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2. Course description

Generic information			
Head of Course	Biserka Draščić Ban, PhD, Ivoslav Ban, MSc		
Course	Mathematics		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
Year of Study	1st year	1st semester	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		7
	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

No prerequisites

1.3. Expected Learning Outcomes

- Apply content from selected algebra chapters in other professional subjects
- Demonstrate understanding of content from selected mathematical analysis chapters
- Solve problems from selected mathematics chapters
- Solve mathematical problems from professional subjects that require the application of acquired mathematical methods
- Apply learned mathematical methods to solve problems from professional subjects

1.4. Course Outline

Sets of numbers. Strings. Functions of real variables. Domain, limes and continuity of function. Derivatives
Rules for derivation. Differential. L'Hospital's rule. Application of differential calculus to flow testing
functions. Indefinite integral, tabular integrals. Methods for integration. Integrals of rational, trigonometric and
irrational functions. The definite integral. Newton-Leibniz formula. Application of integrals. Improper integrals.
Numerical integration. Basic ordinary differential equations. Functions of several variables: basic concepts,
partial derivatives, extrema. Total differential.
Sequences of numbers and functions. Taylor's order.

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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

Active attendance of classes over 70 %. Two written exams. Final oral exams.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2.5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	2	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.

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

a) Evaluation procedure: Two regular midterm exams are held during the semester, and a make-up midterm exam is held at the end of the semester. Students who, through class attendance and midterm exams, collect 35 or more points out of a possible 70 will take the oral part of the final exam.
b) Examples of questions on the oral final exam:
- Principle of mathematical induction
- Continuity of a function
- Determining the extrema of a function of one variable
- Applications of derivatives
- Applications of the definite integral

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	50
B. P. Demidovič, Zadaci i riješeni primjeri iz matematičke analize : za tehničke fakultete,, Tehnička knjiga, Zagreb.	8	50

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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Course description

Generic information			
Head of Course	Srđan Žuškin, PhD		
Course	Ship design and construction		
Study Programme	Logistics and management in maritime industry and transport		
Type of Course	Mandatory		
Year of Study	1st year	1st semester	
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 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 analyse ship's division toward purpose, type of cargo, navigational water categories, construction material, nature of shipping service, etc.
6. Apply 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]t of Learning Outcomes

Course attendance	2	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1,3	Essay		Research	
Project		Continuous Assessment	1,5	Presentation		Practical work	0,2
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- 10) checks the competences of theoretical knowledge where it is necessary to achieve a minimum of 50 % of the required theoretical knowledge.

Examples of learning outcome assessments in relation to the set learning outcomes are:

1. Describe the development of the double hull system throughout the history.
2. Classify and describe the transverse structural elements on a different type vessel.
3. Explain the ship's anchoring system and classify different types of anchors.
4. Explain what a ship's draught, and draw the water line between 8 and 9 meters.
5. Explain different types of ships according to the different type of cargo transportation and constructional characteristics.
6. Draw and explain the transverse cross-section of a bulk carrier with the corresponding structural elements.

[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

1. Žuškin, S., teaching materials from the course *Ship design and construction* on the teacher's personal web site (MERLIN) of the Faculty of Maritime Studies in Rijeka, 2025.
2. Komadina, P., Brodovi multimodalne prijevozne tehnologije, Pomorski fakultet u Rijeci, Rijeka, 2001.
3. Komadina, P., Ro-Ro brodovi, Pomorski fakultet u Rijeci, Rijeka, 2001.
4. Komadina, P., Tankeri, Pomorski fakultet u Rijeci, Rijeka, 1994.

1.11. Recommended Reading

Books

1. Eyres, D. J., Ship Construction, Butterworth-Heinemann, London, 2007.
2. Milošević, M., i Š., Osnove teorije broda 2, Sveučilište u Zagrebu, Zagreb, 1981.
3. Milošević, M., i Š., Osnove teorije broda 1, Sveučilište u Zagrebu, Zagreb, 1981.
4. Munsart, Craig A., A Cruise ship primer: history & operations, Atglen : Schiffer, cop. 2015.
5. Nautical Institute, A guide to bulk carrier operations, London, 2020.
6. Todorov, D.M., Ro-Ro handbook: a practical guide to roll-on roll-off cargo ships, monografija (knjiga), Atglen : Schiffer, cop. 2016.

Head of course scientific papers related to the Course

1. Grubišić, N., Dundović, Č., Žuškin, S., A split task solution for quay crane scheduling problem in mid-size container terminals // Tehnički vjesnik = Technical gazette, 23 (2016), 6; 1723-1730
2. Jovanović, F, Rudan, I., Žuškin, S., Sumner, M., Comparative analysis of natural gas imports by pipelines and FSRU terminals // Pomorstvo : scientific journal of maritime research, 33 (2019), 1; 110-116. doi: 10.31217/p.33.1.12
3. Sumner, M., Žuškin, M., Žuškin, S., Hess, M., Coopetitive game fundamentals and concept model representation for LNG transportation industry // Proceedings of the International Association of Maritime Universities (IAMU) Conference 2023 / Sviličić, Boris (ur.). Helsinki: Satakunta University of Applied Sciences (SAMK), 2023. str. 107-112
4. Šakan, D., Žuškin, S., Rudan, I., Brčić, D., Container ship fleet route evaluation and similarity measurement between two shipping line ports // Journal of marine science and engineering, 11 (2023), 2; 1-16. doi: 10.3390/ jmse11020400
5. Žuškin, S., Optimizacija rasporeda tereta na kontejnerskim brodovima u funkciji skraćenja prekrcajnoga procesa/ Komadina, Pavao (mentor). Rijeka, Pomorski fakultet u Rijeci, 2015.

Web sources

1. https://www.wartsila.com/encyclopedia
2. http://struna.ihjj.hr/
3. https://www.pfri.uniri.hr/bopri/IMEC_Proceedings/Rjecnik_Eng_Hrv.pdf
4. Ocean Technologies Group – Ocean Learning Platform (OLP); (e – learning)

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Žuškin, S., teaching materials from the course *Ship design and construction* on the teacher's personal web site (MERLIN) of the Faculty of Maritime Studies in Rijeka, 2025.	MERLIN – online	80
Komadina, P., Brodovi multimodalne prijevozne tehnologije, Pomorski fakultet u Rijeci, Rijeka, 2001.	10	
Komadina, P., Ro-Ro brodovi, Pomorski fakultet u Rijeci, Rijeka, 2001.	10	
Komadina, P., Tankeri, Pomorski fakultet u Rijeci, Rijeka, 1994.	10	

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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	Ana Perić Hadžić, PhD Gorana Mudronja, PhD	
Course	Fundamentals of Economics	
Study Programme	Logistics and Management in the Maritime Industry and Transport	
Type of Course	Mandatory	
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 aim of the course is to familiarize students with fundamental economic concepts and principles. Students will gain a basic understanding of both microeconomic and macroeconomic concepts, including supply and demand in the market, production processes, income and costs, key market structures, and the importance of international trade. The course is designed to provide a foundation for further studies in the broader field of social sciences.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Explain fundamental economic concepts and their significance in the functioning of the economy.
2. Recognize the role of the market and the state in the functioning of a modern mixed economy and describe their interaction.
3. Explain the concepts of supply and demand, identify the factors influencing their changes, and describe the mechanism of achieving market equilibrium.
4. Distinguish the basic elements of production theory and analyze their implications for business decision-making.
5. Differentiate between cost and revenue structures and calculate financial outcomes as a basis for assessing profitability and business sustainability.
6. List the main market structures and describe their characteristics and functioning.
7. Describe the fundamental concepts of international trade and basic macroeconomic principles.

1.4. Course Outline

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1. Introduction to the basics of economics
2. Fundamental determinants of economics (scarcity, efficiency, branches of economics, fundamental questions of economic organization, types of economic systems)
3. Fundamental determinants of economics (technological possibilities of society, inputs and outputs, production possibility frontier, opportunity costs)
4. The modern mixed economy
5. supply and demand
6. Analysis of supply and demand curves (market equilibrium, shifts in supply and demand curves)
7. Production and business organization
8. Cost analysis (fixed, variable, total, average, and marginal costs)
9. Revenue and cost analysis (profit, loss, and break-even point)
10. Analysis of perfect and imperfect competition markets
11. Sources of market imperfections; demand curves in different market structures
12. Fundamentals of international trade (absolute and comparative advantage, outsourcing, trade barriers, tariffs, multilateral agreements)
13. Fundamentals of macroeconomics (production, unemployment rate, inflation)

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

Class attendance, midterm exams, and final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	0,5	Seminar paper		Experiment	
Written exam	1,5	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

Student obligations include regular class attendance, passing the first midterm exam, passing the second midterm exam, and taking the final exam. The assessment of achieved learning outcomes is carried out in accordance with the Regulations on Studies and Studying at the University of Rijeka and the Regulations on Studying at the University of Rijeka, Faculty of Maritime Studies, as follows:

–First midterm exam: 35%, Learning outcomes 1, 2, 3, and 4.
–Second midterm exam: 35%, Learning outcomes 5, 6, and 7.
–Final exam: 30%, Learning outcomes 1, 2, 3, 4, 5, 6, and 7.

To be eligible to take the final exam, students must meet the following conditions:
- Achieve a minimum of 50% of the total points on each midterm exam.
- Achieve a minimum of 35 points, which represents 50% of the total points available through continuous assessment during the course.

The final exam constitutes 30% of the total grade, and students must achieve at least 50% of the total points on the final exam to successfully pass the course. Attendance in lectures and exercises is mandatory, with regular attendance monitoring. A student may be absent from no more than 50% of classes.

Examples of learning outcome assessment tasks during the course and the final exam:
1. Define the term economics.
2. Provide two examples of positive and two examples of negative externalities.
3. Explain the concept of demand.
4. Explain the law of diminishing returns.
5. Provide two examples of fixed costs.
6. Describe the concept of a monopoly (what happens to price, what the product characteristics are, how many firms are in the market, and how entry and exit function).
7. Explain how differences in consumer preferences stimulate international trade.

1.10. Main Reading

1. Samuelson, Paul A. A.; Nordhaus, William D.: Ekonomija, Zagreb: Mate, 2011. (i ostala izdanja)
2. Course materials available on the e-learning platform Merlin (https://moodle.srce.hr).

1.11. Recommended Reading

1. Nordstrom, Kjell A.; Ridderstrale, Jonas: Karaoke kapitalizam: menadžment za čovječanstvo, Zagreb: Differo, 2004.
2. Nordstrom, Kjell A.; Ridderstrale, Jonas: Funky business: kapital pleše samo s darovitima, Zagreb: Differo, 2002.
3. Landes, David S.: Bogatstvo i siromastvo naroda: zašto su neki tako bogati, a neki tako siromašni?, Zagreb: Masmedia, 2003.
4. Tijan, Edvard ; Jović, Marija ; Perić Hadžić, Ana: Achieving Blue Economy goals by implementing digital technologies in the maritime transport sector // Pomorstvo : scientific journal of maritime research, 35 (2021), 2; 241-247. doi: 10.31217/p.35.2.6
5. Mudronja, G.; Jugović, A.; Škalamera-Alilović, D. (2020.) Seaports and Economic Growth: Panel Data Analysis of EU Port Regions, Journal of marine science and engineering, 8 (2020), 12; 1017
6. Mudronja, G.; Jugović, A.; Škalamera-Alilović, D. (2019.): Research and Development and Economic Growth: EU Port Regions, Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu, Vol. 37, No. 2, str. 587-602., ISSN 1331-8004
7. Mudronja, G. (2020.). Inovacije i tehnološki napredak u poslovanju morskih luka i njihov utjecaj na gospodarstvo. u K. Skala (ur.) MIPRO 2020 43rd International Convention Proceedings, (str. 1737-1742), Opatija, Hrvatska: Croatian Society for Information, Communication and Electronic Technology – MIPRO.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Samuelson, Paul A. A.; Nordhaus, William D.: Ekonomija, Zagreb: Mate, 2011. (i ostala izdanja)	4	50
Course materials available on the e-learning platform Merlin (https://moodle.srce.hr)	-	50

1.13. Quality Assurance

The quality of the study program is monitored in accordance with the ISO 9001 quality management system and in line with the European Standards and Guidelines for Quality Assurance, as implemented at the Faculty of Maritime Studies, University of Rijeka.

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3.2. Course description

Generic information			
Head of Course	Edvard Tijan, PhD		
Course	Logistics Basics		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	mandatory		
Year of Study	1		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30 + 0 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The main goal and objective of the course is to acquaint students with the concepts, principles, and functions of logistics. Students should adopt the fundamental characteristics of logistics, as well as a holistic, integrated view of all the activities that logistics encompasses. In addition to the basic concepts of procurement, inventory management, transport management, warehouse management, and distribution, students study the integration of these activities as a prerequisite for the efficiency of transport and business systems. Upon completing the course, students recognize the basic characteristics of transport systems, including maritime, air, rail, road, and intermodal transport, and are familiar with the optimization of the flow of goods, information, and financial resources throughout the entire logistics chain.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

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

1. Define and interpret the fundamental concepts of logistics
2. Describe the features of logistics and its components (functions)
3. Distinguish between different types of transport and explain their advantages and disadvantages
4. Interpret the role of logistics in supply chain management
5. Recognize the importance of ICT in logistics and explain the integration of ICT solutions into logistics systems

1.4. Course Outline

Concept and definition of logistics, Economic impact of logistics, Supply chain, Inventory management, Warehousing, Distribution system design, Overview of the transport system, Maritime, air, rail, road, and intermodal transport, Type and location of logistics facilities, Service logistics, Green logistics, Reverse logistics, Information technology in logistics

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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

1. Attendance of classes
2. Classroom activity
3. Taking the midterm exam
4. Taking the final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation	0,5	Seminar paper		Experiment	
Written exam		Oral exam	0,5	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

Continuous assessment and grading include classroom activity and two midterm exams, followed by the final exam. Assessment is conducted in accordance with the current university and faculty regulations on studying. During continuous assessment, students can earn up to 70% of the total course points, and the remaining 30% can be earned on the final exam.

On each midterm exam, it is necessary to achieve at least 50% of the points possible on that exam.

Through continuous classroom assessment (midterm exams and classroom activity), students must cumulatively achieve at least 35% of the total course points (out of the possible 70%) in order to be eligible to take the final exam.

On the final exam, students can earn 30% of the total course points (with students required to achieve at least 50% of the points possible on the final exam to pass it).

Attendance at lectures is mandatory, and student attendance will be monitored. Students may miss a maximum of 50% of the classes.

