zelenika, R., Temelji logističke špedicije, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2005.	5	55

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 standard implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually, and a student survey is conducted once a semester.

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Table 2.

3.2. Course description

Generic information			
Head of Course	Mirjana Borucinsky		
Course	German Language 1		
Study Programme	Technology and Organization of Transport		
Level	Bachelor		
Type of Course	elective		
Year of Study	III	Semester	V
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		15 + 30+0

1. GENERAL COURSE DESCRIPTION		
1.1. Course Objectives		
The main objective of the course is to expand students' proficiency and improve their written and spoken communication skills using the specific terminology of logistics, management, technology and transport in maritime affairs and industry.		
1.2. Prerequisites for Course Registration		
Proficiency level B1.		
1.3. Expected Learning Outcomes		
Upon completing the course/passing the exam, students will be able to: 1. Discuss general language topics in German. 2. Discuss technical topics in German. 3. Differentiate between meanings of a term encountered in general language and language for specific purposes. 4. Translate technical texts from German into Croatian (or another target language, e.g. English) and vice versa. 5. Use language skills to communicate effectively in the business surrounding.		
1.4 Course Outline		
Fachterminologie aus dem Bereich: Grundzüge der Beförderung. Verkehrszweige (Schiffsverkehr, Straßenverkehr, Schienenverkehr, Luftverkehr). Verkehrsinfrastruktur. Terminals. Geschäftskorrespondenz (Anfrage, Angebot, Bestellung) Zeitformen der Verben, Verben mit Präpositionen, Satzbau		
1.5 Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☐ Exercises ☒ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6 Comments		
1.7 Student Obligations		

Students enrolled at the Faculty of Maritime Studies are expected to observe *the code of conduct* required by the academic institution, and regularly attend lectures and practical work sessions.

1.8 Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9 Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Through Partial Exams Student achieves up to 70% (Learning Outcomes from 1 to 5), while with the oral Final Exam (Learning Outcomes from 1 to 5) up to 30% of total Score.

Examples of Assessment of Learning Outcomes:

1. Beschreiben Sie verschiedene Begrüßungsrituale.
2. Identifizieren und erörtern Sie die Vor- und Nachteile der verschiedenen Arten von Transport.
3. Wie unterscheiden sich die folgenden Fachausdrücke *'Verkehr, Transport, Beförderung'*
4. Übersetzen Sie den Text aus dem Deutschen ins Kroatische (Englische). Benutzen Sie dabei Fachterminologie.
5. Schreiben Sie einen Geschäftsbrief in dem Sie sich für ein Produkt interessieren.

1.10 Main Reading

1. Gutremuth, J., Konerding, B., Perseke, J., Seegert, N., *Güterverkehr – Spedition – Logistik*, Bildungsverlag EINS GmbH, Troisdorf, 2002.
2. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004.
3. Teaching materials available at: moodle.srce.hr

1.11 Recommended Reading

1. Kunkel-Razum, Kathrin: *Duden: Briefe gut und richtig schreiben*. Dudenverlag, 2003.
2. Marčetić, T., *Pregled gramatike njemačkog jezika*, Školska knjiga, Zagreb, 1999.
3. Hurm, A., *Njemačko-hrvatski rječnik*, Školska knjiga, Zagreb, 1998.
4. Hurm., A., Jakić, B., *Hrvatsko-njemački rječnik*, Školska knjiga, Zagreb, 1999.

1.12 Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Gutremuth, J., Konerding, B., Perseke, J., Seegert, N., *Güterverkehr – Spedition – Logistik*, Bildungsverlag EINS GmbH, Troisdorf, 2002.	web	
2. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004		

1.13 Quality Assurance

The quality of the course is monitored in accordance with the ISO 9001 system and the European standards and guidelines for quality assurance, implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and appropriate measures implemented accordingly.

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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3.2. Course description

Generic information			
Head of Course	Dr. sc. Neven Grubišić		
Course	Transport modeling fundamentals		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Obligatory		
Year of Study	3.		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

To gain basic knowledge on modeling transport and transport networks and to apply simulation tools for transport modelling, strategic and tactical decision making..

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. To distinguish transport system elements, network objects, their links and attributes.
2. To model transport demand groups, activities and demand patterns.
3. To explain process of 4-step modeling.
4. To create O-D matrix for transport demand, skim matrix and calculate impedance function using the software tool.
5. To determine parameter values for volume, flow, travel times and available routes from origin to destination using the software tool.
6. To generate isochrone map from origin-destination patterns using the software tool
7. To interpret results of national and regional transport models

1.4. Course Outline

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Transport planning and modelling. Purpose of transport models. Transport models and transport strategies. Structure of model and methodology. Statistical data collection and sampling. Network design, zone system set-up. 4-step model of transport demand. EVA model. Tour model for cargo demand. Trip generation and aggregation. Category analysis. Trip distribution. O-D matrix. Network impendence and skim matrix. Forecast methods. Gravity method. Model calibration. Modal choice. Model assignment. Route choice. Public transport routes modeling and scheduling. Macro simulation tools for supporting decision making. Examples of transport models: national transport model for Croatia, transport models for functional regions.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☒ Other SW.SIMULATOR_____
1.6. Comments	Lectures and assignments are performed in a specialized classroom	

1.7. Student Obligations

Students are required to attend classes regularly and actively participate in lab exercises.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	0,5	Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment		Presentation		Practical work	1
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Attending classes
Class attendance: Learning outcomes 1-7: 10 pts
Activity during assignments
Interactive participation in transport system and transport network design: Learning outcomes 1-4: 20 pts
Practical works with simulation tool
Results and their interpretations obtained from traffic models: Learning outcomes 5-7: 40 pts

Maximum of 70 credits or 70% of total score during teaching process is available. Maximum of 30 credits or 30% of total score may be earned during final exam.

Examples of evaluation by individual learning outcome:
1. Identify main symbol blocks in transport models and their meaning (I1)
2. Compose transport demand stratum according to groups of population, trip purpose and modal choice (I2)
3. Explain each stage in 4-step method of transport modeling (I3)
4. Create O-D patterns and calculate impedance function for dedicated section (I4)
5. Design simple public transport network based on zone system for transport demand using simulation tool (I5)
6. Analyze results obtained from assignment process and time depend availability for selected locations (I6)
7. Explain key characteristics of national or regional transport network according to results obtained from transport models and transport studies.

1.10. Main Reading

1. Oruzar, D. de J., Willumsen, L. G.: Modelling Transport, John Wiley & Sons, Ltd, Chichester, 2002.
2. PTV Visum Fundamentals, PTV Planung Transport Verkehr AG, Karlsruhe, 2012

1.11. Recommended Reading

1. Mehanović, M.: *Mreže u saobraćaju i komunikacijama*, Univerzitet u Sarajevu, Fakultet za saobraćaj i komunikacije, Sarajevo, 2015.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
PTV Visum Fundamentals, PTV Planung Transport Verkehr AG, Karlsruhe, 2012.	accessible online	40

1.13. Quality Assurance

The quality is monitored in accordance with ISO 9001 standard carried out at the Faculty of Maritime Studies. The results of passed exams are analyzed once a year and proper measures taken.