Examples of learning outcome assessment:
Learning outcome 1: Explain the fundamental concepts of logistics (e.g., distribution, warehousing, cargo handling)
Learning outcome 2: List the key components of logistics systems and interpret the importance of each component
Learning outcome 3: Compare the advantages and disadvantages of road and rail transport
Learning outcome 4: Interpret the importance of logistics in the supply chain and its synergy with other supply chain components
Learning outcome 5: List and explain some information technologies and systems used in logistics

1.10. Main Reading

1. Edvard Tijan, Osnove logistike, on-line materijali (Merlin)
2. Bloomberg, LeMay, Hanna: Logistika, MATE, Zagreb, 2006.

1.11. Recommended Reading

1. Šerić: SUVREMENA LOGISTIKA - Upravljanje logistikom u poslovanju poduzeća, REDAK, Split, 2016.
2. Brandimarte, Zotteri: Introduction to Logistics Systems Management. Willey 2013.
3. Miščević, Tijan, Žgaljić, Jardas: Emerging trends in e-logistics // MIPRO 2018 - Proceedings, 2018.
4. Tijan, Aksentijević, Ivanić, Jardas: Blockchain Technology Implementation in Logistics // Sustainability, 11 (2019), 4; 1185, 13.
5. Agatić, Poletan Jugović, Tijan: Streamlining logistics services via collaboration platforms // Book of Proceedings- 8th International Maritime Scientific Conference 2019. Kotor, 2019.
6. Jović, Felicitas Schlierf, Heinen, Tijan: Information management in Reverse logistics // Pomorski zbornik, 58 (2020), 1; 155-167.
7. Agatić, Poletan Jugović, Tijan, Jugović: Digital Business Models in the Logistics Services // MIPRO 2020: Proceedings, 2020.

1.12. Number of Main Reading Examples

Title	Number of examples	Number of students
Edvard Tijan, Osnove Logistike, on-line materijali (Merlin)		
Bloomberg, LeMay, Hanna: Logistika, MATE, Zagreb, 2006.	7	50

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1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in line with European standards and guidelines for quality assurance implemented at the University of Rijeka, Faculty of Maritime Studies. Once a year, the pass rates are analyzed and appropriate measures are taken (an anonymous survey is conducted in which students evaluate the quality of delivered teaching). An analysis of student performance on completed exams is also carried out.

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Course description

Generic information			
Head of Course	Tanja Poletan Jugović, PhD		
Course	Cargo Flows		
Study Programme	Logistic and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
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 primary objectives of the course are to acquire knowledge about the basic elements, principles, as well as the geo-transport, socio-economic, and logistical factors influencing the formation and distribution of cargo flows; to analyse relevant indicators of cargo flow formation worldwide with an emphasis on maritime and land transport; and to gain knowledge of the fundamental prerequisites for attracting cargo flows and valuing transport routes in the transport services market.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After attending and passing the course, the student will be able to:

1. Describe and interpret the basic elements, key principles, and specific characteristics of the formation of cargo flows within logistics and transport networks.
2. Differentiate and explain types of cargo flows according to various criteria such as type of goods, direction of cargo flows, types of transport modalities, territorial scope, etc.
3. Describe and interpret geo-transport, socio-economic, and logistical factors that influence the distribution and consolidation of cargo flows in a global and regional context.
4. Explain the general and specific characteristics of the development and sustainability of modern transport at the global, regional, and national levels.
5. Argue the significance of key components in the valuation and competitiveness of transport routes (corridors) in the transport services market.
6. Analyze and interpret the intensity, structure, and dynamics of cargo flows on various transport routes and corridors (maritime, land, river, air, etc.).
7. Compare relevant indicators of cargo flows at different types of cargo terminals (port, land, air terminals), including intensity, structure, and dynamics of cargo flows.
8. Apply the acquired knowledge to a specific practical example through the preparation of a research assignment using relevant theoretical and statistical data sources.

1.4. Course Outline

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Theoretical determinants and principles of the formation and distribution of cargo flows that govern the consolidation, distribution, and optimization of cargo flows in global and regional networks. Geo-transport factors influencing the formation and distribution of cargo flows. Socio-economic factors influencing the formation and distribution of cargo flows. Other assumptions and criteria for the formation and distribution of cargo flows. The state and general characteristics of cargo transport worldwide. International cargo flows in maritime transport. International cargo flows in land transport. International cargo flows on inland waterways. International cargo flows in air transport. Cargo flows in the context of sustainability.

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 exam (with a minimum achievement of 50% of the points)
- 2nd exam (with a minimum achievement of 50% of the points)
- Seminar – independent research and presentation (evaluation according to detailed criteria with a minimum achievement of 50% of the points)
- Final exam (with a minimum achievement of 50% of the points)

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	0,5
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 assessing acquired learning outcomes is conducted in accordance with the Regulations on Studies at the University of Rijeka and the Regulations on Studying at the Faculty of Maritime Studies in Rijeka as follows:

- continuous knowledge assessment during classes – evaluates 70% of the acquired learning outcomes (LO): 1st exam – 25% (LO 1-5), 2nd exam – 25% (LO 6-7), seminar (preparation and presentation of the seminar within the research work) – 20% (LO 8), which is evaluated based on detailed criteria; the student must achieve at least 50% of the points in each activity.
- final exam – evaluates 30% of the acquired learning outcomes (LO 1-7), whereby the student must achieve at least 50% of the points to pass.

Examples of assessing learning outcomes in relation to the established learning outcomes are:

1. Define the key elements influencing the formation of maritime cargo flows.
2. Classify cargo flows according to the criteria of territorial coverage and direction of cargo flows, and explain the specificities and significance of different types of cargo flows.
3. List the geo-transport factors influencing the formation of cargo flows and argue their relative or absolute impact on cargo flows.
4. Name the key maritime regions and the leading ports by region in the context of global container cargo flows.
5. Systematize the factors affirming cargo flows using the example of a corridor (e.g., Baltic–Adriatic corridor).
6. Identify the routes of the most significant global maritime routes for liquid cargo flows.
7. Explain the intensity, structure, and dynamics of cargo flows using the example of the Northern Adriatic ports (Koper, Trieste, Rijeka).
8. Apply and present the acquired knowledge through a concrete practical example (independent research and presentation).

1.10. Main Reading

1. teaching material for the e-course Cargo Flows – accessible on the e-learning platform - Merlin (https://moodle.srce.hr) during the current academic year
2. Tanja Poletan Jugović , „Robni tokovi“, Faculty of Maritime Transport, University in Rijeka, 2014.

1.11. Recommended Reading

1) Rodrigue, Jean-Paul, The Geography of Transport Systems, Fifth edition, New York: Routledge, 2020. (selected chapters)
2) Current statistical sources with up-to-date data: Review of Maritime Transport – UNCTAD, Shipping Statistics and Market Review, ISL (Institute of Shipping Economics and Logistics), Bremen; Statistical Yearbook of the Republic of Croatia, Croatian Bureau of Statistics, and others.
3) Scientific and professional papers by the course instructor and other authors published in international journals (Journal of Transportation Geography, Transportation Research, etc.) and domestic journals (Pomorstvo, Naše more, etc.), as well as projects and other research on the topic of cargo flows

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
teaching material for the e-course Cargo Flows – accessible on the e-learning platform - Merlin (https://moodle.srce.hr) during the current academic year	unlimited	30
Tanja Poletan Jugović, Robni tokovi, Faculty of Maritime Transport, University in Rijeka, 2014.	5	30

1.13. Quality Assurance

The quality of studying is continuously monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of exam results is prepared annually, and a student survey is conducted once per semester.

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3. 2 Course description

Generic information			
Head of Course	Sandra Tominac Coslovich, PhD		
Course	**English language 1**		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
Year of Study	1st		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	3	
	Number of Hours (L+E+S)	15 + 30 + 0	

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Course objectives meet the English language requirements for obtaining a B. Sc. degree in Logistics and Management in Maritime Transport and include acquiring communicative competence for effective use of English as a language of international maritime communication for the purpose of ensuring efficient business operations and management in the maritime industry.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

Upon completing the course the students will be able:

1. To demonstrate 4 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
2. To demonstrate specialized language knowledge and skills for the purpose of performing specialist jobs in the field of logistics and management in maritime transport
3. To express themselves in speech and in writing and discuss specialist topics in English
4. To translate specialized texts from English into Croatian and vice versa
5. To use language skills in written and verbal communication in English among different specialists in the field of maritime transport

1.4. Course Outline

The course focuses on *content-based learning*. It applies the *communicative approach* to learning and teaching English as a Foreign Language (EFL) and English as a Second Language (ESL). The course focuses on the acquisition and practical use of: vocabulary/terminology skills (terms, polysemous words, multiple-word lexical units, collocations, lexical sets), discourse and pragmatic elements of shipping-related texts and communication, most frequent and typical grammatical structures and features restricted to maritime discourse (written and spoken) in the following areas: maritime transport industry, general seamanship, ship knowledge (types of vessels, vessel parts, manning of vessels), liner trade and tramp trade. The course stresses the importance of English in communication in international maritime trade and provides the basics of business correspondence in English.

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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

1. course attendance (lectures and exercises)
2. passing two written tests
3. passing final written exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		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

2 continuous assessments/test + final written exam taken together with the second assessment

1. Describe the main characteristics of bulk carriers in English?

2. Explain the Master's duties and responsibilities in English?

3. State the main types of merchant vessels in English?

4. Translate the following text about vessels' structural design from English into Croatian by using the appropriate terminology.

5. Based on the given scenario, make a formal enquiry in English.

1.10. Main Reading

1. Boris Pritchard (2001) *Maritime English 1*, Školska knjiga, https://www.pfri.uniri.hr/bopri/marengl1.html - odabrane lekcije
2. Mark Powell (2014) *In Company 3.0. – Intermediate Level, Macmillan Business English* (Student's Book+ CD) Macmillan Publishers
3. Authorized lectures available on e-learning platform Merlin (moodle.srce.hr)

1.11. Recommended Reading

1. Peter van Kluijven (2005) *The International Maritime Language Programme*, De Alk & Heijen,
2. MarEng Learning Tool: https://blogit.utu.fi/mareng/mareng/

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Boris Pritchard (2001) *Maritime English 1*, Školska knjiga (selected units available on line on www.moodle.srce.hr)	Available online	60
Mark Powell (2014) *In Company 3.0. – Intermediate level Macmillan Business English* (Student's Book+ CD) Macmillan Publishers	10	60
Authorized lectures available on e-learning platform Merlin (moodle.srce.hr)	Available online	60

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	Maja Skendžić, mag.cin.		
Course	Physical and Health Education 1		
Study Programme	Logistic and Management in Maritime Industry and Transport		
Type of Course	mandatory		
Year of Study	1		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		1
	Number of Hours (L+E+S)		0+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goals of physical and health education are: understanding the principles of the biopsychosocial characteristics of the human being, acquiring knowledge about the factors that cause diseases and injuries, gaining a set of motor skills and information necessary for more meaningful use of free time,fulfilling the human biopsychosocial need for movement, developing humane interpersonal relationships, increasing creative abilities and adapting to modern living and working conditions, and through appropriate programs, enabling individuals to independently and responsibly take care of preserving and promoting their personal health, work capacity and other abilities.

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

After completing the course, the student will be able to:

1. Positively influence anthropological characteristics (anthropometric traits)
2. Improve the acquisition of general and specific motor abilities, knowledge, skills and habits
3. Apply and utilize methods for maintaining and promoting health
4. Preserve health status through the application of physical exercise

1.4. Course Outline

Course Content Overview introducing students to the curriculum, class locations, and specific equipment. Assessing students' health status and levels of (in)activity. Measuring heart rate in various starting positions: lying down, sitting, standing. Running with changes in direction. Volleyball technique elements (V). Running; cyclic running up to 6 minutes. Running technique: coordination of breathing, arm and leg movement. Elective activity. Stretching exercises, including sport-specific flexibility routines. Loosening and relaxation exercises. Basic kinesiological transformations on board (ship). Movement coordination. Kinesiotherapeutic exercises for spine preservation in seafarers. Overhead passing and rebounding, underhand passing with forearms (V). Stretching – F. Climbing up and down ship ladders and ropes – M. Catching, passing, and shooting a basketball; ball handling (B). Development of general motor abilities (speed, precision). *Field work. Incorrect posture – physical exercise and prevention. Dance structures (English waltz) – F. Ball handling and play (N) – M. Player positions – playing with multiple players over the net (V). Evaluation of students' individual attendance status, based on presence or absence and participation in class activities. Elective game.

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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	Seminar paper is written by part-time students. Field work will be conducted if conditions and weather permit.	

1.7. Student Obligations

Active attendance and participation in at least 70% of classes is required.

1.8. Assessment[1] of Learning Outcomes

Course attendance	0.5	Class participation	0.5	Seminar paper		Experiment	
Written exam		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 course is not graded.
Students' motor activity is positively evaluated during classes. Each lesson, student attendance and participation are carefully monitored and recorded in a dedicated semester-long Physical and Health Education Attendance Sheet**.** The course *Physical and Health Education* is assessed for the respective semester by entering "PASSED" in the ISVU system.

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.

1.12. 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 line with European standards and guidelines for quality assurance, as implemented at the Faculty of Maritime Studies in Rijeka.
Once a year, pass rate results are analyzed and appropriate measures are taken.

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3.2. Course description

Generic information			
Head of Course	Biserka Draščić Ban, PhD, Associate professor Ivoslav Ban, MsC		
Course	Financial mathematics		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
Year of Study	1st year	2nd semester	
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 objective of the course is to master selected topics in linear algebra and financial mathematics.

1.2. Prerequisites for Course Registration

No prerequisites

1.3. Expected Learning Outcomes

–Apply content from selected chapters of linear algebra in other professional subjects
- Apply content from selected chapters of financial mathematics in other professional subjects
- Solve problems from selected chapters of linear algebra
- Solve mathematical problems from professional subjects that require the application of adopted chapters of linear algebra

Apply learned methods from financial mathematics to solve problems from professional subjects

1.4. Course Outline

Matrices and operations with matrices. Determinants. Systems of linear algebraic equations. Models of general market equilibrium. Intersectoral(input-output) analysis. Application of differential calculus in economics.
Marginal cost. Elasticity of function. Exemplary integral calculus in economics. Percentage account. Methods of calculating interest. Simple and complex interest account.
Financial equivalence of capital. Continuous stuttering. Discrete capitalization (prenumerando and postnumerando amounts). Loans. Loan repayment 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		

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1.7. Student Obligations

Active attendance of classes over 70 %. 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	1.5	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.