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3.2. Course description

Generic information		
Head of Course	Assist. prof. Livia Maglić, phD	
Course	Container Stacking Strategies	
Study Programme	Technology and Organization of Transport	
Level	Bachelor	
Type of Course	Core	
Year of Study	3rd	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	4
	Number of Hours (L+E+S)	30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The objective of the course is to acquaint students with a set of factors, processes, and plans according to which container stacking on ship and terminal takes place.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

1. Sort the containers at the container storage area by type and destination
2. Specify and explain methods for marking container storage area in a given terminal
3. Explain the loading/unloading plan on a ship on a given example
4. Explain and describe container handling and stacking technologies
5. Estimate the availability and capacity utilization of the container storage area on a given example
6. Define operational logistics problems at the container stacking area
7. Highlight and describe packing and stacking methods and procedures for loading goods into containers through the application of software tools

1.4. Course Outline

The technological working process at the container stacking area. Basic parameters of a container stacking area. Methods for marking a container stacking area. Container stacking policies and strategies. Basic plans of stacking containers onto a ship and at the container stacking area. Types of marks on containers and container handling equipment. Packing and stacking methods of goods into a container. Operational logistic problems at the container stacking area. Methods for determining the relocation of containers at the container stacking area. Evaluation of the relocation impact and the operational plan.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☒ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☒ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

1. Taking two colloquiums
2. Project assignment
3. Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1,0	Essay		Research	
Project	0,5	Continuous Assessment	1,0	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out according to the Regulations on Studies of the University of Rijeka and the Rulebook on Studies at the Faculty of Maritime Studies in Rijeka as follows:
• 70% of the acquired learning outcomes are evaluated through continuous knowledge assessment during the teaching process: through the 1st colloquium - learning outcomes 1-3 (25%), 2nd colloquium - 4-7 (25%), project work - learning outcomes 1-7 (20%);
• 30% of the acquired learning outcomes (1-7) are evaluated at the final part of the exam, with a minimum of 50% of available points necessary for passing the final exam.

Examples of evaluating learning outcomes regarding set learning outcomes are:
1. Explain the principle of stacking containers according to IMDG Code
2. Name the benefits of using AS cranes at the container stacking area
3. Interpret the container stowage plan on a given example
4. Calculate the capacity of the container block at the container stacking area
5. Analyze and compare a container relocation problem and pre-marshaling problem
6. Define specifics of logistics problems in the domain of tactical planning
7. Explain the process of loading goods into a container on a given example

1.10. Main Reading

- Thoresen, A.C. Port designer's handbook, Thomas Telford Publishing, London, 2003.
- Presentations of the course professor available on the e-learning system Merlin

1.11. Recommended Reading

- Maglić, L. Optimizacija raspodjele kontejnera na slagalištu lučkoga kontejnerskog terminala, doktorska disertacija, 2015.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Thoresen, A.C. Port designer's handbook, Thomas Telford Publishing, London, 2003.	1	40

1.13. Quality Assurance

The quality of study is continuously observed under the ISO 9001 system and following European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies, University of Rijeka. An analysis of the exams is given annually, and a survey among students is conducted by the semester.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities he course. Use empty fields for additional activities.

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3.2. Course description

Generic information			
Head of Course	Biserka Rukavina, PhD		
Course	Shipping agencies		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Elective		
Year of Study	3.		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		2+ 1 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Acquiring knowledge of the basic characteristics of maritime agents. Understanding of the historical development of maritime agencies and the purpose of their establishment. Knowledge of the structure and the functions of maritime agents and identification the role and significance of maritime agents in the transport process. Affiliation this content with related courses in order to achieve and implement a multidisciplinary approach.

1.2. Prerequisites for Course Registration

No.

1.3. Expected Learning Outcomes

1. Correctly define and interpret the basic concepts of maritime agency business.
2. Distinguish and compare the international and national legal sources governing the organization and activities of maritime agencies and explain the role of international and national professional associations.
3. Highlight and justify certain types of the maritime agent (port agent, shipbroker, special operations).
4. Describe and justify ship arrival and departure procedures.
5. Explain and identify the essential elements of the maritime agency contract and analyze and compare individual types of contracts.
6. Describe and analyze the contents of the disbursement account.
7. Analyze, compare and demonstrate the specifics of the operations of maritime agents on the example of concrete maritime agencies.

1.4. Course Outline

The term and types of maritime agents. International and national legal sources governing the organization and activities of maritime agencies. Organization of maritime agencies. Port agent activities. Shipbroker activities. Disbursement account. Maritime Agency Contract – parties, subject matter of the contract, duration and termination of the contract. Analysis of individual type contracts (Agency Appointment Agreement, General Agency Agreement). The rights, obligations and liability of the maritime agent.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Presentation
1.6. Comments		

1.7. Student Obligations

Class attendance.
Practical work (Power Point presentation).
The colloquiums.
Final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

70 % in class and 30% on the final exam (according to the Ordinance on Studies of the University of Rijeka and the Ordinance on Studies of the Faculty of Maritime Studies in Rijeka).
Continuous knowledge assessment:
2 colloquiums (30 points each).
Practical work/presentation (10 points).
Final exam.
The final exam (written exam) checks the integrity of knowledge about maritime agencies and a minimum of 50% correct answers (15 points out of total 30 points) must be obtained.

1. Specify the definition of a maritime agent in accordance with national legal sources.
2. Describe the procedure for establishing a maritime agency in the Republic of Croatia in accordance with national regulations.
3. Provide two examples of shipbroker functions.
4. Describe one document to be provided by the ship/master/agent in international navigation in the document Notice of Arrival and explain the purpose of obtaining it.
5. Specify the charges the ship may have when entering the port and explain what the charges depends on.
6. Explain the possible consequences of the agent's conduct contrary to the principal's order.
7. Describe the structure of the modern maritime agency.

1.10. Main Reading

Teaching material available in the e-learning system.

1.11. Recommended Reading

1. Borčić, Vojslav, Ugovor o pomorskoj agenciji, Komentar Pomorskog zakonika, Udruga pomorskih agenata Hrvatske, Rijeka, 1999.
2. Pomorski zakonik (pročišćeni tekst) - Ugovor o pomorskoj agenciji čl. 674. – 683.
3. Opći uvjeti poslovanja pomorskih agenata, 2009.; Udruga pomorskih agenata Hrvatske.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Teaching material available in the e-learning system.		40

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies University of Rijeka. Once a year, the results of the transience are analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information			
Head of Course	**Associate professor Siniša Vilke, Ph.D.**		
Course	**Land transport technology**		
Study Programme	**Technology and organization of transport**		
Type of Course	Obligatory		
Year of Study	3		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		45 + 30 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The objective of the course is to acquire basic knowledge about traffic planning of land transport infrastructure facilities, exploitation characteristics of road and railway vehicles and bandwidth of road and railway transport infrastructure to make transport engineering synthesis of land transport technologies

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

1. To interpret the methodology of transport planning for land infrastructure facilities
2. To calculate the performance characteristics of road vehicles and determine their technical and transport characteristics based on the given parameters
3. To determine the transverse and longitudinal stability of road vehicles according to the given criteria
4. To explain the performance characteristics of rolling stock and determine and compare their performance indicators based on performance targets
5. To apply numerical methods in the analysis of the bandwidth of road and rail transport infrastructure
6. To explain and compare combined terrestrial transportation technologies
7. To interpret legal provisions in the organization of domestic and international land transport
8. 8. To calculate the efficiency of fleet exploitation in road and rail transport according to the given parameters
9. To develop the task of analyzing a passenger or freight traffic line

1.4. Course Outline

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Planning of land transport infrastructure and transport demand. Modal distribution of passenger and goods traffic. Road transport infrastructure. Road vehicles: exploitation characteristics of road vehicles, transverse and longitudinal stability. Technological specifics of road transport. Legislation in the organization of domestic and international transport. Railway transport infrastructure. Towing and rolling stock. Performance characteristics of railway vehicles. Graphical representation of train traffic (timetables). Technological specifics of railway transport. Bandwidth of road and rail transport infrastructure. Land transport technologies. Combined transport technologies.