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

a) Evaluation procedure: Two regular midterm exams are held during the semester, and a make-up midterm exam is held at the end of the semester. Students who, through class attendance and midterm exams, collect 35 or more points out of a possible 70 will take the oral part of the final exam.
b) Examples of evaluation of learning outcomes: - Demonstrate understanding of the content from selected chapters of linear algebra - Demonstrate understanding of the content from selected chapters of financial mathematics - Solve problems from selected chapters of linear algebra - Solve mathematical problems from professional subjects that require the application of the adopted chapters of linear algebra - Apply the learned methods from financial mathematics to solve problems from professional subjects

1.10. Main Reading

1. R. Dobrosavljević, Ž. Glavan, I. Kitarović, Z. Zenzerović, Matematika I, Pomorski fakultet u Rijeci, 1993., Rijeka
2. Bosko Sego, Tomislav Sikic, Four Accounts for Economists, Business School “Baltazar Adam Krcelic” , 2003.
3. Authors' group, Collection of tasks (Sets of numbers, Matrices and determinants, Vector algebra), Faculty of Maritime Studies Rijeka, 1999

1.11. Recommended Reading

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Bosko Sego, Tomislav Sikic, Four Accounts for Economists, Business School “Baltazar Adam Krcelic” , 2003.	5	60
Authors' group, Collection of tasks (Sets of numbers, Matrices and determinants, Vector algebra), Faculty of Maritime Studies Rijeka, 1999.	10	60
R. Dobrosavljević, Ž. Glavan, I. Kitarović, Z. Zenzerović, Matematika I, Pomorski fakultet u Rijeci, 1993., Rijeka	10	60

1.13. Quality Assurance

The quality of studies is monitored in accordance with the ISO 9001 SYSTEM AND IN ACCORDANCE WITH THE EUROPEAN STANDARDS AND GUIDELINES FOR QUALITY ASSURANCE IMPLEMENTED AT THE Faculty of Maritime Studies in Rijeka. Once a year, the results of the passing scores are analyzed and appropriate measures are taken.

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Course description

Generic information		
Head of Course	**Biserka Draščić Ban, PhD**	
Course	Statistics	
Study Programme	Logistics and Management in Maritime Industry and Transport	
Type of Course	Mandatory	
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

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 differ 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		

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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

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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	Marko Gulić, PhD Ivan Tudor, mag.educ.	
Course	Application of Electronic Computers	
Study Programme	Logistics and Management in Maritime Industry and Transport	
Type of Course	Mandatory	
Year of Study	1st year	
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 acquire knowledge about the structure and operating principles of computers as well as skills in using computers for word processing and spreadsheet applications. To train students to solve problems using computers by developing algorithms and implementing them using programming packages.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

Upon completing the course, students will be able to:
1. Identify the basic components of digital computers and their functions, including input/output units, working memory, hardware, and CPU.
2. Describe the operation of digital computers using number systems, logical expressions, and mathematical-logical fundamentals.
3. Apply basic principles of algorithms for problem-solving, including defining control structures (sequence, branching, looping).
4. Demonstrate the use of the MS Windows operating system for file management, data retrieval, and file compression.
5. Customize text documents in MS Word by formatting characters, paragraphs, headers, and tables, and prepare documents for printing.
6. Analyze data in MS Excel using formulas, functions (IF, COUNTIF), conditional formatting, and charts.
7. Develop basic computer programs using Just Basic, implementing conditional structures and loops.
8. Compare different types of computer software and evaluate their use in real-world scenarios.

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1.4. Course Outline

Mathematical-logical foundations of computer operations. Problem-solving using computers. Algorithms and programs (Just Basic). Elements of algorithms. Description of algorithms. Algorithm commands. Algorithm control structures. Computer hardware. Input/output devices. Memory. Processor. Computer software. System software. Operating system (MS Windows). Programming software. Utility programs. Application software. Word processing software (MS Word). Spreadsheet software (MS Excel).

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 are required to actively attend lectures and exercises. All continuous assessments contribute to the final grade, none of which can be passed with less than 50% of the grading points.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation		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

Three knowledge tests are conducted during classes using computers, covering 70% of learning outcomes:
- Just Basic programming: 20% (Outcomes 2, 3, 7)
- MS Word: 25% (Outcomes 4, 5)
- MS Excel: 25% (Outcome 6)

The remaining 30% is assessed in the final exam (theory – Outcomes 1 and 8).

Examples of evaluation:
1. List technologies used for data recording in storage memory (Outcome 1).
2. Convert number 756 from octal to hexadecimal (Outcome 2).
3. Define algorithm steps that check whether a student meets exam requirements (Outcome 3).
4. Compress all newly created documents into one and create a file named nameSurname.zip (Outcome 4).
5. Format text using MS Word according to given specifications (Outcome 5).
6. Create a chart in MS Excel based on provided data (Outcome 6).
7. Write a Just Basic program that reads 20 numbers and prints the largest (Outcome 7).
8. Describe various types of application software (Outcome 8).

1.10. Main Reading

· Tudor, M. Application of Electronic Computers, University of Rijeka, Faculty of Maritime Studies, Rijeka, 2010.
· Course materials available on the e-learning system – Merlin (https://moodle.srce.hr)

1.11. Recommended Reading

· Vukšić et al., Basics of Business Informatics, University of Zagreb, Faculty of Economics, 2020.
· Grundler et al., ECDL 5.0 (WINDOWS 7, OFFICE 2010): Basic Program – 7 Modules, PRO-MIL, Varaždin, 2012.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Tudor, M. Application of Electronic Computers, University of Rijeka, Faculty of Maritime Studies, Rijeka, 2010	Library: 10 copies Script Office: 150 copies	50
Teaching materials on the Merlin e-learning system	unlimited	50

1.13. Quality Assurance

The quality of study is monitored according to the ISO 9001 system and in line with European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies in Rijeka. Annually, the pass rates are analyzed and appropriate measures are taken.

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3.2. Course description

Generic information		
Head of Course	Borna Debelić, PhD	
Course	Transport Economics	
Study Programme	Logistic and Management in Maritime Industry and Transport	
Type of Course	Mandatory	
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

Acquiring knowledge in the special field of transport economics, necessary for persons responsible for the successful operation of the main economic activities in the transport sector. The aim of the course is to systematically address economic, operational and technical problems of transport and its modalities.

1.2. Prerequisites for Course Registration

/

1.3. Expected Learning Outcomes

After completing and passing the course, students will be able to:
1. Interpret the elements of the transport system and the relationships between transport and economic development;
2. Highlight and explain the economic aspects of the functioning of the transport system;
3. List and interpret the elements of the transport system horizontally and vertically;
4. Explain externalities in transport;
5. List the basic objects of transport infrastructure and interpret the related cost concepts and construction valuation;
6. Identify and interpret the principles and content of the basics of economics by transport branch;
7. Explain the basic concepts and interpret approaches in transport policy.

1.4. Course Outline

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Transport system and economic development aspects
Importance of transport and traffic in the economic system
Elements of the transport system horizontally and vertically
Factors and processes of economic functioning of the transport system
Economic evaluation of transport infrastructure construction
Privatization, liberalization, globalization and deregulation in transport
Transport infrastructure facilities and cost concepts
Externalities in transport
Cooperation between transport modalities
Transport system and transport policy
Economics of road transport and the transport system
Basics of railway transport economics and the transport system
Basics of postal and telecommunications transport economics and the transport system
Basics of air transport economics and the transport system
Basics of maritime and inland waterways transport economics and the 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. Class attendance
2. Activity in the lessons
3. Study, research and problem solving
4. Passing the colloquia
5. Exam passing

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	1	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

Learning outcomes evaluation procedure:
- Record of class performance: 5%
- Scoring of class activities: 5%
- Knowledge assessment through two preliminary exams: 50%
- Presentation and knowledge assessment through case studies: 10%
- Knowledge assessment in the final exam: 30%.

Examples of learning outcomes evaluation:
1. List and discuss the elements of the transport system and the relationships between transport and economic development.
2. List and explain the economic aspects of the functioning of the transport system.
3. Describe the elements of the transport system horizontally and vertically.
4. Describe and explain externalities in transport.
5. List the basic objects of transport infrastructure and explain the related cost concepts and construction evaluation.
6. Explain and describe the principles and content of the basics of economics by transport modality.
7. List the basic concepts and explain the approaches in transport policy.

1.10. Main Reading

1. Teaching materials on the e-learning system – Merlin (https://moodle.srce.hr)
2. Perić, T., Radačić, Ž.., Šimulčik, D. (2000). Ekonomika prometnog sustava. Zagreb: Sveučilište u Zagrebu, Fakultet prometnih znanosti.
3. Bukljaš Skočibušić, M., Radačić, Ž., Jurčević, M. (2011). Ekonomika prometa. Zagreb: Sveučilište u Zagrebu, Fakultet prometnih znanosti.
4. The umbrella laws of the transport system of the Republic of Croatia (Maritime Code, Maritime Domain and Seaports Act, Road Transport Act, Railway Safety and Interoperability Act, Railway Services Market Regulation Act and Protection of Passenger Rights in Railway Transport, Air Transport Act, Airports Act, Inland Waterways Navigation and Ports Act)

1.11. Recommended Reading

1. Stopford, M. (2009). Maritime Economics. London & New York: Routledge.
2. Kesić, B; Jugović, A.; Debelić, B. (2013). Ekonomika brodarstva: riješeni zadaci. Rijeka: Pomorski fakultet Sveučilišta u Rijeci.
3. Button, K. (2022). Transport Economics, 4th Edition. Edward Elgar Publishing.
4. Jelinović, Z. (1983). Ekonomika prometa i pomorstva. Zagreb: Informator.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Perić, T., Radačić, Ž.., Šimulčik, D. (2000). Ekonomika prometnog sustava. Zagreb: Sveučilište u Zagrebu, Fakultet prometnih znanosti	6	70

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1.13. Quality Assurance		
The quality of studying is continuously 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, University of Rijeka. An analysis of exam taking is prepared annually, and a survey among students is conducted every semester.		

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3.2. Course description

Generic information		
Head of Course	Mladen Jardas, Ph.D.	
Course	Business Logistics	
Study Programme	Logistic and Management in Maritime Industry and Transport	
Type of Course	Mandatory	
Year of Study	1.	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	6
	Number of Hours (L+E+S)	30 + 15 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The primary goal of the course is to familiarize students with the fundamental characteristics of logistics and the supply chain, logistics business systems, and the global supply chain

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After learning, the student will be able to:

1. Analyze and interpret key procurement logistics processes.
2. Critically analyze inbound and outbound logistics.
3. Identify key stakeholders in the distribution segment of the logistics system.
4. Explain the key components of distribution and analyze their interrelationships.
5. Analyze and interpret the structure of logistics chains and reflect on the interactions within them.
6. Critically analyze trade-off situations in the supply chain.

1.4. Course Outline

Logistics and distribution. Supply chain. Warehousing and inventory costs. Total distribution costs. Logistics supply and demand. Freight forwarder as a multimodal transport operator. Logistics chain. Global supply chain. Trade-offs in the global supply chain. Global supply chain management.

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. Class attendance
2. Study, research, and problem-solving
3. Taking midterm exams and tests
4. Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam	2	Oral exam		Essay		Research	0,5
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 evaluation of achieved learning outcomes is carried out in accordance with the Regulations on Study Programs of the University of Rijeka and the Regulations on Studying at the Faculty of Maritime Studies in Rijeka, as follows:

Through continuous assessment during the classes, 70% of the learning outcomes are evaluated:
1. 1st midterm exam: 30%
2. 2nd midterm exam: 25%
3. Presentation of a research assignment: 15%

Students may take the final exam if they have obtained 35 grade points in continuous knowledge assessments, i.e., 50% of the total number of points that could be achieved during classroom evaluation. Also, a condition is that students achieve at least 50% of points on each colloquium. The final exam is in written form and comprises 30% of the total grade. Students must satisfy 50% of the final exam in order to achieve a positive grade in the course.

Examples of learning outcome evaluation:
1. *List the processes of a logistics system.*
2. *Describe the distribution cost trends in direct and indirect sales in relation to the number of customers.*
3. *List the entities involved in reverse distribution channels.*
4. *Explain the main goal of management in transport companies.*
5. *List and explain logistics chains according to the level of market coverage.*

1.10. Main Reading

1. Teaching material available on the e-learning system – Merlin (https://moodle.srce.hr)
2. Hlača, B.: Poslovna logistika, Skripta autoriziranih predavanja, Pomorski fakultet u Rijeci, 2006.
3. Hlača, B.: Lučka logistika, Sveučilišni u Rijeci, Pomorski fakultet u Rijeci, Rijeka 2016.
4. Šamanović, J.: Logistički i distribucijski sustavi, Sveučilište u Splitu, Ekonomski fakultet, Split, 1999.;
5. Zelenika, R.: Prometni sustavi, tehnologija – organizacija – ekonomika – logistika – menadžment, Ekonomski fakultet u Rijeci, Rijeka, 2001.;
6. Zelenika R.: Upravljanje logističkim mrežama, Ekonomski fakultet u Rijeci, Rijeka 2007.

1.11. Recommended Reading

1. BLOOMBERG, D.J., LE MAY S., HANNA, J.B.: Logistika, Mate: Zagrebačka škola ekonomije i managementa, Zagreb, 2006.
2. BOUCHERY, Y. ,Hinterland Transportation in Container Supply Chain,London, 2014.
3. BRANCH, A.E. Global Supply Chain Management and International Logistics, Abingdon, Oxon, 2009.
4. COOPER, J., Logistics and Distribution Planning, London 1994.
5. RUSHTON-OXLEY, Handbook of Logistics and Distribution Management, London 1993.
6. 24. SEGETLIJA, Z., LAMZA-MARONIĆ, M.: Distribucijski sustav trgovinskoga poduzeća: distribucija-logistika-informatika, Ekonomski fakultet u Osijeku, Osijek, 1995.
7. ŠAMANOVIĆ, J.: Prodaja, distribucija, logistika : teorija i praksa, Ekonomski fakultet Sveučilišta, Split, 2009.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Teaching material available on the e-learning system – Merlin (https://moodle.srce.hr)	Unlimited	70

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 failure to pass are analysed and appropriate measures are adopted.