1.5. Modes of Instruction	X Lectures X Seminars and workshops X Exercises ☐ E-learning ☐ Field work	X Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

The student must attend at least 70% of the total hours of lectures and exercises, create and present a seminar paper, and have passed the exams (continuous assessment) to take the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation	1	Seminar paper		Experiment	1
Written exam		Oral exam	1	Essay		Research	
Project	1	Continuous Assessment		Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out by the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:
-70% of acquired learning outcomes within the 1st semester (25%), 2nd semester (25%), through the development of a programming assignment - a project (10%) and the presentation of a research assignment - seminars (10%); the student must achieve at least 50% of points in each midterm, and the presentation of the research assignment is evaluated based on elaborated evaluation criteria;
- at the final part of the exam, 30% of the obtained learning outcomes are evaluated whereby the student must pass at least 50% of the points for passing the final exam.

Examples of evaluating learning outcomes to set learning outcomes are:
1. To understand the methodology of transport planning for land infrastructure facilities
2. What are the basic procedures, benchmarks, and standards to achieve optimal solutions for balancing traffic supply and demand?
3. To understand the exploitation characteristics of road and rail vehicles?
4. What is included in road and rail transport infrastructure?
5. To explain the basic legal provisions of the organization of land transport infrastructure
6. What numerical methods do you know in the analysis of land transport systems?
7. To understand the application of combined transport technologies

1.10. Main Reading

1. Baričević, H.; Vilke, S.: Logistika i sigurnost kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2016.
2. Baričević, H.: Tehnologija kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2001.

1.11. Recommended Reading

1. Badanjak, D., Bogović, B., Jenić, V.: Organizacija željezničkog prometa, FPZ, Zagreb, 2006
2. Županović, I.: Tehnologija cestovnog prometa, FPZ, 2003, Zagreb
3. Baričević,H.: Promet u turizmu, Visoka škola za turistički menadžment, Šibenik, 2003.
4. Marušić, D.: Projektiranje i građenje željezničkih pruga, Građevinski fakultet, Split, 1994.
5. Padjen, J.: Osnove prometnog planiranja, Informator, Zagreb, 1986.
6. Cerovac, V.: Tehnika i sigurnost prometa, FPZ, Zagreb, 2001.
7. Zelenika, R.: Multimodalni prometni sustavi, Ekonomski fakultet, Rijeka, 2006.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Baričević, H.; Vilke, S.: Logistika i sigurnost kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2016.	10	
Baričević, H.: Tehnologija kopnenog prometa, Pomorski fakultet u Riejci, Rijeka, 2001.	10	

1.13. Quality Assurance

The quality of study is constantly monitored by the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually and a student survey is conducted once a semester.

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3.2. Course description

Generic information		
Head of Course		
Course	B.Sc. thesis	
Study Programme	Technology and Organization of Transport	
Level	undergraduate	
Type of Course	compulsory	
Year of Study	3	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	10
	Number of Hours (L+E+S)	-

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The completion of a B.Sc. thesis resulting from continuous consultation with the supervisor and successful oral defense of the thesis through which the student shall demonstrate:

- the ability to apply theoretical and practical knowledge acquired during undergraduate studies,
- the ability of knowing and applying research methodology in scientific work,
- the ability to independently use current domestic or foreign literature in research, drafting and writing on the selected topic of the B.Sc. thesis,
- the ability to use relevant findings, attitudes and scientific facts established by others which have been published in used literature in accordance with the methodology of scientific and research work,
- the ability to adequately process illustrations (tables, figures, photos, diagrams) according to the scientific research methodology.

1.2. Prerequisites for Course Registration

The student enrolls the course B.Sc. thesis by enrolling in the sixth (summer) semester of undergraduate studies, and the prerequisites for course enrollment are: successful completion of all courses from the fifth (winter) semester, there are no restrictions or prohibition to take course examinations in the fifth semester.

1.3. Expected Learning Outcomes

To apply theoretical and practical knowledge in an independent analysis of the topic, to adequately apply the methodology and technology for the completion of the B.Sc. thesis and to present conclusions and findings on the topic resulting from the research carried out for obtaining the B.Sc. thesis.

1.4. Course Outline

The B.Sc. thesis is an independent professional and/or scientific study of the selected topic. By completing the B.Sc. thesis, the student demonstrates competences and acquired outcomes related to problem solving within professional and scientific areas covered by the undergraduate study program Technology and Organization of Transport, as well as theoretical and practical knowledge acquired during undergraduate studies.
The B.Sc. thesis is assigned, written and defended in Croatian language. Exceptionally, the student may choose to write and defend the B.Sc. thesis in another (foreign) language. The B.Sc. thesis is defended orally in front of a B.Sc. Thesis Defense Committee.

1.5. Modes of Instruction	☐ Lectures ☐ Seminars and workshops ☐ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☒ Mentorship ☒ Other _____
1.6. Comments		

1.7. Student Obligations

Student obligations include: completion of the B.Sc. thesis in continuous consultation with the supervisor during the summer semester and successful defense of the B.Sc. thesis in front of the defense Committee. The procedure for applying, completing, defending and evaluating the B.Sc. thesis is described in the B.Sc. Thesis Regulation for undergraduate university study programs at the Faculty of Maritime Studies in Rijeka.

1.8. Assessment[1] of Learning Outcomes

Course attendance		Class participation		Seminar paper		Experiment	
Written exam		Oral exam	2	Essay		Research	4
Project	4	Continuous Assessment		Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

In accordance with the Guidelines on the application of the information system for checking originality of student papers at the University of Rijeka, using the services provided by *Turnitin* (*www.turnitin.com*), the supervisor checks the originality of the B.Sc. thesis. Based on the analysis, the supervisor completes the *B.Sc. Thesis Originality Report*– Appendix C form (University of Rijeka) where he/she lists paper details and gives his/her decision whether the B.Sc. thesis meets the originality criteria as well as the rationale behind the decision. Positive assessment given by the supervisor and a positive re *B.Sc. Thesis Originality Report* are prerequisites for accepting the B.Sc. thesis and scheduling a date for its defense. The thesis is defended in front of the B.Sc. Thesis Defense Committee which is made up of three members including the supervisor. The members of the Committee examine the student and a record on the thesis defense process is kept, including questions asked by the Committee members and success of the candidate in defending the thesis.

1.10. Main Reading

- Main reading given in the course from which the thesis is selected.
- Additional main reading in agreement with course head / lecturer- supervisor.
- Instructions for writing a B.Sc. thesis, editors: I. Kolanović, PhD, A. Perić Hadžić, PhD, Jurdana, PhD, I. Rudan, University of Rijeka, Faculty of Maritime Studies, Rijeka, January, 2020. Available at - https://www.pfri.uniri.hr/web/hr/dokumenti/Upute_za_izradu_zavrsnog_rada_PFRI_2020.pdf

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.11. Recommended Reading

- Recommended reading given in the course from which the thesis is selected.
- Additional recommended reading in agreement with course head / lecturer- supervisor.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Instructions for writing a B.Sc. thesis, editors: I. Kolanović, PhD, A. Perić Hadžić, PhD, Jurdana, PhD, I. Rudan, University of Rijeka, Faculty of Maritime Studies, Rijeka, January, 2020.	Available at https://www.pfri.uniri.hr/web/hr/dokumenti/Upute_za_izradu_zavrsnog_rada_PFRI_2020.pdf	

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 standard implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually, and a student survey is conducted once a semester.