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3.2. Course description

Generic information			
Head of Course	Sandra Tominac Coslovich, PhD		
Course	**English language 2**		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
Year of Study	1st		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	3	
	Number of Hours (L+E+S)	15 + 30 + 0	

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Course objectives meet the English language requirements for obtaining a B. Sc. degree in Logistics and Management in Maritime Transport and include acquiring communicative competence for effective use of English as a language of international maritime communication for the purpose of ensuring efficient business operations and management in the maritime industry.

1.2. Prerequisites for Course Registration

Successful completion of English language 1 course

1.3. Expected Learning Outcomes

Upon completing the course the students will be able:

1. To demonstrate 4 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
2. To demonstrate specialized language knowledge and skills in English for the purpose of performing specialist jobs in the field of logistics and management in maritime transport
3. To express themselves in speech and in writing and discuss specialist topics in English
4. To translate specialized texts from English into Croatian and vice versa
5. To use language skills in written and verbal communication in English among different specialists in the field of maritime transport

1.4. Course Outline

The course focuses on *content-based learning*. It applies the *communicative approach* to learning and teaching English as a Foreign Language (EFL) and English as a Second Language (ESL). The course focuses on the acquisition and practical use of: vocabulary/terminology skills (terms, polysemous words, multiple-word lexical units, collocations, lexical sets), discourse and pragmatic elements of shipping-related texts and communication, most frequent and typical grammatical structures and features restricted to maritime discourse (written and spoken) regarding the following topics: types of cargo, cargo properties, carriage of goods by sea, cargo work, warehousing, picking, packing and inventory, cargo-handling equipment, ports and port structures. The course stresses the importance of English in both written and spoken communication in international maritime trade and focuses extensively on writing business e-mails.

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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

1. course attendance (lectures and exercises)
2. passing two written tests
3. passing final written exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		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

2 continuous assessments/test + final written exam taken together with the second assessment

1. *Describe different types of cargo in English?*
2. *Explain the duties and responsibilities of the Chief Officer in English?*
3. *State in English what type of cargo-handling equipment is used to load and unload containers?*
4. *Translate the text about port structures from English into Croatian using the appropriate terminology.*
5. *Based on the given scenario, use the appropriate terminology and place an order in English via e-mail.*

1.10. Main Reading

1. Boris Pritchard (2001) *Maritime English 1*, Školska knjiga, https://www.pfri.uniri.hr/bopri/marengl1.html - selected units
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers
3. Mark Powell (2014) *In Company 3.0. – Intermediate Level, Macmillan Business English* (Student's Book+ CD) Macmillan Publishers
4. Authorized lectures available on the e-learning platform Merlin (moodle.srce.hr)

1.11. Recommended Reading

1. Peter van Kluijven (2005) *The International Maritime Language Programme*, De Alk & Heijen,
2. *MarEng Learning Tool*: https://blogit.utu.fi/mareng/mareng/

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Boris Pritchard (2001) *Maritime English 1*, Školska knjiga, https://www.pfri.uniri.hr/bopri/marengl1.html - selected units	Available online	60
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers	10	60
3. Mark Powell (2014) *In Company 3.0. – Intermediate Level, Macmillan Business English* (Student's Book+ CD) Macmillan Publishers	10	60
4. Authorized lectures available on the e-learning platform Merlin (moodle.srce.hr)	Available online	60

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	Maja Skendžić, mag.cin.	
Course	Physical and Health Education 2	
Study Programme	Logistic and Management in Maritime Industry and Transport	
Type of Course	mandatory	
Year of Study	1	
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	1
	Number of Hours (L+E+S)	0+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goals of Physical and Health Education are: to understand the principles of the biopsychosocial characteristics of the human being, to acquire knowledge about the factors that cause illnesses and injuries, to adopt a set of motor skills and information necessary for more meaningful use of free time, to satisfy the human biopsychosocial need for physical activity, to develop humane interpersonal relationships, to enhance creativity, to adapt to modern living and working conditions, and through appropriate programs, to equip individuals for independent and responsible care for the preservation and promotion of personal health, as well as work and other abilities.

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

Upon completion of the course, the student will be able to:

1. Demonstrate a positive impact on functional abilities.
2. Develop more meaningful use of leisure time.
3. Assess and improve the ability to solve everyday motor tasks.
4. Choose appropriate ways to perform motor tasks in urgent situations.

1.4. Course Outline

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Measuring resting heart rate, measuring heart rate after 6 minutes of physical effort (M) and measuring heart rate after a 2-minute run (F). Optional activity. Volleyball skills – underhand and overhand serves, blocking, setting, spiking and playing the third hit. Volleyball rules and their application in the game (O). Catching, passing and dribbling in basketball. Basketball rules and their application in the game (K). Weightlifting and other strength exercises aimed at preserving spinal health (mariners). Polystructural complex movements: soccer (M), volleyball (F). Rope exercises in place and in motion. A new basketball game involving three teams. Adapted dodgeball with a large Pilates ball. Tug of war. Elective polystructural complex movements. Volleyball rules and their application in the game (O). Development of general motor skills (coordination, flexibility). *Field work. Situational passing and setting in volleyball (O). Dance structures (Viennese waltz) – (F). Football technique, playing in groups of three (N). Group work to develop basketball motor skills (K).
Low and high starts (technique refinement), cyclic movements at various tempos. Assessment of individual student status based on attendance and participation in class activities.
Elective kinesiology activity.

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	Seminar paper is written by part-time students. Field work will be conducted if conditions and weather permit.	

1.7. Student Obligations

Active attendance and participation in at least 70% of classes is required.

1.8. Assessment[1] of Learning Outcomes

Course attendance	0.5	Class participation	0.5	Seminar paper		Experiment	
Written exam		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 course is not graded.
A prerequisite for attending and completing this course is passing the course Physical and Health Education 1.
During the course, students' motor activities are positively evaluated.
Each student's attendance and participation are carefully recorded in a dedicated semester-long Physical and Health Education Attendance Sheet during every class.
The course is recorded in the ISVU system as "PASSED" (POLOŽIO) for the respective semester.

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.

1.12. 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 line with European standards and guidelines for quality assurance, as implemented at the Faculty of Maritime Studies in Rijeka.
Once a year, pass rate results are analyzed and appropriate measures are taken.

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3.2. Course description

Generic information			
Head of Course	Svjetlana Hess, PhD		
Course	Operations Research		
Study Programme	Logistics and Management in Maritime and Transport		
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

To equip students with the ability to apply quantitative methods in business decision-making. The course includes acquiring knowledge and techniques of quantitative methods in transport and logistics, as well as keeping up with scientific developments regarding the emergence of new methods and their increasing use in everyday business activities. It also includes identifying specific transport problems, collecting data, selecting and setting up the appropriate model, and obtaining results (mainly using computer software). A comprehensive analysis of the results is conducted to enable application in real-world business environments requiring quantification and optimization of transport and logistics services.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

Upon completion of the course, the student will be able to:
1. State the basic principles and theoretical assumptions of operations research methods
2. Determine criteria and the decision-making process for a specific problem in logistics
3. Set up a model for specific problems and identify the appropriate solving method and optimal solution
4. Solve a real-world logistics problem using the methods learned in class (with the help of a computer program)
5. Interpret optimal and possible alternative solutions considering the given criteria and constraints
6. Create a practical example using real data and analyze the optimal solution

1.4. Course Outline

Application of quantitative methods in business decision-making. Linear programming. Transportation problems. Assignment problems. Application of these methods to practical problems in transport/logistics.

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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Minimum 70% attendance, three midterm exams, and a final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2.5	Class participation		Seminar paper		Experiment	
Written exam	1.0	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:
Student progress is assessed through three midterm exams testing calculation techniques from selected operations research methods, which account for up to 70% of the total grade (learning outcomes 3, 4, 5), and a final exam accounting for 30% of the grade (learning outcomes 1, 2, 6). The final exam assesses comprehensive theoretical knowledge and understanding of specific knowledge in operations research and its application in transport and logistics cases. Students must achieve at least 35% of the total grade from the midterms to qualify for the final exam and must pass the final exam with at least 50%.
Examples of assessment for a specific learning outcome:

1. State and explain the chosen operations research method.
2. Identify an arbitrary problem in transportation and determine the appropriate criterion for the given problem.
3. Define a practical problem, describe how you will collect data, formulate the model, and determine the appropriate method for solving and finding the optimal solution.
4. Solve the defined problem using the appropriate method and then use computer software to verify the solution.
5. Interpret the obtained solution.
6. Design a real-world example and specify which method you would use to solve it.

1.10. Main Reading

1. Course materials available on the e-learning platform – Merlin (https://moodle.srce.hr)
2. Stanivuk, T., Kovačević, G., Primjena operacijskih istraživanja u pomorstvu, Sveučilište u Split, Pomorski fakultet, Split, 2024.

1.11. Recommended Reading

1. Hess, S., Hess, M., Novaselić, M., Grbić, L., Assessment of the Position of North Adriatic Terminals in Container Market Based on Different Indices, Logistics 8(4), 97, 2024.
2. Babeli, K., Hess, S., Hess, M., Capacity utilization of the container terminal as multiphase service system, European Transport \ Trasporti Europei, Issue 86, Paper n° 4, 2022.
3. Brajdić, I., Matematički modeli i metode poslovnog odlučivanja, Fakultet za menadžment u turizmu i ugostiteljstvu, Opatija, 2013
4. Lukač, Z., Neralić, L., Operacijska istraživanja, Element, Zagreb, 2012.
5. Babić, Z., Linearno programiranje, Ekonomski fakultet u Splitu, Split, 2010.
6. Barković, D., Operacijska istraživanja, Ekonomski fakultet, Osijek, 2001.
7. Zenzerović, Z., Operacijska istraživanja, Zbirka zadataka, Fakultet za pomorstvo i saobraćaj, Rijeka, 1983.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Course materials on e-learning platform – Merlin	web	70
Stanivuk, T., Kovačević, G., Primjena operacijskih istraživanja u pomorstvu, Sveučilište u Split, Pomorski fakultet, Split, 2024.	6	70

1.13. Quality Assurance

The quality of education is monitored in accordance with the ISO 9001 system and aligned with European standards and guidelines for quality assurance, implemented at the Faculty of Maritime Studies in Rijeka. Exam pass rate analysis is conducted annually, and student surveys are carried out once per semester.

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3.2. Course description

Generic information		
Head of Course	Borna Debelić, PhD	
Course	Management	
Study Programme	Logistic and Management in Maritime Industry and Transport	
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)	30 + 15 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Introduction to relevant aspects of contemporary management theory. To bring theoretical knowledge of contemporary management closer to practical application in contemporary companies and economic and entrepreneurial practice.

1.2. Prerequisites for Course Registration

/

1.3. Expected Learning Outcomes

After completing and passing the course, students will be able to:
1. Describe the elements and relationships in the business management system;
2. Highlight and explain the importance of ethics and social responsibility in modern management;
3. List and interpret the basic determinants and planning process;
4. Explain organizing as part of the management process;
5. List and review approaches to motivation and the role of leadership in developing business competitiveness;
6. Identify and interpret the importance of interpersonal processes in management, and the principles and content of managing interpersonal relationships;
7. List and interpret motivation as a factor in business success and good management;
8. List and interpret methods and techniques of managerial control.

1.4. Course Outline

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Management: Science, Theory and Practice
Company Environment
Ethics and Social Responsibility of Management
Fundamentals of Planning
Strategy and Strategic Planning
Decision Making
Basics of Organization
Forms of Organizational Structure
Planning, Recruitment, Selection and Human Resources Development
Performance Assessment and Compensation Management
Leadership
Motivation
Interpersonal Processes
Basics of Controlling
Control Methods and Techniques

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. Class attendance
2. Activity in the lessons
3. Study, research and problem solving
4. Passing the colloquia
5. Exam passing

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	1,5	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

Learning outcomes evaluation procedure:
- Record of class performance: 5%
- Scoring of class activities: 5%
- Knowledge assessment through two preliminary exams: 50%
- Presentation and knowledge assessment through case studies: 10%
- Knowledge assessment in the final exam: 30%.

Examples of learning outcomes evaluation:
1. List and discuss the elements and relationships in the business management system.
2. List and explain the importance of ethics and social responsibility in modern management.
3. Describe the basic determinants of planning and list the elements of the business planning process.
4. Describe and explain organizing as part of the management process.
5. List approaches to motivation and explain the role of leadership in developing business competitiveness.
6. Describe and explain the importance of interpersonal processes in management, and explain and describe the principles and content of interpersonal relationship management.
7. List and interpret motivation as a factor in business success and good management.
8. List the elements and explain the process of managerial control.

1.10. Main Reading

1. Teaching materials on the e-learning system – Merlin (https://moodle.srce.hr)
2. Buble, M. (2013). Osnove menadžmenta. Zagreb: Sinergija d.o.o.
3. Sikavica, P., Bahtijarević- Siber, F.,Vokić Pološki, N. (2008). Temelji menadžmenta. Zagreb: Školska knjiga

1.11. Recommended Reading

1. Bahtijarević-Šiber, F., Sikavica, P., Pološki Vokić, N. (2008). Suvremeni menadžment. Zagreb: Školska knjiga.
2. Buble M. (2009). Menadžment, 2. izd. Split: Ekonomski fakultet.
3. Nicholas, C. S. (1995). Menadžment malog poduzeća. Zagreb: Mate d.o.o.
4. Sikavica, P., Bahtijarević-Šiber, F. (2001). Leksikon menadžmenta. Zagreb: Masmedija d.o.o.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Buble, M. (2013). Osnove menadžmenta. Zagreb: Sinergija d.o.o.	6	70

1.13. Quality Assurance

The quality of studying is continuously 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, University of Rijeka. An analysis of exam taking is prepared annually, and a survey among students is conducted every semester.

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3.2. Course description

Generic information		
Head of Course	**Biserka Rukavina, Ph. D.**	
Course	**Commercial and Transport Law**	
Study Programme	**Logistics and Management in Maritime Industry and Transport**	
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)	45+0+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Acquisition of knowledge about the basic characteristics of the company. Knowledge of the structure of the company and the responsibility of the company bodies and the meaning of nominate and innominate contracts, and non-contractual responsibility. Knowledge of the rules of interpretation of transport law contracts, and the specificities of certain types of transport.

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 and interpret the fundamental concepts of commercial and transport law.
2. Describe and interpret the legal framework of the company.
3. Distinguish between different types of companies.
4. Interpret the significance and impact of contractual and non-contractual liability.
5. Analyze, compare and demonstrate the specifics of individual types of contracts.
6. Describe and compare the characteristics of the legal regulation of individual types of transport (maritime, rail, road).

1.4. Course Outline

Common provisions for the establishing a commercial company. Basic characteristics of particular commercial company type. The role of the court register. Obligation law – general provisions. Contractual and non-contractual obligations. Individual types of contracts. Contracts in maritime, air, road and rail 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

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The student must attend at least 70 % of the total hours of lectures, and must have passed colloquia (continuous knowledge testing) and a positively evaluated presentation (ppt presentation) 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	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

The process of evaluation of the acquired learning outcomes takes place during continuous assessments - through 2 midterm examinations (60 %) and presentation (10 %) and at the final part of the exam (30%).

Examples of Assessment of Learning Outcomes:

1. How is business capacity acquired?
2. Specify the meaning of the term of the company headquarters.
3. What is the competence of the management of the company?
4. List the types of shares.
5. What are the obligations of the seller?
6. Explain the concept of carrier liability.

1.10. Main Reading

1. Authorized lectures on the e-learning platform MERLIN (online materials).
2. Gorenc, Vilim, Pravo trgovačkih društva, Baltazar Adam Krčelić, Zaprešić, 2011.
3. Slakoper, Zvonimir, Kačer, Hrvoje, Luttenberger, Axel, Osnove prava trgovačkih ugovora i vrijednosnih papira, Mikrorad, Zagreb, 2009.

1.11. Recommended Reading

1. Companies Act, Consolidated text.
2. Civil Obligations Act, Consolidated text.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Gorenc, Vilim, Pravo trgovačkih društva, Baltazar Adam Krčelić, Zaprešić, 2011.	3	50
2. Slakoper, Zvonimir, Kačer, Hrvoje, Luttenberger, Axel, Osnove prava trgovačkih ugovora i vrijednosnih papira, Mikrorad, Zagreb, 2009.	3	50

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 analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information			
Head of Course	Alen Jugović, PhD		
Course	Shipping Economics		
Study Programme	Logistics and Management in Maritime Industry and Transport		
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

Introduction to the theoretical foundations and understanding of practical aspects of shipping business, with an emphasis on economic principles and key business processes. By analyzing concrete examples from practice, students will develop skills in applying basic economic principles in the business of shipping companies and other participants in the maritime transport system, which will enable them to better understand the significance of maritime transport within the overall transport system.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. Explain the basic concepts and basic principles of maritime shipping.
2. Distinguish the characteristics of individual types of maritime shipping and transport technologies.
3. Comment on the specifics of the maritime market and the economic significance of the merchant navy.
4. Analyze market factors, the dynamics of freight rates and tariffs in shipping.
5. Calculate the key operating costs of shipping companies and assess their impact on business.
6. Assess the financial viability of different types of transport and business strategies in maritime shipping.

1.4. Course Outline

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General information on the economics of maritime shipping - an introduction to the concept and significance of the economics of maritime shipping
Merchant shipping: global and national, special types of maritime shipping activities
Special types of maritime shipping activities: charter, liner and tanker - passenger shipping: national and global
Maritime transport: passenger and cargo
Maritime market in shipping: general, division and market structure - economic specificities of charter, liner and tanker shipping
Free shipping space market, liner shipping space market, tanker shipping space market
Indicator of maritime market dynamics, freight rate indices and market typology
Ship acquisition through loan financing - repayment of loan for ship acquisition
Freight rates in maritime shipping: general information on freight rates, principles, types and determination and formation of freight rates
Freight rates in charter shipping, liner shipping rates
Tariffs: general, division, calculation
Freight rates in tanker shipping, freight rates in passenger shipping
Maritime transport costs: general information about costs in maritime shipping and costs in general - fixed and variable costs in maritime shipping

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. Being active in class
3. Studying, researching and solving problems
4. Taking quizzes and tests
5. Taking exams

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	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

Grading and evaluation of student work includes continuous assessment of knowledge through two midterm exams and two tests with calculation tasks during classes, and a final exam. Grading 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, which implies that a student can achieve 70% of the grade during classes, and the remaining 30% at the final exam.

Knowledge assessment in class is carried out continuously, and students can achieve a percentage of the grade as follows:

- *1st preliminary exam - 25% Learning outcomes: 1., 2., 3., 4., 5., 6.*
- *2nd preliminary exam - 25% Learning outcomes: 1., 2., 3., 4., 5., 6.*
- *Test 1 - 10% Learning outcomes: 5.*
- *Test 2 - 10% Learning outcomes: 5., 6.*
- *Final exam - 30% Learning outcomes: 1., 2., 3., 4., 6.*

The final exam can be taken by students who have earned 35 grade points in continuous knowledge assessments, or 50% of the total number of points that could be achieved during the assessment in class. It is also a condition that students achieve at least 50% of the points in each preliminary exam. The final exam is in written form and accounts for 30% of the total grade. Students must pass 50% of the final exam in order to receive a passing grade for the course.

Examples of learning outcome evaluation:
1. Define the term ocean shipping.
2. What are the key differences between liner and free shipping?
3. Explain the role of the maritime market in global trade.
4. List three main factors that influence the change in freight rates and explain how each of these changes affects supply and demand in shipping.
5. Calculate the costs, revenues and financial result of a container ship on the described voyage.
6. Compare the financial profitability of tramp shipping compared to liner shipping with regard to fluctuations in the freight rate market.

1.10. Main Reading

1. Teaching materials on the e-learning system – Merlin (https://moodle.srce.hr)
2. Jugović, A., Zanne, M., Bukša, J.: Ekonomika brodarstva, Sveučilište u Rijeci, Pomorski fakultet, Rijeka, 2024.
3. Stopford, M.: Maritime Economics, Routledge, London & New York, 2000. or new.
4. Kesić, B; Jugović, A.; Debelić, B.: Ekonomika brodarstva riješeni zadaci, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013.

1.11. Recommended Reading

1. Jugović, A., Aksentijević, D., Zaninović, P.A.: The impact of economic policy on shipper businesses in coastal line maritime passenger transport in Croatia. Pomorstvo, 35 (1), 87-92., https://doi.org/10.31217/p.35.1.9, 2021.
2. Jugović, A., Komadina, N., Perić Hadžić, A.: Factors influencing the formation of freight rates on maritime shipping markets. Pomorstvo, 29 (1), 23-29., 2015.
3. Radonja, R. i Jugović, A.: Shipowners' business policy in the context of development in the environmental legislation. Pomorstvo, 25 (2), 319-341., 2011.
4. Kesić, B., Jugović, A.: Menadžment pomorskoputničkih luka, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2006.
5. Cullinane, K.: Shipping Economics – Research in transportation Economics, Elsevier, 2005.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Jugović, A., Zanne, M., Bukša, J.: Ekonomika brodarstva, Sveučilište u Rijeci, Pomorski fakultet, Rijeka, 2024.	20	60
Stopford, M.: Maritime Economics, Routledge, London & New York, 2000. or new.	5	60
Kesić, B; Jugović, A.; Debelić, B.: Ekonomika brodarstva riješeni zadaci, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013.	30	60

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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Course description

Generic information		
Head of Course	Tanja Poletan Jugović, PhD Siniša Vilke, PhD	
Course	Cargo in Transport	
Study Programme	Logistic and Management in Maritime Industry and Transport	
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

Defining relevant terms and forms of products, goods, and cargo in transport. Understanding the role and importance of knowing the nature of materials and cargo in transport. Familiarization with the nature of materials and cargo in transport as an essential prerequisite for the organization of transportation and handling operations. Introduction to basic and specific classifications, divisions, and categorizations of cargo. Analysis of the basic properties of cargo and methods for testing the quality of cargo properties. Defining the specificities and rules for the transport, transhipment, handling, storage, packaging, packing, and marking of various types of cargo (liquid, bulk, general, dangerous, heavy and oversized cargo) with regard to different modes of transport (maritime, land and air).

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After attending and passing the course, students will be able to:

1. Classify basic and specific types of cargo/goods according to various criteria (e.g., properties, type of transport, degree of processing, etc.).
2. List and explain international trade classifications of goods in the context of transport and trade.
3. Analyze and interpret the concept of cargo/goods quality in the context of transportation, transport, and storage.
4. Understand and interpret the fundamental properties and characteristics of cargo/goods relevant to transport logistics.
5. Interpret and break down the specific properties and characteristics of particular types of cargo (e.g., liquid, bulk, general, dangerous and other types of cargo).
6. Explain methods and procedures for testing the properties of different types of cargo/goods.
7. Interpret the rules and specificities of transport, handling, and storage of various types of cargo with an emphasis on safety, regulations and quality preservation.
8. Explain and differentiate marking, packing, and packaging systems for different types of cargo/goods, with an emphasis on international standards.
9. Independently research and present a practical example of a type of cargo/goods in the context of the specificities of transport, handling, packaging, and storage, using relevant sources and methods.

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1.4. Course Outline

Relevant terms and forms of products, goods, and cargo in transport. The importance of understanding the nature of materials in transport. The concept of goods quality in transport. Classification and nomenclature of goods in transport. Systems for identification and labeling of goods. Specifics of packaging, packing, and storage of cargo/goods in transport. Basic properties and testing of materials. Metallic and non-metallic raw materials. General cargo, bulk cargo, and other dry cargo in transport. Liquid cargo in transport. Gaseous cargo in transport. Perishable cargo in transport. Heavy and oversized cargo in transport. Dangerous cargo 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 exam (with realization of minimum 50% points)
- 2nd exam (with realization of minimum 50% points)
  - Preparation and presentation of seminar paper in framework of research (evaluated on the basis of elaborated assessment criteria with realization of minimum 50% points)
- Final exam (with realization of minimum 50% points)

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 evaluating the acquired learning outcomes takes place according to the Rule book of Studies at the University of Rijeka and Studying regulation at the Faculty of Maritime Studies in Rijeka as follows:

- continuous knowledge assessment during classes – evaluates 70% of the acquired learning outcomes (LO): 1st exam– 25% (LO 1-4), 2nd exam – 25% (LO 5-8), preparation and presentation of a seminar within the research work – 20% (LO 9), which is evaluated based on detailed criteria; the student must achieve at least 50% of the points in each activity;
- final exam – evaluates 30% of the acquired learning outcomes (LO 1-8), whereby the student must achieve at least 50% of the points to pass the final exam.

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

1. List and classify the basic types of cargo/goods according to the criteria of physical state, value, quality, and other specific criteria for the classification of cargo/goods in transport.
2. Explain the role of trade classification (SMTK) and highlight its significance in the organization and optimization of international transport and trade.
3. Describe the basic definitions of the concept of cargo/goods quality in transport.
4. Explain the fundamental properties and characteristics of the main groups of cargo/goods (general, bulk, liquid, dangerous cargo) in the context of logistics operations.

5. List and explain the rules and specificities of the transport of dangerous types of cargo, considering international regulations (ADR, RID, IMDG) and safety standards.
6. List and explain the specific properties of different types of cargo, including conditions of transport, carriage, and storage.
7. Interpret the methods of testing the properties of individual types of cargo/goods, including relevant methods and procedures.
8. Define the types and assess the importance of marking (labeling) cargo/goods in logistics and transport processes.
9. Apply and present the acquired knowledge through the preparation and presentation of a seminar by researching a specific practical example of a type of cargo.

1.10. Main Reading

1) Hrvoje Baričević, Tanja Poletan Jugović, Siniša Vilke, Tereti u prometu, Faculty of Maritime Transport, University in Rijeka, 2010.
2) teaching material for the e-course “Cargo in Transport“ - accessible on the e-learning platform - Merlin (https://moodle.srce.hr) during the current academic year

1.11. Recommended Reading

1) Vilke, S., Mance, D., Debelić, B.,Maslarić, M: Correlation between freight transport industry and economic growth – panel analysis of CEE countries, Promet - Traffic & Transportation, 33 (2021), 4, 517 – 526.
2) Štrumberger, N., Rukovanje materijalima u prometu, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb, 2000.
3) Musil, B., Pregrad, N., Turina, N., Žerjal, B., Poznavanje robe, Faculty of Economics, University in Zagreb, Zagreb, 1997.
4) Turina, N, i dr., Poznavanje robe, Zagreb, 1997.
5) Džanić, H., Tehnologija materijala u prometu, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb, 1989.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Hrvoje Baričević, Tanja Poletan Jugović, Siniša Vilke, Tereti u prometu, Faculty of Maritime Transport, University in Rijeka, 2010.	5	30
teaching material for the e-course “Cargo in Transport“ - accessible on the e-learning platform - Merlin (https://moodle.srce.hr) during the current academic year	unlimited	30

1.13. Quality Assurance

The quality of studying is continuously monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of exam results is conducted annually, and a student survey is carried out once per semester.

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3.2. Course description

Generic information			
Head of Course	Sandra Tominac Coslovich, PhD		
Course	**English language 3**		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
Year of Study	2nd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	3	
	Number of Hours (L+E+S)	15 + 30 + 0	

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Course objectives meet the English language requirements for obtaining a B. Sc. degree in Logistics and Management in Maritime Transport and include acquiring communicative competence for effective use of English as a language of international maritime communication for the purpose of ensuring efficient business operations and management in the maritime industry.

1.2. Prerequisites for Course Registration

Successful completion of English language 2 course

1.3. Expected Learning Outcomes

Upon completing the course the students will be able:

1. To demonstrate 4 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
2. To demonstrate specialized language knowledge and skills in English for the purpose of performing specialist jobs in the field of logistics and management in maritime transport
3. To express themselves in speech and in writing and discuss specialist topics in English
4. To translate specialized texts from English into Croatian and vice versa
5. To use language skills in written and verbal communication in English among different specialists in the field of maritime transport

1.4. Course Outline

The course focuses on *content-based learning*. It applies the *communicative approach* to learning and teaching English as a Foreign Language (EFL) and English as a Second Language (ESL). The course focuses on the acquisition and practical use of: vocabulary/terminology skills (terms, polysemous words, multiple-word lexical units, collocations, lexical sets), discourse and pragmatic elements of shipping-related texts and communication, most frequent and typical grammatical structures and features restricted to maritime discourse (written and spoken) regarding the following topics: the structure of shipping – ship's interest, cargo interest, ancillary services, shipping procedure and documents, Bill of lading – types, functions, samples, receiving and delivering cargo, tracking shipments, handling complaints, INCOTERMS, methods of payment, business correspondence regarding delivery of cargo, sending inquiries/replies, writing reports

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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

1. course attendance (lectures and exercises)
2. passing two written tests
3. passing final oral exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	0,5	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

2 continuous assessments/tests + final oral exam

1. Upon reading the given text, describe the shipping procedure in English.
2. Explain the terms 'shipper' and 'carrier' in English and give their Croatian equivalents.
3. Enumerate and explain in English the different types and functions of the Bill of lading
4. Translate the given text on brokerage from English into Croatian by using appropriate terminology
5. Use the appropriate terminology and send an inquiry in English to a carrier via e-mail regarding the delay in shipment.