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3.2. Course description

Generic information		
Head of Course	Vinko Tomas	
Course	Automation in transport	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Compulsory course	
Year of Study	3 years	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	4
	Number of Hours (L+E+S)	30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main objectives of the course are to gain knowledge of the fields of automation, the principles of automatic control, automatic regulation and automatic process control, with the way of functioning of measuring, executing and regulating members and their elements, analysis of the structure and operation of process computers and programmable logic controllers and how to connect with traffic processes

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:

1. Distinguish areas of automation with respect to different division criteria
2. Explain the basic structure of the automation system
3. Calculate the transfer function for the control circuit
4. Distinguish between types of automation elements and their basic characteristics
5. Apply standard techniques for adjusting the controller
6. Explain the basic structures of traffic system automation
7. Explain the basic structure of programmable logic controllers
8. Explain the basic principle of process computer operation in traffic systems

1.4. Course Outline

Areas of automation, legality of describing automation objects. Signals. Energies / media in automation and energy selection factors. Defining the transient and transfer function and the lawfulness of calculating the transfer function for various complex structures. Features of automatic control, automatic control and automatic process control. Principles and techniques of automatic control. The structure of the automatic control system. Basic components of control and control systems (measuring members, comparators, control devices, actuators, ...). Requirements for regulatory systems. Process computers and PLCs and their connection to a technical process. Automatic control and traffic control systems. Features of automatic control of traffic processes.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

1st colloquium, 2nd colloquium, design and presentation of a research assignment in an hour of exercises, final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	0,5	Seminar paper	0,5	Experiment	
Written exam	0,5	Oral exam		Essay		Research	
Project		Continuous Assessment	1	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out in accordance with the Regulations on Studies of the University of Rijeka and the Regulations on Studies at the Faculty of Maritime Studies in Rijeka as follows:

- **through continuous assessment of knowledge during class 70% of the acquired learning outcomes are assessed. Those include: 1st semester exam (midterm) - learning outcomes 1-4 (25%), 2nd semester exam (midterm) - learning outcomes 5-8 (25%), presentation of the research assignment (seminars) - learning outcomes 1-8 (20%); the student must score at least 50% of points in each midterm, while the presentation of the research assignment is evaluated on the basis of elaborated evaluation criteria;**
- **30% of the obtained learning outcomes (1-8) are evaluated at the final exam, with the student having to complete at least 50% of points for passing the final exam.**

Examples of evaluating learning outcomes in relation to set learning outcomes are:

1. List the areas of automation, their features and the most common application
2. Draw a block diag. of the control circuit; mark the control members, elements and sizes in the control circuit
3. Calculate the transfer function for the given control circuit
4. The principle of operation and the areas of application of speed sensors used in traffic systems
5. Describe the setting of the control action for the PID controller (according to Zeigler-Nichols method)
6. Explain the basic structure, mode of operation and properties of the servo system
7. What is a PLC, its structure, what is a scene cycle, ways of programming a PLC
8. What elements participate in the process computer action on the technical process

1.10. Main Reading

1. V. Tomas, I. Šegulja, M. Valčić, Osnove automatizacije, Pomorski fakultet, Sveučilište u Rijeci, 2010.
2. E-course syllabus available on the e-learning system - Merlin

1.11. Recommended Reading

1. Tehnika motornih vozila: 30. prerađeno i nadopunjeno izdanje, ISBN: 978-953-254-044-4, 788 str., Pučko otvoreno učilište Zagreb, 2017.
2. D. Sumina (2013.), SIMATIC automatizacijski sustavi, Graphis, Zagreb
3. http://www.rijekapromet.hr/hr/automatsko_upravljanje_prometom/5/16

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
V. Tomas, I. Šegulja, M. Valčić, Osnove automatizacije, Pomorski fakultet, Sveučilište u Rijeci, 2010.	55	55
E-course syllabus available on the e-learning system - Merlin	-	55

1.13. Quality Assurance

Quality assurance is based on Faculty ISO 9001 system. Yearly analyze is produced based on quantitative student examination data, and qualitative based on student survey derived at the end of each semester.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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3.2. Course description

Generic information			
Head of Course	Dr. sc. Alen Jugović, full professor		
Course	Shipping Economics		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate		
Type of Course	Elective		
Year of Study	3rd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goal of the course is to acquaint students with the field covered by the Shipping Economics and to apply this knowledge into specific cases in practice. Pursuant to the goal, the tasks and content of the course were designed in such a way that, by applying basic economic principles, the attempt was made to explain the business of shipping companies and all entities in the maritime transport service.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:

1. Explain the basic concepts within the shipping industry
2. Explain the specifics of each type of shipping and transportation technology
3. Explain the economic principles of doing business in maritime shipping
4. Apply techniques for calculating fares, ship costs and freight costs
5. Assess supply and demand for transportation
6. Understand the importance and impact of particular phenomena (globalization, informatization etc.) on the development and competitiveness of shipping companies

1.4. Course Outline

MARITIME SHIPPING ECONOMICS. Definition, subject of research, application of scientific and theoretical knowledge in practice.

CALCULATIONS. Measuring business results. Business success and benchmarks, productivity, economy, profitability.

SPECIAL TYPES OF MARITIME SHIPPING ACTIVITIES. Economic and technological criteria defining different types of shipping. Passenger shipping, free, liner, tanker shipping.

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FORMATION OF FARES IN MARITIME SHIPPING. The concept and types of fares. Characteristics and formation of freight rates in certain types of shipping industry.

MARITIME TRANSPORT COSTS. Definition of costs. Types of costs in maritime shipping. Fixed and variable costs. Marginal cost. Total costs of a ship's voyage.

SHIPPING COSTS OPTIMIZATION.

PERFORMANCE INDICATORS IN MARITIME SHIPPING. Labor productivity. Business efficiency. Business profitability. Optimal size and speed of the ships in terms of cost-effectiveness.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

Attending classes
Attending exercises
Classroom activity
Exams (continuous assessment) and tests
Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	0,5	Class participation	0,5	Seminar paper		Experiment	
Written exam	2	Oral exam		Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Assessment is carried out by conducting two exams (continuous assessment), two tests during the classes and the final exam.

1. *Define the term maritime shipping.*
2. *Define economic and technological criteria that represent different types of maritime shipping in the context of passenger shipping, free shipping, liner shipping and tanker shipping*
3. *List and explain the basic principles of economy in maritime shipping*
4. *Explain which parameters are taken into account when calculating fares and how the defined transport conditions affect the calculation of the fare?*
5. *What are the factors in the maritime market that affect the quantity of supply and the quantity of demand for transport?*
6. *Explain how globalization affects the competitiveness of shipping companies.*

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.10. Main Reading		
1. Domijan-Arneri, I.: Poslovanje u morskom brodarstvu, Redak, Split, 2014. 2. Kesić, B; Jugović, A.; Debelić, B.: Ekonomika brodarstva riješeni zadaci, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013. 3. Stopford, M.: Maritime Economics, Routledge, London & New York, 2009.		
1.11. Recommended Reading		
1. Kesić, B., Jugović, A.: Menadžment pomorskoputničkih luka, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2006. 2. Wayne K. Talley: The Blackwell Companion to Maritime Economics, John Wiley & Sons, 2011.		
1.12. Number of Main Reading Examples		
Title	*Number of examples*	*Number of students*
Domijan-Arneri, I.: Poslovanje u morskom brodarstvu, Redak, Split, 2014.	20	
Kesić, B; Jugović, A.; Debelić, B.:Ekonomika brodarstva riješeni zadaci, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013.	10	
Stopford, M.: Maritime Economics, Routledge, London & New York, 2009.	10	
1.13. Quality Assurance		
The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies in Rijeka.		

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3.2. Course description

Generic information			
Head of Course	Assoc. Prof. Borna Debelić, PhD		
Course	Transport Economics		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Elective		
Year of Study	3	VI	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		2+1+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Acquiring knowledge from a special area of transport economics, necessary for those responsible for the performances of the main economic activities in the transport sector. The aim of the course is to systematically handle economic, exploration and technical problems of transport system and corresponding branches.

1.2. Prerequisites for Course Registration

No additional prerequisites

1.3. Expected Learning Outcomes

It is expected that students after passing the exam can:

1. Explain the elements of the transport system and correlation between transport and economic development
2. Emphasize and explain the economic aspects of the functioning of the transport system
3. Identify and interpret transport system elements, horizontally and vertically
4. Explain the externalities in transport
5. Identify the underlying objects of the transport infrastructure and explain the related cost concepts and evaluation of the transport infrastructure construction
6. Describe and explain the principles and content of economic development in different transport branches
7. Understand the underlying concepts and interpret the approaches in transport policy

1.4. Course Outline

Transport system and economic development aspects. Importance of transport and traffic in economic systems. Elements of the transport system by horizontal and vertical division. Factors and processes of the economic functioning of the transport system. Economic and financial evaluation of the construction of transport infrastructure. Privatization, liberalization, globalization and deregulation in transport. Transport infrastructure objects and cost concepts. Externalities in transport. Co-operation of transport branches. Transport system and policy. Economics of road transport and transport system. Economics of rail transport and transport system. Economics of postal and telecommunication services and transport system. Economics of air traffic and transport system. Economics of maritime and river transport and transport system		
1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☒ E-learning ☒ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☒ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

1. Attending classes
2. Actively participate in classes
3. Study, research and solving tasks
4. Colloquiums
5. Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	0,5	Seminar paper		Experiment	
Written exam	1	Oral exam	1	Essay		Research	
Project		Continuous Assessment	1	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Through colloquiums, experiment and course attendance and participation students achieve up to 70% (Learning Outcomes from 1 to 7), while with the written Final Exam (Learning Outcomes from 1 to 7) up to 30% of total score.

Examples of Assessment of Learning Outcomes:

1. Describe and discuss elements of the transport system and the relationship between transport and economic development (Learning Outcome 1)
2. Describe and explain the economic aspects of the functioning of the transport system (Learning Outcome 2)
3. Describe the elements of the transport system, horizontally and vertically (Learning Outcome 3)
4. Describe and explain the externalities in transport (Learning Outcome 4)
5. Identify the underlying objects of the transport infrastructure and explain the related cost concepts and evaluate the construction (Learning Outcome 5)
6. Explain and describe the principles and content of economic development in different transport branches (Learning Outcome 6)
7. Identify the underlying concepts and explain the approaches in transport policy (Learning Outcome 7)

1.10. Main Reading

1. Perić, T., Radačić, Ž.., Šimulčik, D. (2000). Ekonomika prometnog sustava. Zagreb: Sveučilište u Zagrebu, Fakultet prometnih znanosti.
2. Stopford, M. (2009). Maritime Economics. London & New York: Routledge.

1.11. Recommended Reading

1. Quinet, E., Vickerman, R. (2004). Principles of Transport Economics. Cheltenham: Edward Elgar.
2. Kesić, B; Jugović, A.; Debelić, B. (2013). Ekonomika brodarstva: riješeni zadaci. Rijeka: Pomorski fakultet Sveučilišta u Rijeci.
3. Jelinović, Z. (1983). Ekonomika prometa i pomorstva. Zagreb: Informator.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*

1.13. Quality Assurance

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3.2. Course description

Generic information			
Head of Course	Sandra Tominac Coslovich, PhD, Associate professor		
Course	English Language 6		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Elective		
Year of Study	3		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours(L+E+S)		15+30+0

1.GENERAL COURSE DESCRIPTION

1.1.Course Objectives

The goal of the course is to master the basic and specialist linguistic knowledge in English to enable students to understand, interpret and use terms related to agency business, technology of traffic and transport, ship management and legal regulations relevant for performing professional work, as well as for written and spoken business communication in maritime affairs and transport in English.

1.2.Prerequisites for Course Registration

Successfully passing English language 5

1.3.Expected Learning Outcomes

After passing the exam, the students will be able to:

1. Show the four basic language skills in English: reading, writing, listening and speaking at B2 level (independent user) according to the Common European Framework of Reference for Languages (CEF).
2. Demonstrate language knowledge and skills for performing professional work in maritime business and transport in English.
3. Speak about and discuss professional topics in English.
4. Translate texts from the professional field from English into Croatian and vice versa.
5. Give a presentation independently on a topic from the field of maritime transport and logistics in English.
6. Use linguistic abilities in written and spoken communication in English among business subjects from the maritime public and private sector.

1.4.Course Outline

Professional vocabulary (terminology, compounds, collocations, lexical sets), characteristics of the discourse/texts from relevant fields of vocation, relevant elements of grammar (syntax of complex sentences, lexical characteristics of discourse, pragmalinguistic elements) in selected professional written and spoken texts about the following extra-linguistic topics: cargo claims, letters of protest, notes of sea protest, ship management, methods of payment in international trade

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1.5.Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6.Comments		

1.7.Student Obligations

1st midterm exam, 2nd midterm exam, seminar paper, final exam (oral)

1.8.Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9.Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure of assessment of learning outcomes is performed according to the University of Rijeka Regulations on the Studies and the Regulations on the Studies of the Faculty of Maritime Studies in the following way:

2 continuous written assessments (60%), seminar paper (20%), final oral exam (20%)

Examples of outcome assessment in relation to the set outcomes are:

1. After reading the text, name the kinds of damage that can be found on cargo.
2. Explain the English term *Letter of protest*.
3. State the Croatian equivalent and explain the term *cargo claim*.
4. Translate the text about ship management using professional terminology.
5. What kinds of payment are used in international commerce?
6. Following the given hints, compose an official enquiry to the bank by e-mail regarding the delivery of a bank statement.

1.10. Main Reading

1. Ashley, A. 2003. *Oxford Handbook of Commercial Correspondence*. Oxford Univeristy Press.
2. B.J.Naterop, E.Weis, E.Haberfellner: 1987. *Business Letters for All*, OUP.
3. Pritchard, B. 2001. *English in Shipping*, selected units on Merlin (moodle.srce.hr)
4. Teaching materials available on the e-learning platform Merlin.

1.11. Recommended Reading

1. S.S.Weeney: *English for Business Communication*, CUP, second edition

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*

Ashley, A. 2003. *Oxford Handbook of Commercial Correspondence*. Oxford Univeristy Press.	5	25
B.J.Naterop, E.Weis, E.Haberfellner*: Business Letters for All*, OUP,19	5	25
Pritchard, B. 2001. *English in Shipping*. https://www.pfri.uniri.hr/bopri/Shipping.html	5	25
Teaching materials available on the e-learning platform Merlin.	Available online	25

1.13. Quality Assurance

The quality of the course is monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and a survey is conducted among the students once per semester.

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3.2. Course description

Generic information		
Head of Course	**Dragan Čišić, Ph.D.**	
Course	**Logistics engineering**	
Study Programme	**Technology and Organization of Transport**	
Level	Undergraduate degree programme	
Type of Course	elective	
Year of Study	3rd	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	6
	Number of Hours (L+E+S)	30 + 30 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of this course is to present the analytical tools, approaches and techniques required to organize and operate the logistics system and integrated supply chains in transportation.
The four basic tasks of the course are:
1. Introduce students with the analytical approach to logistics systems analysis
2. Strengthening the importance of using analytical tools throughout the supply chain
3. Teaching students the techniques of measuring and managing uncertainty in the supply chain
4. Introducing the idea of using multiple solutions to solve real logistical problems.

Students will learn methods and calculations:
1. planning and allocation of resources,
2. vehicle routing
3. logistics costs
4. inventory management and
5. determining the optimal location of the logistics resource.

1.2. Prerequisites for Course Registration

Completed courses Basics of Logistics, Mathematics and Basics of Economics

1.3. Expected Learning Outcomes

After passing the exam students will be qualified for:

1. Understanding and applying the basic concepts of logistics, contemporary theoretical and practical developments in the field of logistics and supply chain.
2. Understanding the complex and interactive flows and functions of logistics.
3. Analyzing and understanding physical, information and cash flows in logistics.
4. Knowledge of model and budget of logistics systems
5. Forecasting logistics needs
6. Calculation of the logistics network, resource allocation, vehicle routing, logistics costs, inventory management and determining the optimal location of the logistics resource.