1.10. Main Reading

1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP
5. Authorized lectures available on the e-learning platform Merlin (moodle.srce.hr)

1.11. Recommended Reading

1. Peter van Kluijven (2005) *The International Maritime Language Programme*, De Alk & Heijen,
2. *MarEng Plus Learning Tool: https://blogit.utu.fi/mareng/marenf-plus/*

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf	Available online	50
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers	10	50
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press	10	50
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP	10	50
5.Authorized lectures available on the e-learning platform Merlin (moodle.srce.hr)	Available online	50

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	Dražen Žgaljić, PhD		
Course	Transport Systems		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
Year of Study	2nd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		5
	Number of Hours (L+E+S)		30 + 0 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Familiarizing students with various technologies for transporting cargo and passengers, the basics and differences in managing transport infrastructure and organizing transportation, as well as criteria for evaluating their effectiveness.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

After attending and passing the course, the student will be able to:

- Compare different methods and technologies for transporting cargo and passengers.
- Analyze ownership structures and management models of transport infrastructure (roads, railways, sea, inland waterways).
- Recommend privatization models for ports.
- Describe public services in transport.
- Identify the impact of transport on society and the environment.

1.4. Course Outline

Define, describe, and explain the elements of a transport system/transport chain. Familiarize with and understand the interdependence of elements and branches of the transport system (for each system separately). Technical and technological characteristics of all transport branches and modern transport technologies. Ownership of transport system elements. Development models of transport systems. Management models of transport systems. Liberalization of operations in the transport sector. Criteria for evaluating the performance of individual elements of the transport system and their interdependence in multimodal systems. Introduction of modern transport technologies/systems into Croatia's cargo flows to integrate into international cargo flows (Short Sea Shipping and Motorways of the Sea). Public service in transport. Impact of transport on society and the environment.

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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

Student obligations include: regular class attendance, a seminar, midterm exams, and a final exam.

- 1st midterm exam – 30%
- 2nd midterm exam – 30%
- Attendance at classes – 10%
- Final exam – 30%

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation		Seminar paper		Experiment	
Written exam	1,5	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.

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

The evaluation of acquired learning outcomes is carried out in accordance with the Regulations on Study Programs of the University of Rijeka and the Study Regulations of the Faculty of Maritime Studies in Rijeka, as follows:

- Through continuous knowledge assessment during classes, 70% of the acquired learning outcomes are evaluated within the 1st midterm exam (35%) and the 2nd midterm exam (35%). The student must achieve at least 50% of the available points on each midterm exam;
- The final exam accounts for 30% of the acquired learning outcomes, and the student must achieve at least 50% of the available points on the final exam to pass.Examples of learning outcome assessments in relation to the defined learning outcomes include:

Examples of learning outcome assessments:

1. Describe the different methods of transport using intermodal transportation.
2. Analyze the models of transport infrastructure management.
3. Compare the models of privatization in ports.
4. Describe the characteristics of public service in maritime passenger transport.
5. Compare the impact of road and rail transport on society and the environment.

1.10. Main Reading

Bošnjak, I., Badanjak, D.: Osnove prometnog inženjerstva, Fakultet prometnih znanosti Sveučilišta u Zagrebu, Zagreb, 2005.
Bošnjak, I: Inteligentni transportni sustavi 1, Fakultet prometnih znanosti Sveučilišta u Zagrebu, Zagreb, 2006.
Božičević, D., Kovačević, D.: Suvremene transportne tehnologije, Fakultet prometnih znanosti Sveučilišta u Rijeci, Zagreb, 2002.
Estache, A., De Rus, G.: Privatization and Regulation of Transport Infrastructure Guidelines for Policymakers and Regulators, World Bank Development Studies, World Bank, 2000.
Zelenika, R.: Multimodalni prometni sustavi, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2006.
Zelenika, R.: Pravo multimodalnog prometa, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka,2006.
Zelenika, R.: Prometni sustavi, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2001.
Study materials available at e-learning platform (https://moodle.srce.hr)

1.11. Recommended Reading

Baričević H.: Tehnologija kopnenog prometa, Pomorski fakultet, Rijeka, 2001.
Božičević, J. i drugi autori: Hrvatska u 21. stoljeću – Promet. Vlada Republike Hrvatske, Ured za strategiju razvitka Republike Hrvatske, Zagreb, 2001.
Bukljaš Skočibušić, M., Radačić, Ž., Jurčević, M.: Ekonomika prometa, Fakultet prometnih znanosti Sveučilišta u Zagrebu, Zagreb, 2011.
Dundović, Č.: Lučki terminali, Udžbenici Sveučilišta u Rijeci, 2002.
Dundović, Č.: Prekrcajna sredstva prekidnoga transporta, Pomorski fakultet Sveučilišta u Rijeci, Glosa, Rijeka, 2005.
Dundović, Č.: Tehnološki procesi u prometu, Sveučilište u Rijeci, Odjel za pomorstvo, Rijeka, 2001.
Jugović, A.: Upravljanje morskom lukom, Pomorski fakultet Sveučilišta u Rijeci, 2012.
Miloš, I.: Tehnologija i organizacija intermodalnog prometa, Veleučilište u Rijeci, 2011.
Ortuzar, J de D., Willumsen, L. G.: Modelling Transport, 4th Edition, John Wiley and Sons, 2011.
Zečević, S.: Robni terminali i robno transportni centri, Saobraćajni fakultet univerziteta Beograd, 2006.
Žgaljić, D., Tijan, E., Jugović, A., Poletan Jugović, T.: Implementation of sustainable Motorways of the Sea services - Multi-criteria analysis of Croatian port system // Sustainability, 11 (2019), 23; 6827, 21. doi: 10.3390/su11236827
Scientific and professional papers related to the topics of transport systems, Motorways of the Sea (MoS), and

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1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Bošnjak, I., Badanjak, D.: Osnove prometnog inženjerstva, Fakultet prometnih znanosti Sveučilišta u Zagrebu, Zagreb, 2005.	8	
Bošnjak, I: Inteligentni transportni sustavi 1, Fakultet prometnih znanosti Sveučilišta u Zagrebu, Zagreb, 2006.	6	
Božičević, D., Kovačević, D.: Suvremene transportne tehnologije, Fakultet prometnih znanosti Sveučilišta u Rijeci, Zagreb, 2002.	3	
Estache, A., De Rus, G.: Privatization and Regulation of Transport Infrastructure Guidelines for Policymakers and Regulators, World Bank Development Studies, World Bank, 2000.	0 The entire text is available on the Internet	
Zelenika, R.: Multimodalni prometni sustavi, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2006.	2	
Zelenika, R.: Pravo multimodalnog prometa, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka,2006.	6	
Zelenika, R.: Prometni sustavi, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2001.	5	
Study materials available at e-learning platform (https://moodle.srce.hr)	unlimited	

1.13. Quality Assurance

The quality of studies is monitored in accordance with the ISO 9001 system and European standards and guidelines for quality assurance (ESG), which are implemented at the Faculty of Maritime Studies in Rijeka. Once a year, pass rates are analyzed, and appropriate measures are taken.

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3.2. Course description

Generic information		
Head of Course	**Saša Aksentijević, PhD** **Edvard Tijan, PhD**	
Course	**Information technologies in logistics**	
Study Programme	**Logistic and Management in Maritime Industry and Transport**	
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)	**30+15+0**

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of the course is to familiarize students with information and communication technologies (ICT) and their application in maritime transport, and logistics. Students will acquire both fundamental and advanced knowledge of the development, types, and application of information technologies, including hardware, software, computer networks, and human resources. Special emphasis is placed on the practical application of ICT in specific contexts such as maritime systems (VTS, VTMIS, AIS, ECDIS) and port information systems (NSW, TOS, PCS). Students will also be encouraged to pursue further professional development by becoming acquainted with ICT development trends and their impact on business processes, enabling them to successfully navigate a dynamic technological environment.

1.2. Prerequisites for Course Registration

Not required.

1.3. Expected Learning Outcomes

Upon passing the exam, students will be able to:

1. Analyze the current state and identify key trends in the development of modern information and communication technologies (ICT) and systems.
2. Explain and differentiate the basic components of hardware, software, and computer networks, and understand their interconnectivity and functionality.
3. Apply knowledge of processes, methods, and technologies for managing IT services and resources in practical situations.
4. Interpret and utilize the principles of databases, business applications, and enterprise systems to address business challenges.
5. Identify and describe key e-business technologies and their application in modern business environments.
6. Classify and select appropriate information technologies for use in transport, maritime affairs, and port operations.
7. Assess and justify ethical principles, legal regulations, and international standards applicable in the field of ICT.

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1.4. Course Outline

Concepts, types, characteristics, and activities of systems and information systems. Fundamentals of information system development. Historical development of ICT, informatics, computing, the ICT society, and information-based organizations. Hardware. Software. Computer networks. Internet. Databases. E-business, e-banking, m-banking. Procurement and development of information systems. ICT in transport, information flows in the transport chain. ICT in maritime affairs (VTS, VTMIS, AIS, ECDIS, PMIS). ICT in ports (NSW, TOS, PCS). Cybersecurity and business continuity.

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 required to attend and actively participate in lectures and exercises and must be present for at least 50% of the classes. All continuous assessments contribute to the final grade, with none of them being considered passed unless the student achieves at least 50%.

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	1
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

Assessment is conducted in accordance with the applicable University and Faculty Study Regulations and is based on knowledge evaluation through two mid-term exams (up to 70%), a final exam (30%), and additional assignments. In each knowledge assessment, the student must achieve at least 50% of the intended learning outcomes, i.e., at least 50% of the possible grading points.

Examples of learning outcome assessments:

1. List the trends in the development of modern ICT.
2. Explain the key aspects of computer architecture.
3. Describe methods for managing ICT services.
4. List data models and explain the structure of a database schema.
5. Describe the potential applications of mobile business solutions.
6. Justify the advantages of using AIS and ECDIS systems in maritime transport.
7. List the main characteristics of electronic documents and electronic signatures.

1.10. Main Reading

Teaching materials are available on the e-learning platform.

Required reading: Mile Pavlić: Informacijski sustavi, Školska knjiga, Zagreb, 2011.

1.11. Recommended Reading

1. Tijan, Edvard; Jović, Marija; Aksentijević, Saša; Pucihar, Andreja. "Digital transformation in the maritime transport sector." Technological Forecasting and Social Change, vol. 170, 2021, p. 120879, North-Holland.

2. Braidotti, Luca; Aksentijević, Saša; Tijan, Edvard; Balota, Adis. "The use of Bluetooth Beacons in Maritime Emergencies Mobile safety and security – DigLogs pilot project by University of Trieste." 2021 10th Mediterranean Conference on Embedded Computing (MECO), IEEE, 2021, pp. 1-4.

3. Marenković, Sven; Tijan, Edvard; Aksentijević, Saša. "Blockchain technology perspectives in maritime industry." 2021 44th International Convention on Information, Communication and Electronic Technology (MIPRO), IEEE, 2021, pp. 1414-1419.

4. Aksentijević, Saša; Tijan, Edvard; Panjako, Ana; Mrčela, Gordana. "Digitalization of port access control: Case study Port of Šibenik." 2021 44th International Convention on Information, Communication and Electronic Technology (MIPRO), IEEE, 2021, pp. 1294-1299.

5. Kapidani, Nexhat; Aksentijević, Saša; Tijan, Edvard; Kočan, Enis. "Establishing a National Maritime Single Window in small coastal countries." 2021 44th International Convention on Information, Communication and Electronic Technology (MIPRO), IEEE, 2021, pp. 1448-1453.

6. Jović, Marija; Aksentijević, Saša; Plentaj, Borna; Tijan, Edvard. "Port Community System Business Models," 2021.

7. Torlak, Ivan; Tijan, Edvard; Aksentijević, Saša; Oblak, Renato. "Analysis of port community system introduction in Croatian seaports – Case study Split." Transactions on Maritime Science, vol. 9, no. 2, 2020, pp. 331-341, Sveučilište u Splitu, Pomorski fakultet.

8. Jović, Marija; Tijan, Edvard; Žgaljić, Dražen; Aksentijević, Saša. "Improving maritime transport sustainability using blockchain-based information exchange." Sustainability, vol. 12, no. 21, 2020, p. 8866, MDPI.

9. Torlak, Ivan; Tijan, Edvard; Aksentijević, Saša; Jugović, Alen. "Port Community System feasibility analysis – Case study Split." 2020 43rd International Convention on Information, Communication and Electronic Technology (MIPRO), IEEE, 2020, pp. 1410-1415.

10. Tijan, Edvard; Jović, Marija; Aksentijević, Saša; Žgaljić, Dražen. "Electronic Transportation Management System Development in the Port of Rijeka." International Academic Institute (IAI) 2020 Virtual Conferences on Education & Social Science and Business & Economics, 2020, pp. 75-79.

11. Aksentijević, Saša; Tijan, Edvard; Jović, Marija; Munitić, Nataša. "Optimization of cargo container loading on railway wagons." 2020 43rd International Convention on Information, Communication and Electronic Technology (MIPRO), IEEE, 2020, pp. 1373-1378.

12. Jović, Marija; Tijan, Edvard; Aksentijević, Saša; Sotošek, Božidar. "The role of electronic transportation management systems in seaport digitalization," 2019.

13. Tijan, Edvard; Agatić, Adrijana; Jović, Marija; Aksentijević, Saša. "Maritime National Single Window – A prerequisite for sustainable seaport business." Sustainability, vol. 11, no. 17, 2019, p. 4570, MDPI.

14. Jović, Marija; Kavran, Natalija; Aksentijević, Saša; Tijan, Edvard. "The transition of Croatian seaports into smart ports." 2019 42nd International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO), IEEE, 2019, pp. 1386-1390.

15. Tijan, Edvard; Aksentijević, Saša; Ivanić, Katarina; Jardas, Mladen. "Blockchain technology implementation in logistics." Sustainability, vol. 11, no. 4, 2019, p. 1185, MDPI.