1.4. Course Outline

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Logistics, Logistics Planning, Logistics Strategies, Management, Quality and Efficiency in Logistics, Goods and Services Distribution Systems, Distribution Channels, Analysis of Individual Transport Branches, General Traffic, Production Turnover, Transportation Costs, Shipping Logistics, Logistics Network Modeling, Modeling and Logistics Simulation, Transportation System Analysis, Document Flow Models, Freight Flow Models, Logistics Costs: Storage Costs, Freight Costs, Inventory Costs, Goods Perishability Costs, Inventory Management Models, Distribution Models Transportation Cost - Direct Transportation Costs, Storage Costs		
1.5. Modes of Instruction	X Letures ☐ Seminars and workshops X Exercises X E-learning ☐ Field work	☐ Practical work X Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		
1.7. Student Obligations		
1. Class attendance **2. Activity during class** **3. Activity on the e-learning platform** **4. Taking and passing the mid-term exams** **5. Activity on computer-assisted exercises** 6. **Passing the final exam**		

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation	0,5	Seminar paper		Experiment	
Written exam	1,5	Oral exam		Essay		Research	
Project		Continuous Assessment	2	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Evaluation includes:

1. Knowledge assessment through two tests
2. Knowledge testing on the e-learning platform during the class,
3. Knowledge assessment by computer calculation of logistics tasks
4. Passing the final exam

Examples of evaluating learning outcomes:

1. Explain the basic concepts of logistics and supply chain management
2. Understand logistics flows and components
3. Calculation of vehicle routing.
4. Using an Excel computer program, calculate the quantity of goods and the time of ordering
5. Predict customer demand based on historical data

1.10. Main Reading

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1. Čišić, D., *Logistics Engineering*, online lectures. Available at: http://moodle.srce.hr/2016-2017/course/view.php?id=12969
2. Taylor, G. D., *Introduction to Logistics Engineering*, CRC Press, Florida, 2008 .
3. Čišić, D., *Workbook of logistics tasks*, Faculty of Maritime Studies, Rijeka, 2008

1.11. Recommended Reading

1. Ballou, R. H., *Business logistics: Supply chain management*, Prentice Hall; 5 edition, New Jersey, 2003
2. Brandimarte,P., Zotteri, G., *Introduction to Distribution Logistic*, Wiley-Interscience; 1st edition, Hoboken, 2013

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Taylor, G. D., *Introduction to Logistics Engineering*, CRC Press, Florida, 2008 .	5	70
Čišić, D., *Workbook of logistics tasks*, Faculty of Maritime Studies, Rijeka, 2008	10	70

1.13. Quality Assurance

The quality of study is constantly monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of the exams is made annually and a student survey is conducted once a semester. All data, including exam, written work and assessment, are at all times public data for all students who have enrolled in the course (on the e-learning platform).

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Table 2.

3.2. Course description

Generic information			
Head of Course	Mirjana Borucinsky		
Course	German Language 2		
Study Programme	Technology and Organization of Transport		
Level	Bachelor		
Type of Course	elective		
Year of Study	III	Semester	VI
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		15 + 30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main objective of the course is to expand students' proficiency and improve their written and spoken communication skills using the specific terminology of logistics, management, technology and transport in maritime affairs and industry.

1.2. Prerequisites for Course Registration

Proficiency level B1.

1.3. Expected Learning Outcomes

Upon completing the course/passing the exam, students will be able to:
1. Discuss general language topics in German.
2. Discuss technical topics in German.
3. Differentiate between meanings of a term encountered in general language and language for specific purposes.
4. Translate technical texts from German into Croatian (or another target language, e.g. English) and vice versa.
5. Use language skills to communicate effectively in the business surrounding.

1.4 Course Outline

Fachterminologie aus dem Bereich: Seefracht. Güterumschlag. Verladeeinrichtungen. Häfen.
Geschäftskorrespondenz (Bestellung, Widerruf, Versandanzeige)
Passiv, Nebensätze, Wortbildung.

1.5 Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☐ Exercises ☒ E-learning ☐ Field work	☐ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Other _____
1.6 Comments		

1.7 Student Obligations

Students enrolled at the Faculty of Maritime Studies are expected to observe *the code of conduct* required by

the academic institution, and regularly attend lectures and practical work sessions.

1.8 Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	
Portfolio							

1.9 Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Through Partial Exams Student achieves up to 70% (Learning Outcomes from 1 to 5), while with the oral Final Exam (Learning Outcomes from 1 to 5) up to 30% of total Score.
Examples of Assessment of Learning Outcomes:

Examples of Assessment of Learning Outcomes:

1. Erörtern Sie die Vor- und Nachteile verschiedener Energiequellen.
2. Nennen Sie verschiedene Arten von Verladeeinrichtungen..
3. Wie unterscheiden sich die folgenden Fachausdrücke: *'umschlagen' ' umladen'?*
4. Übersetzen Sie den Text aus dem Deutschen ins Kroatische (Englische). Benutzen Sie dabei Fachterminologie.
5. Schreiben Sie einen Geschäftsbrief in dem Sie bestätigen dass die Bestellung durchgeführt wurde.

1.10 Main Reading

1. Gutremuth, J., Konerding, B., Perseke, J., Seegert, N., *Güterverkehr – Spedition – Logistik*, Bildungsverlag EINS GmbH, Troisdorf, 2002.
2. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004.
3. Teaching materials available at: moodle. srce.hr

1.11 Recommended Reading

1. Kunkel-Razum, Kathrin: *Duden: Briefe gut und richtig schreiben*. Dudenverlag, 2003.
2. Marčetić, T., *Pregled gramatike njemačkog jezika*, Školska knjiga, Zagreb, 1999.
3. Hurm, A., *Njemačko-hrvatski rječnik*, Školska knjiga, Zagreb, 1998.
4. Hurm., A., Jakić, B., *Hrvatsko-njemački rječnik*, Školska knjiga, Zagreb, 1999.

1.12 Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Gutremuth, J., Konerding, B., Perseke, J., Seegert, N., *Güterverkehr – Spedition – Logistik*, Bildungsverlag EINS GmbH, Troisdorf, 2002		
2. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004		

1.13 Quality Assurance

The quality of the course is monitored in accordance with the ISO 9001 system and the European standards and guidelines for quality assurance, implemented at the Faculty of Maritime Studies in Rijeka. Once a year, the results of the course are analyzed and appropriate measures implemented accordingly.

[1] NOTE: Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

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3.2. Course description

Generic information			
Head of Course	Biserka Rukavina, PhD		
Course	Maritime transport law		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate degree programme		
Type of Course	Elective		
Year of Study	3.		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		3+ 0 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Provide students with basic knowledge of the legal principles and standards relating to the essential institutes of maritime private law, and to inform students of the manner and legality of the functioning of the essential stakeholders of sea trade, in particular in the sphere of maritime transport. The aim is to enable students to understand the basic legal concepts on which maritime operations are based, to the extent necessary to carry out the tasks for which students are educated.

1.2. Prerequisites for Course Registration

No.

1.3. Expected Learning Outcomes

After the exam is passed, students will be able to do the following:

1. Define and interpret the basic legal principles and norms relating to the essential institutes of maritime private law.
2. Explain the basic concepts of proprietary rights on a ship and distinguish and describe the specifics of right of ship owner and other proprietary rights on a ship (mortgage and maritime lien).
3. Define and explain the rights, obligations and responsibilities of the essential stakeholders of navigation business on the basis of international and national maritime property law.
4. Distinguish and interpret the contracts for the exploitation of ships (contract for the carriage of goods, contract for carriage of passengers and luggage by sea, tow contract, multimodal transport).
5. Analyze and explain the documents used in the sea trade.
6. Explain the role and importance of insurance in maritime affairs, interpret the specificities of the hull and machinery insurance, the insurance of goods and describe the organization, activities and function of P&I clubs.

1.4. Course Outline

1. Legal sources and division of maritime private law.
2. Ship's proprietary rights (rights of ownership, mortgages, maritime liens).
3. Persons in maritime trading operations (charterer, shipper, consignee, maritime agent, freight forwarder, stevedores, operator and shipowner; insurer).
4. Bareboat charter.
5. Contracts for the exploitation of ships - term and systematic.
6. Contracts for the carriage of goods by sea (types, main characteristics, basic obligations).
7. Transport documents.
8. Liability of the carrier; general limitation of liability in the maritime business.
9. Maritime insurance (term, legal sources, maritime insurance contract, insurance of goods, insurance of ships, characteristics of P&I clubs).

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☐ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☐ Mentorship ☐ Presentation
1.6. Comments		

1.7. Student Obligations

Class attendance.
Practical work (Power Point presentation).
The colloquiums.
Final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	1	Oral exam		Essay		Research	
Project		Continuous Assessment	1	Presentation		Practical work	
Portfolio							

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

70 % in class and 30% on the final exam (according to the Ordinance on Studies of the University of Rijeka and the Ordinance on Studies of the Faculty of Maritime Studies in Rijeka).
Continuous knowledge assessment:
3 colloquiums ((1. colloquium 15 points, 2. i 3. colloquiums 20 points).
Practical work/seminar paper (15 points).
Final exam.
The final exam (written exam) checks the integrity of knowledge and a minimum of 50% correct answers (15 points out of total 30 points) must be obtained.

1. Specify and compare the international and national legal sources governing charter parties.
2. Explain the difference between the terms of the shipowner and the disponent owner.
3. Describe the essential elements of the voyage charter party using a specific standard charter party form.
4. Describe what cargo information should be entered in the bill of lading.
5. Indicate period of time within the consignee may submit the complaint for the damage of goods.
6. Explain the role of insurance in maritime transport.

1.10. Main Reading

Pavić, Drago, Pomorsko imovinsko pravo, Književni krug, Split, 2006.

1.11. Recommended Reading

1. Pomorski zakonik, pročišćeni tekst.
2. Pavić, Drago, Pomorsko osiguranje, Pravo i praksa, Split, 2012.
3. Pavić, Drago, Pomorsko pravo, Knjiga druga: Pravo pomorskih prijevoza, Split, 2002.
4. Pavić, Drago, Pomorsko pravo, Knjiga treća: Pomorske nezgode-pomorsko osiguranje, Split, 2000.
5. Grabovac, Ivo, Pomorsko pravo Republike Hrvatske, Split, 1997.
6. Grabovac, Ivo, Temelj odgovornosti u prometnom pravu, Književni krug, Split, 2000.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Pavić, Drago, Pomorsko imovinsko pravo, Književni krug, Split, 2006.	Enough: In the library and Faculty's bookshop	40

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in accordance with European standards and guidelines for quality assurance carried out at the Faculty of Maritime Studies University of Rijeka. Once a year, the results of the transience are analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information		
Head of Course	Assist.prof. Livia Maglić, phD; Assist. prof. Marko Gulić, phD	
Course	Application of Algorithms in Transport Planning	
Study Programme	Technology and Organization of Transport	
Level	Bachelor	
Type of Course	Core	
Year of Study	3rd	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	4
	Number of Hours (L+E+S)	30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The core objective of the course is to gain knowledge of the algorithms used to solve optimization problems; overview (identification) of transport planning problems that need to be optimally solved, and identifying the appropriate algorithm to optimally solve a specific transport problem.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

After passing the exam, students will be able to do the following:
1. Define basic terms about the algorithm and its creation
2. Identify and explain methods for solving transport problems
3. Design a flowchart for resolving a specific transport problem
4. Explain the principle of operation of a particular algorithm for solving optimization problems
5. Identify and analyze part of the process in a specific transport problem that needs to be solved using optimization algorithms
6. Propose an appropriate optimization algorithm that will be used to solve a specific transport problem
7. Adjust the parameters of the optimization algorithm to resolve a specific transport problem

1.4. Course Outline

Classification of problems in transport planning. Methods for solving problems in transport planning. Optimization problems in transport planning. Optimization problems at the container stacking area. The conceptual definition of the algorithm. Symbols in flowchart design. Pseudocode. Adaptation of data to the application of a particular algorithm. Algorithms for solving optimization problems. Nature-inspired optimization algorithms.

1.5. Modes of Instruction	☒ Lectures ☐ Seminars and workshops ☒ Exercises ☐ E-learning ☐ Field work	☒ Practical work ☐ Multimedia and Network ☒ Laboratory ☐ Mentorship ☐ Other _____
1.6. Comments		

1.7. Student Obligations

1. Taking two collquium
2. Project assignment
3. Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1,0	Essay		Research	
Project	0,5	Continuous Assessment	1,0	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The procedure for evaluating the acquired learning outcomes is carried out according to the Regulations on Studies of the University of Rijeka and the Rulebook on Studies at the Faculty of Maritime Studies in Rijeka as follows:

• 70% of the acquired learning outcomes are evaluated through continuous knowledge assessment during the teaching process: through the 1st colloquium - learning outcomes 1-3 (25%), 2nd colloquium - 4-7 (25%), project work - learning outcomes 1-7 (20%);

• 30% of the acquired learning outcomes (1-7) are evaluated at the final part of the exam, with a minimum of 50% of available points necessary for passing the final exam.

Examples of evaluating learning outcomes respecting set learning outcomes are:

1. Explain the working principle of the African bison optimization algorithm
3. Analyze container stacking problem at the port terminal and identify a process that could be optimized
4. Propose a fitting optimization algorithm for solving a specific transport problem
5. Suggest algorithm parameters to successfully resolve a specific transport problem
6. Design the algorithm for resolve travel salesman problem
7. Design sensitivity analysis for a particular algorithm

1.10. Main Reading

- Manger, R., Marušić, M., Strukture podataka i algoritmi, Zagreb, 2003.
- Manger, R., Strukture podataka i algoritmi, Zagreb, 2014.
- Course presentations available on the e-learning system Merlin

1.11. Recommended Reading

- Knuth, D. E: "The Art of Computer Programming, Vol. 1, 3 Addison-Wesley, 1997.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Manger, R., Marušić, M., Strukture podataka i algoritmi, Zagreb, 2003.	1	40
Manger, R., Strukture podataka i algoritmi, Zagreb, 2014.	1	40

1.13. Quality Assurance

The quality of study is continuously observed under the ISO 9001 system and following European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies, University of Rijeka. An analysis of the exams is given annually, and a survey among students is conducted by the semester.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities he course. Use empty fields for additional activities.

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W: www.uniri.hr • E: ured@uniri.hr

3.2. Course description

Generic information			
Head of Course	Assist. prof. Livia Maglić, phD		
Course	Professional Practice		
Study Programme	Technology and Organization of Transport		
Level	Undergraduate		
Type of Course	Elective		
Year of Study	3rd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		0+90+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of the course is to enable the student to apply the acquired theoretical knowledge in the field of engineering, technology, organization and planning in performing professional tasks in maritime and inland transport, as well as to acquire the working skills necessary for future work.

1.2. Prerequisites for Course Registration

The enrollment terms are determined by the holder of the study program by a special Decision of each academic year. Based on the Decision, a list of students who are qualified for enrollment is drawn up.