16. Jović, Marija; Kavran, Natalija; Aksentijević, Saša; Tijan, Edvard. "Pametne luke," 2019.

17. Aksentijević, Saša; Marković, Dražen; Tijan, Edvard; Jardas, Mladen. "Application of social network analysis to port community systems." 2018 41st International Convention on Information, Communication and Electronic Technology (MIPRO), IEEE, 2018, pp. 1304-1310.

18. Tijan, Edvard; Jardas, Mladen; Aksentijević, Saša; Perić Hadžić, Ana. "Integrating maritime national single window with port community system – Case Study Croatia," 2018.

19. Aksentijević, Saša; Tijan, Edvard; Jugović, Alen. "Financial impact of forensic proceedings in ICT." 2017 40th International Convention on Information, Communication and Electronic Technology (MIPRO), IEEE, 2017, pp. 1454-1458.

20. Iskra, Ana; Tijan, Edvard; Aksentijević, Saša. "The modern approach to the analysis of logistics information

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1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Mile Pavlić: Informacijski sustavi, Školska knjiga, Zagreb, 2011.	4	60
Teaching materials are available on the e-learning platform, https://moodle.srce.hr/2023-2024/course/view.php?id=192890	unlimited	60

1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in line with the European Standards and Guidelines for Quality Assurance, as implemented at the Faculty of Maritime Studies in Rijeka. Once a year, pass rate results are analyzed and appropriate measures are adopted accordingly.

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3.2. Course description

Generic information		
Head of Course	Ana Perić Hadžić, PhD Gorana Mudronja, PhD	
Course	Financial Management	
Study Programme	Logistics and Management in the Maritime Industry and Transport	
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

The aim of the course is to equip students with an understanding of the fundamental concepts of financial management, financial statements, and financial literacy, enabling them to make informed decisions in practice and successfully navigate the challenges of modern financial operations. Students will develop the skills to differentiate between short-term, medium-term, and long-term sources of financing, and will acquire basic knowledge in managing both personal and business finances.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Explain the basic concepts of financial management and their importance for the effective operation of a business.
2. Interpret key concepts of financial literacy, including budgeting, saving, borrowing, insurance, and investing.
3. Analyze basic financial statements, including the balance sheet and income statement, and distinguish key components such as assets, liabilities, revenues, expenses, profit, loss, and corporate income tax.
4. Describe key concepts and types of business financing, and recognize the fundamental principles of corporate financing.
5. Distinguish between forms of short-term financing, including secured and unsecured sources, and assess their costs and suitability for business operations.
6. Explain forms of medium-term financing and evaluate their costs and appropriateness for business needs.
7. Differentiate forms of long-term financing, their characteristics, and applicability under specific business conditions.

1.4. Course Outline

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1. Fundamental concepts of financial management
2. Financial literacy (budget management, money, and accounts)
3. Financial literacy (saving and borrowing)
4. Financial literacy (insurance and investing)
5. Basic financial statements (balance sheet)
6. Basic financial statements (income statement)
7. Basic financial statements – exercises (preparing the balance sheet, balance sheet changes, calculating the income statement)
8. Basics of business financing
9. Short-term business financing
10. Short-term business financing – exercises (cash discount, revolving credit)
11. Medium-term business financing
12. Medium-term business financing – exercises (bank loan financing, leasing)
13. Long-term business financing

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

Class attendance, midterm exams, preparation and presentation of a project assignment, and the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	1	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.

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

Student obligations include regular class attendance, passing the first midterm exam, passing the second midterm exam, preparation and presentation of a project assignment, and taking the final exam. The assessment of achieved learning outcomes is conducted in accordance with the Regulations on Studies and Studying at the University of Rijeka and the Regulations on Studying at the University of Rijeka, Faculty of Maritime Studies, as follows:

- First midterm exam: 25%, Learning outcomes 1, 2, and 3.
- Second midterm exam: 25%, Learning outcomes 4, 5, 6, and 7.
- Project assignment (preparation and presentation): 20%, Learning outcomes 1, 2, 3, 4, 5, 6, and 7.
- Final exam: 30%, Learning outcomes 1, 2, 3, 4, 5, 6, and 7.

To be eligible to take the final exam, students must meet the following requirements:
- Achieve at least 50% of the total points on each midterm exam.
- Achieve at least 35 points, which represents 50% of the total points available through continuous assessment during the course.
- Preparation and presentation of the project assignment are mandatory.

The final exam constitutes 30% of the total grade, and students must achieve at least 50% of the total points on the final exam in order to pass the course. Attendance at lectures and exercises is mandatory, with regular attendance monitoring. A student may be absent from no more than 50% of classes.

Examples of learning outcome assessment tasks during the course and the final exam:
1. Explain the scope of monetary finance.
2. Interpret the difference between a current account and a giro account.
3. Analyze all items in the balance sheet of a selected company over a period of three years.
4. Describe the concept of liquidity.
5. What is the difference between open account financing and own promissory note financing?
6. Explain leasing as a method of financing.
7. Explain the difference between common shares and preferred shares in terms of dividend rights.

1.10. Main Reading

1. Van Horne, James C.; Wachowicz, John M.: Osnove financijskog menadžmenta, Zagreb: Mate, 2014.
2. Course materials available on the e-learning platform Merlin (https://moodle.srce.hr).

1.11. Recommended Reading

1. Vidučić, Ljiljana; Pepur, Sandra; Šimić Šarić, Marija: Financijski menadžment, Zagreb : RRiF plus, 2015.
2. Ivanović, Zoran: Financijski menadžment, Opatija : Hotelijerski fakultet, 1997..

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Van Horne, James C.; Wachowicz, John M.: Osnove financijskog menadžmenta, Zagreb: Mate, 2014.	3	50
Course materials available on the e-learning platform Merlin (https://moodle.srce.hr)	-	50

1.13. Quality Assurance

The quality of the study program is monitored in accordance with the ISO 9001 quality management system and in line with the European Standards and Guidelines for Quality Assurance, as implemented at the Faculty of Maritime Studies, University of Rijeka.

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3.2. Course description

Generic information			
Head of Course	Mladen Jardas, Ph.D.		
Course	Engineering Logistics		
Study Programme	Logistic and Management in Maritime Industry and Transport		
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)		30 + 30 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of this course is to enable students to understand the analytical approach to the analysis of logistics systems, with a particular emphasis on the key components and processes within the logistics system and supply chain. The course highlights the importance and practical application of analytical tools used to optimize operations and support decision-making at all stages of the supply chain. Additionally, students will be trained to apply techniques for measuring and managing uncertainty in order to enhance the resilience and efficiency of logistics systems. Throughout the course, creativity and innovation are encouraged in developing multiple solutions to real-world logistics challenges, integrating theoretical knowledge with practical skills

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After learning, the student will be able to:

1. Explain the fundamental principles of Porter's model of competitive advantage and describe its application in modern production and logistics systems.
2. Describe contemporary trends in logistics, such as sustainable logistics, digitalization, and the circular economy, and analyze their impact on logistics processes.
3. Assess the influence of globalization and technologies such as e-commerce on logistics strategies, including changes in inventory management and distribution.
4. Explain the basic principles of inventory management and their role within the logistics system, including their impact on cost optimization and efficiency.
5. Perform calculations to determine the optimal inventory levels using methods such as Economic Order Quantity (EOQ) and ABC analysis.

1.4. Course Outline

Logistics, Logistics Planning, Logistics Strategies, Management, Quality and Efficiency in Logistics, Distribution Systems of Goods and Services, Distribution Channels, Analysis of Individual Transport Modes, Overview of Transport, Transport in Production, Transportation Costs, Maritime Transport Logistics, Modeling of Logistics Networks, Modeling and Simulation in Logistics, Analysis of Transport Systems, Document Flow Models, Goods Flow Models, Logistics Costs: Warehousing Costs, Transportation Costs of Goods, Inventory Costs, Perishable Goods Costs, Inventory Management Models, Distribution Models, Transport Pricing – Direct Transportation Costs of Goods, Warehousing Costs.

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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

1. Class attendance
2. Study, research, and problem-solving
3. Taking midterm exams and tests
4. Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation		Seminar paper		Experiment	
Written exam	1,5	Oral exam		Essay		Research	0,5
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 evaluation of achieved learning outcomes is carried out in accordance with the Regulations on Study Programs of the University of Rijeka and the Regulations on Studying at the Faculty of Maritime Studies in Rijeka, as follows:

Through continuous assessment during the classes, 70% of the learning outcomes are evaluated:
1. 1st midterm exam: 30%
2. 2nd midterm exam: 25%
3. Presentation of a research assignment: 15%

Students may take the final exam if they have obtained 35 grade points in continuous knowledge assessments, i.e., 50% of the total number of points that could be achieved during classroom evaluation. Also, a condition is that students achieve at least 50% of points on each colloquium. The final exam is in written form and comprises 30% of the total grade. Students must satisfy 50% of the final exam in order to achieve a positive grade in the course.

Examples of learning outcome evaluation:

1. What are the fundamental principles of Porter's model of competitive advantage, and how can they be applied to optimize logistics systems in modern manufacturing companies?
2. What are the key contemporary trends in logistics?
3. What is the role of information flows in coordinating physical and financial flows within a logistics system?
4. Using Microsoft Excel, calculate the Economic Order Quantity (EOQ) and reorder point.
5. Calculate the optimal location for a new warehouse based on client location data and their respective demand.

1.10. Main Reading

1. Teaching material available on the e-learning system – Merlin (https://moodle.srce.hr)
2. G. Don Taylor: Introduction to Logistics Engineering, Taylor & Francis Group, 2009.
3. Čišić, D.: Zbirka zadataka iz logistike, PFRI, Rijeka, 2008.

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1.11. Recommended Reading

1. Ogrizović, Dario ; Perić Hadžić, Ana ; Jardas, Mladen, Fully Immersive Virtual Reality in Logistics Modelling and Simulation Education, Promet, 33 (2021), 6; 799-806. doi: 10.7307/ptt.v33i6.3941
2. Jardas, Mladen ; Dundović, Čedomir ; Gulić, Marko ; Ivanić, Katarina, The Role of Internet of Things on the, Development of Ports as a Holder in the Supply Chain, Pomorski zbornik, 54 (2018), 1; 61-73. doi: 10.18048/2018.54.05
3. Jardas, Mladen ; Dundović, Čedomir ; Tomić-Badurina, Paola, Supply chain - a key factor of the sustainable development of city centres, Pomorstvo : scientific journal of maritime research, 30 (2016), 1; 45-50. doi: 10.31217/p.30.1.6
4. G. Miscevic, E. Tijan, D. Žgaljić and M. Jardas, "Emerging trends in e-logistics," 2018 41st International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO), Opatija, Croatia, 2018, pp. 1353-1358, doi: 10.23919/MIPRO.2018.8400244.
5. Hugos. M.: Essentials of Supply Chain Management. J.Willey and sons 2003
6. Chorafas D.: Integrating ERP, CRM, Supply chain management and smart materials – CRC Press LLC 2001

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Teaching material available on the e-learning system – Merlin (https://moodle.srce.hr)	Unlimited	50
G. Don Taylor: Introduction to Logistics Engineering, Taylor & Francis Group, 2009.	5	50
Čišić, D.: Zbirka zadataka iz logistike, PFRI, Rijeka, 2008.	10	50

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 failure to pass are analysed and appropriate measures are adopted.

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3.2. Course description

Generic information		
Head of Course	Alen Jugović, PhD	
Course	Port economics	
Study Programme	Logistics and Management in Maritime Industry and Transport	
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

The course aims to enable students to understand and apply knowledge in the field of seaport organization and management. Special attention is paid to familiarizing students with port management models in the world, the specifics of port management of national and county importance in the Republic of Croatia, and determining the gravitational zones and functions of ports. Students will develop skills in designing organizational structures, analyzing economic indicators, and assessing key factors that influence port operations.

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.).

1.4. Course Outline

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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 gravitation's 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-mid 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

1. Attending classes
2. Attending exercises
3. Class activity
4. Taking quizzes and tests
5. Taking exams

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

Grading and evaluation of student work includes continuous assessment of knowledge through two midterm exams and two tests with calculation tasks during classes, and a final exam. Grading 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, which means that a student can achieve 70% of the grade during classes, and the remaining 30% at the final exam.

Knowledge assessment in class is carried out continuously, and students can achieve a percentage of the grade as follows:

- *1st preliminary exam - 25% Learning outcomes: 1., 2., 3., 5.*
- *2nd preliminary exam - 25% Learning outcomes: 2., 3., 4., 5., 6.*
- *Test 2 - 10% Learning outcomes: 6.*
- *Test 1 - 10% Learning outcomes: 6.*
- *Final exam - 30% Learning outcomes: 1., 2., 3., 4., 5., 6.*

The final exam can be taken by students who have earned 35 points during class, or 50% of the total number of points that could be achieved during class evaluation. It is also a condition that students achieve at least 50% of the points in each preliminary exam. The final exam is in written form and includes 30% of the total grade. Students must pass 50% of the final exam in order to receive a passing grade for the course.

Some examples of learning outcome checks are:
1. What is a port system and what are the basic functions of a seaport within that system?
2. Explain how a seaport can generate multiplier effects in the local and national economy.
3. Explain how ports in the Republic of Croatia are divided according to size and importance.
4. What are the most important trends in the development of seaports in the last ten years, and how do they affect their infrastructure and superstructure?
5. How do phenomena such as liberalization and sustainable development affect the competitiveness of ports? Connect your answer with an example of the implementation of green technology in a port.
6. Based on the data obtained, calculate the fixed and variable parts of the concession and the total value of the concession fee for a given maritime domain.

1.10. Main Reading

1. Teaching materials on the e-learning system – Merlin (https://moodle.srce.hr)
2. Jugović, A.: Upravljanje morskom lukom, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2013. (knjiga dostupna u e-izdanju na sustavu za e - učenje – Merlin).
3. Jugović, A., Mudronja, G., Schiozzi, D.: Ekonomika luka – riješeni zadaci, Sveučilište u Rijeci, Pomorski fakultet, Rijeka, 2020.
4. Kesić, B.: Ekonomika luka, Pomorski fakultet, Rijeka 2003. (izabrana poglavlja - dostupna u e-izdanju na sustavu za e - učenje – Merlin).