1.3. Expected Learning Outcomes

1. Describe the organization of work of the employer in which the student was engaged in professional practice.
2. Explain and analyze work processes and activities and job content from one or more workplaces within the company/institution where the student practice was performed.
3. Correlate theoretical knowledge and practical skills to work on specific jobs in practice.
4. Adapt to the work environment.
5. Demonstrate and independently perform a specific professional task based on the practical knowledge gained during the professional practice.

1.4. Course Outline

The professional practice is carried out in various maritime and transport companies in the public and private sectors where there are jobs related to the content of the curriculum of technology and organization of traffic. As part of the traineeship, the student becomes acquainted with the appropriate jobs for which he / she is trained, along with the task of checking and updating his / her professional knowledge, with a complete overview of the work process.

1.5. Modes of Instruction	☐ Lectures ☐ Seminars and workshops ☐ Exercises ☐ E-learning ☒ Field work	☒ Practical work ☐ Multimedia and Network ☐ Laboratory ☒ Mentorship ☒ Other _____
1.6. Comments		

1.7. Student Obligations

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The student performs a professional practice with an employer who, as part of his or her core activity, performs professional tasks that are consistent with the professional profile of his or her studies.
- Attending a practice with an employer
- Keeping a Log of Professional Practice
- Designing a project assignment

1.8. Assessment[1] of Learning Outcomes

Course attendance		Class participation		Seminar paper		Experiment	
Written exam		Oral exam		Essay		Research	
Project	2,0	Continuous Assessment		Presentation		Practical work	2,0
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

Based on the assessment of practice logs, project assignment and success in the practice by a mentor at the institution where the student took the practical work, head of the course concludes the student's success in achieving the defined learning outcomes and defines the final grade of the course.

1.10. Main Reading

1.11. Recommended Reading

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*

1.13. Quality Assurance

The quality of study is continuously observed under the ISO 9001 system and following European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies, University of Rijeka. An analysis of the exams is given annually, and a survey among students is conducted by the semester.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities he course. Use empty fields for additional activities.

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3.2. Course Description

Generic information		
Head of Course	Igor Vio, PhD	
Course	Transport Insurance	
Study Programme	Technology and Organization of Transport	
Level	Undergraduate degree programme	
Type of Course	Elective	
Year of Study	3	
Estimated Student Workload and Methods of Instruction	ECTS Coefficient of Student Workload	4
	Number of Hours (L+E+S)	45 + 0 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Students should become familiar with international and national legal framework regulating transport insurance and gain knowledge on insurance contract features, essential elements and claim types. During this course, the emphasis is on understanding of terms and conditions concerning particular transport insurance types including modalities of insurance in maritime, air, road and railway transport. Course objectives are also to expose international trade insurance scope and modalities, and to display the functioning, significance and types of reinsurance and co-insurance contracts.

1.2. Prerequisites for Course Registration

none

1.3. Expected Learning Outcomes

1. To indicate and interpret the basic concepts of transport insurance
2. To specify and compare international and national legal sources of transport insurance, taking into account the specific circumstances of maritime, air and land transport
3. To explain and compare the characteristics and elements of individual types of transport insurance contracts, and list and differentiate various types of insurance policy and other documents
4. To interpret the significance, characteristics and impact of the Institute Cargo Clauses for the insurance of goods in domestic and international transport
5. To enumerate and analyse the features of the Institute Hulls Clauses, and compare the conditions for insurance of boats and yachts
6. To describe and interpret the structure, activities and functions of insurance companies and P&I clubs
7. To specify and describe the conditions for insurance in land (road and railway) and air transport
8. To compare and describe procedures for obtaining evidence, drafting documents and reporting damage claims to the insurer
9. To explain the concepts of co-insurance and reinsurance and describe their application

1.4. Course Outline

Transport insurance basic features, insurance contract features, insurance contract documents, transport insurance contract elements, claim types, insurance management, insurance of goods in the national and international transport, marine hull and machinery insurance, P&I insurance, small craft and yacht insurance, foreign trade insurance, credit insurance, coinsurance and reinsurance.

1.5. Modes of Instruction	☒ Lectures	☐ Practical work
	☐ Seminars and workshops	☐ Multimedia and Network
	☐ Exercises	☐ Laboratory
	☐ E-learning	☐ Mentorship
	☐ Field work	☐ Other _____
1.6. Comments		

1.7. Student Obligations

a) Students' main obligations are active course attendance with the preparation and presentation of seminar paper and they are required to pass three tests as continuous assessment during the term.

b) As a prerequisite for the final exam, students must score at least 35 out of a possible 70 points (50%) during the classes.

c) Students must score at least 15 out of a possible 30 points on final exams (50%).

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	1,0	Oral exam		Essay		Research	
Project		Continuous Assessment	1,0	Presentation		Practical work	
Portfolio							

1.9. Assessment of Learning Outcomes and Examples of Evaluation during Classes and on the Final Exam

The evaluation procedure consists of continuous examination of knowledge in the form of three tests and a final exam. Examples of evaluating learning outcomes during classes and on the final exam:

1. Indicate and define the basic concepts and principles of transport insurance
2. List the international and national legal sources of transport insurance and explain their specific solutions for maritime, air and land transport
3. List the basic types of transport insurance contracts and compare their characteristics and elements, and specify and describe types of insurance policy and other relevant documents
4. Explain and discuss the importance of the Institute Cargo Clauses, and in particular elaborate on the application of specific cargo clauses in domestic and international maritime, land and air transport
5. Specify and describe the most important features of the Institute Hulls Clauses, then compare the terms and conditions according to the risks covered, and elaborate the specific insurance terms for boats and yachts coverage
6. Describe the organization of P&I clubs, explain their importance for liability insurance of shipping companies, and list the most important club functions
7. List the specific terms and conditions for land and air transport insurance and explain their application
8. Interpret the features of the procedures for obtaining evidence, analyse the specifics of drafting and collecting documents and demonstrate modalities of reporting damage claims to the insurer
9. Explain the concepts and types of co-insurance and reinsurance, describe their characteristics and elaborate their application.

[1] **NOTE:** Name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course. Use empty fields for additional activities.

1.10. Main Reading

Drago Pavić: Pomorsko osiguranje – pravo i praksa, s osnovama kopnenoga i zračnog transportnog osiguranja, Književni krug, Split, 2012.
Ivan Frančišković: Sustav transportnih osiguranja, Croatia osiguranje d.d., Zagreb, 1994.
Ivan Frančišković: Međunarodna osiguranja, predavanja na mrežnim stranicama Fakulteta.

1.11. Recommended Reading

Ivan Frančišković: Ekonomika međunarodnih osiguranja, Ekonomski fakultet Rijeka, 2005.
Drago Pavić, Pomorsko imovinsko pravo, Književni krug, Split, 2006.
Drago Pavić: Pomorsko pravo, knjiga III – Pomorske nezgode i pomorsko osiguranje, Visoka pomorska škola, Split, 2000.
Pomorski zakonik, Narodne novine br. 181/04. (s kasnijim izmjenama i dopunama)
Zakon o pomorskom dobru i morskim lukama, N.N. 158/03. (s kasnijim izmjenama i dopunama)

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Pomorsko osiguranje – pravo i praksa, s osnovama kopnenoga i zračnog transportnog osiguranja	Sufficient (in library and book shop)	2
Sustav transportnih osiguranja	Sufficient (in library and book shop)	2
Međunarodna osiguranja	Available on the website (pfri.uniri.hr)	2

1.13. Quality Assurance

Quality assurance of the course performance is continuously monitored according to ISO 9001 system applied at the University of Rijeka Faculty of Maritime Studies. An analysis of results of the final exams and a student survey are conducted and appropriate measures are adopted for each academic year.