1.11. Recommended Reading

1. Kesić,B., Jugović, A.: Menadžment pomorskoputničkih luka, Pomorski fakultet Sveučilišta u Rijeci, Rijeka, 2006.
2. Wayne, K. Talley: Port Economics, Routledge – Taylor and Francis Group, London and New York, 2009.
3. Notteboom, T., Pallis, A., Rodrigue, J.: Port Economics, Management and Policy, New York: Routledge, 2020
4. Jugović A, Jardas Antonić J., Aksentijević D.: An Overview of Criteria and Scenarios Relevant for Development of Seaports of County and Local Importance in the Republic of Croatia, Transactions on Maritime Science, 2023.
5. Jugović, A., Sirotić, M., Peronja, I.: Sustainable Development of Port Cities from the Perspective of Transition Management, Transactions on Maritime Science, 10(02), str. 466-476., 2021
6. Mudronja, G., Jugović, A., Škalamera-Alilović, D.: Seaports and Economic Growth: Panel Data Analysis of EU Port Regions. J. Mar. Sci. Eng., 2020, 8, 1017.

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.

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3.2. Course description

Generic information			
Head of Course	Sandra Tominac Coslovich, PhD		
Course	**English language 4**		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	mandatory		
Year of Study	2nd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		3
	Number of Hours (L+E+S)		15 + 30 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Course objectives meet the English language requirements for obtaining a B. Sc. degree in Logistics and Management in Maritime Transport and include acquiring communicative competence for effective use of English as a language of international maritime communication for the purpose of ensuring efficient business operations and management in the maritime industry.

1.2. Prerequisites for Course Registration

Successful completion of English language 3 course

1.3. Expected Learning Outcomes

Upon completing the course the students will be able:

1. To demonstrate 4 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
2. To demonstrate specialized language knowledge and skills in English for the purpose of performing specialist jobs in the field of logistics and management in maritime transport
3. To express themselves in speech and in writing and discuss specialist topics in English
4. To translate specialized texts from English into Croatian and vice versa
5. To use language skills in written and verbal communication in English among different specialists in the field of maritime transport

1.4. Course Outline

The course focuses on *content-based learning*. It applies the *communicative approach* to learning and teaching English as a Foreign Language (EFL) and English as a Second Language (ESL). The course focuses on the acquisition and practical use of: vocabulary/terminology skills (terms, polysemous words, multiple-word lexical units, collocations, lexical sets), discourse and pragmatic elements of shipping-related texts and communication, most frequent and typical grammatical structures and features restricted to maritime discourse (written and spoken) regarding the following topics: charter parties, contracts of affreightment, Notice of readiness, procedures on arrival and departure at a port, logistics jobs

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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

1. course attendance (lectures and exercises)
2. passing two written tests
3. passing final oral exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	0,5	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

2 continuous assessments/test + final oral exam

1. Describe the ship's inward clearance procedure in English.
2. Explain the term 'charterer' in English and state its Croatian equivalents.
3. Enumerate and define the different types of charter parties in English.
4. Translate the following text on logistics jobs from English into Croatian by using appropriate terms.
5. Describe your skills and competencies at a job interview in English.

1.10. Main Reading

1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP
5. Authorized lectures available on the e-learning platform Merlin (moodle.srce.hr)

1.11. Recommended Reading

1. Evans, V., Dooley, J., Buchannan, D. (2016) *Logistics* (Career Paths series), Exporess Publishing
2. Peter van Kluijven (2005) *The International Maritime Language Programme*, De Alk & Heijen,
3. *MarEng Plus Learning Tool: https://blogit.utu.fi/mareng/marenf-plus/*

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf	Available online	50
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers	10	50
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press	10	50
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP	10	50
5. Authorized lectures available on the e-learning platform Merlin (moodle.srce.hr)	Available online	50

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	**Biserka Rukavina, Ph.D.**		
Course	**Maritime agencies**		
Study Programme	**Logistics and management in Maritime Industry and Transport**		
Type of Course	Mandatory		
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

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

None.

1.3. Expected Learning Outcomes

After passing the exam, students will be able:

1. to state and interpret the basic concepts of maritime agency business.
2. to 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. to classify and interpret certain types of the maritime agent (port agent, shipbroker, special operations).
4. to describe and explain ship arrival and departure procedures.
5. to describe and analyze the contents of the disbursement account.
6. to explain and identify the essential elements of the maritime agency contract and analyze and compare individual types of contracts.
7. to analyze, compare and demonstrate the specifics of the operations of maritime agents on the example

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.

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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 ☐ Presentation
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 colloquia (continuous knowledge testing) and a positively evaluated presentation (ppt presentation) 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	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

The process of evaluation of the acquired learning outcomes takes place during continuous assessments through 2 midterm examinations (60 %), student presentation (10 %) and at the final part of the exam (30 %).

Examples of Assessment of Learning Outcomes:

1. Define 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

1. Authorized lectures on the e-learning platform MERLIN (online materials).
2. Mandić, Nikola, Lovrić, Ivana, Pomorske agencije i otpremništvo, Split, 2019.

1.11. Recommended Reading

1. Pomorski zakonik (pročišćeni tekst) - Ugovor o pomorskoj agenciji čl. 674. – 683.
2. Opći uvjeti poslovanja pomorskih agenata, 2009.; Udruga pomorskih agenata Hrvatske.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Mandić, Nikola, Lovrić, Ivana, Pomorske agencije i otpremništvo, Split, 2019.	3	40

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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 analyzed and appropriate measures are adopted.

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3.2. Course description

Generic information			
Head of Course	Dražen Žgaljić, PhD		
Course	Port Logistics		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Mandatory		
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 primary goal of the course is to familiarize students with cargo terminals in logistics systems, cargo flows, freight transport centers, the evolution of ports within the supply chain, and logistics systems and procedures in ports.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

After attending and passing the course, the student will be able to:

- Explain the fundamental characteristics of cargo terminals in logistics systems
- Explain the concept of a smart port
- Classify the stages of port evolution within the supply chain
- Analyze the role of ports and terminals as intermodal centers and identify their key functions
- Organize port services as a freight transport center
- Present the procedures for receiving and dispatching cargo in ports

1.4. Course Outline

Cargo terminals in logistics systems. Cargo flows. Ports. Evolution of ports within the supply chain. Ports and terminals as intermodal and freight transport centers. Measuring efficiency in ports. Choosing the transport route—Northern or Southern Europe. Selection of container ports by liner shipping companies. The concept of the smart port. Examples of procedures for cargo reception at the terminal.

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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

Student obligations include: regular class attendance, a seminar, midterm exams, and a final exam.

- 1st midterm exam – 25%
- 2nd midterm exam – 25%
- Seminar (individual assignment) – 20%
- Final exam – 30%

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	1,5	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.

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

The evaluation of acquired learning outcomes is carried out in accordance with the Regulations on Study Programs of the University of Rijeka and the Study Regulations of the Faculty of Maritime Studies in Rijeka, as follows:

- Continuous assessment during classes accounts for 50% of the learning outcomes: 25% through the 1st midterm exam and 25% through the 2nd midterm exam. The student must achieve at least 50% of the available points on each midterm exam in order to pass.
- The seminar paper accounts for 20% of the learning outcomes.
- The final exam accounts for 30% of the learning outcomes, and to pass the final exam, the student must achieve at least 50% of the available points.

Examples of learning outcome assessments in relation to the defined learning outcomes include:

1. Describe the functional role of a cargo terminal as a part of the logistics system.
2. List and describe the types of technologies that make a port a smart port.
3. Describe the evolution of the supply chain in relation to ports.
4. Explain value-added logistics and the development of VAL services in ports.
5. Explain the concept of transport route competitiveness using the example of the Port of Rijeka.
6. Explain and describe the key parameters for a liner shipping company's decision to call at a particular port.

1.10. Main Reading

1. Hlača, B.: Poslovna logistika, Merlin, Sustav za e-učenje, Pomorski fakultet u Rijeci, 2017
2. Hlača, B.: Lučka logistika, Sveučilište u Rijeci, Pomorski fakultet u Rijeci, Rijeka 2016.
3. Study materials available at e-learning platform (https://moodle.srce.hr)

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. Jugović, A., Sirotić, M., Žgaljić, D., Oblak, R.: Assessing the Possibilities of Integrating Ports into the Circular Economy // Tehnički vjesnik = Technical gazette, 29 (2022), 2; 721-730. doi: 10.17559/TV-20200327221233
6. Kavran, N.., Perko, N., Žgaljić, D.: Croatian maritime port capacity, services and development plans // Maritime Transport '16., Barcelona: University Politecnica de Catalunya, 2016. str. 398-406
7. LANGEN, P.W., Port competition and selection in contestable hinterlands, Rotterdam 2005.
8. NOTTEBOOM, T.E., Container Port Competition in Europe, Antwerpen, 2014.
9. WANG, S., Efficient Global Containers Transport Network Design, Singapoore, 2014.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Hlača, B.: Poslovna logistika, Merlin, Sustav za e-učenje, Pomorski fakultet u Rijeci, 2017	5	50
Hlača, B.: Lučka logistika, Sveučilište u Rijeci, Pomorski fakultet u Rijeci, Rijeka 2016.	5	50
Study materials available at e-learning platform (https://moodle.srce.hr)	unlimited	

1.13. Quality Assurance

The quality of studies is monitored in accordance with the ISO 9001 system and European standards and guidelines for quality assurance (ESG), which are implemented at the Faculty of Maritime Studies in Rijeka. Once a year, pass rates are analyzed, and appropriate measures are taken.

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3.2. Course description

Generic information			
Head of Course	Dario Ogrizović, PhD Ozren Rafajac, PhD		
Course	Electronic business		
Study Programme	Logistic and Management in Maritime Industry and Transport		
Type of Course	Core		
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

Electronic 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 refers to smart and social commerce, e-learning, e-services, e-government, social collaboration, collaborative and sharing economy, 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 foundations of electronic business relating to types of systems, models, methods, mechanisms, management programs and benefits.
2. List and differentiate electronic and mobile commerce, their content and implementations.
3. Describe social networks and applications for social commerce, advertising, CRM and entertainment, and social entrepreneurship systems.
4. Describe connected smart commerce, the Internet of Things and smart applications.
5. Describe consumer behaviour on the Internet, marketing and advertising in the web environment.
6. List security issues and their solutions in e-commerce.
7. Distinguish and systematize types of e-payments, mobile payments, digital currencies and their mining and trading.
8. Critically assess the ethical, legal, social and business environments in which electronic business operates.

1.4. Course Outline

Theoretical foundations of electronic business. Methods and models of selling goods, services and information via computer networks. Content and implementation of electronic and mobile commerce. Network and computer infrastructure. Business models of e-business. Types and structure of portals. Social networks and applications for social commerce, advertising, CRM and entertainment, and social entrepreneurship systems. Connected smart commerce, Internet of Things and smart applications. Consumer behaviour on the Internet, marketing and advertising in the web environment. Security issues and their solutions in electronic commerce. Types of e-payments, mobile payments and digital currencies in electronic commerce. Cryptocurrencies, mining and trading. Ethical, legal, social and business environments.

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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

1. Attendance and activity in class
2. Attendance and activity in laboratory exercises
3. Project
4. Written exam (midterms and exam)

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation	1	Seminar paper		Experiment	
Written exam	1	Oral exam		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.

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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 class activities (10%), preparation and presentation of a project (20%), 2 midterm exams - total 40%) and at the final part of the exam (30%). A minimum of 50% of points must be achieved in individual knowledge assessments.

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

1. Explain the theoretical foundations of e-commerce relating to types of systems, models, methods, mechanisms, management programs and benefits.
2. List and differentiate electronic and mobile commerce, their content and implementations.
3. Describe social networks and applications for social commerce, advertising, CRM and entertainment, and social entrepreneurship systems.
4. Describe connected smart commerce, the Internet of Things and smart applications.
5. Describe consumer behaviour on the Internet, marketing and advertising in the web environment.
6. List security issues and their solutions in e-commerce.
7. Distinguish and systematize types of e-payments, mobile payments, digital currencies and their mining and trading.
8. Critically assess the ethical, legal, social and business environments in which e-commerce operates.

1.10. Main Reading

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

1.11. Recommended Reading

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

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Turban, E., et al. 2018. Electronic commerce: A managerial and social networks perspective, Springer.	10	40
Schneider, G., P. 2017. Electronic Commerce, Gengage Learning.	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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Course description

Generic information			
Head of Course	Tanja Poletan Jugović, PhD		
Course	Freight Forwarding		
Study Programme	Logistic and Management in Maritime Industry and Transport		
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)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Explain the role and significance of freight forwarding logistics in the global transport system and international trade. Identify and analyze the relationship of the freight forwarder with other stakeholders in the logistics chain and the contribution of forwarding to the optimization of international trade flows. Analyze the legal definition of the international freight forwarding system. Distinguish and describe the business processes, activities, and tasks of an international freight forwarder, including the management of physical cargo flows, organization of transport, and proper use of documentation for import, export, and transit processes. Simulate real scenarios of organizing, planning, and implementing import, export, or transit operations. Identify and apply Incoterms terms in various international trade scenarios. Analyze contemporary trends and challenges in the operations of international freight forwarders as logistics operators.

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After attending and passing the course, the student will be able to:

1. Explain the basic concepts and key characteristics of freight forwarding in the modern transport environment.
2. Investigate the role of freight forwarding logistics in global trade and interpret the impact of freight forwarding on the efficiency of the transport system.
3. Analyze legal sources, contracts, documents, and certificates that regulate the liability of freight forwarders and other stakeholders in international trade, including international conventions and national regulations.
4. Describe the basic tasks and activities of an international freight forwarder in planning, organizing, and executing import, export, or transit operations.
5. Describe the specific tasks and activities of a freight forwarder that depend on the specifics of the cargo, user requirements, and market conditions, including comprehensive logistical solutions and services.
6. Apply acquired knowledge through research of a concrete case from freight forwarding business practice.

7. Distinguish between transport and other documents and certificates used in import, export, and transit, and apply the appropriate documents in different scenarios depending on the type of transport, type of cargo, etc.
8. Use Incoterms terms with interpretation of the responsibilities of individual foreign trade entities and other stakeholders in the logistics chain.
9. Analyze current trends and challenges in the international freight forwarding industry and explore strategies to improve the role of freight forwarders in the global logistics system.

1.4. Course Outline

The concept and relevant characteristics of freight forwarders and freight forwarding. Affirmation and development of freight forwarding in the modern transport environment. The significance of freight forwarding logistics in the transport system. The role of the freight forwarder in the supply chain and the international trade system. Characteristics of the freight forwarding system. Organization of professional systems in freight forwarding – national and international organizations. Legal regulation of freight forwarding activities – relevant laws and regulations, as well as the rights, obligations, and responsibilities of the international freight forwarder. Basic and specialized tasks, activities, and duties of the international freight forwarder. Incoterms terms in international trade. Contemporary trends and challenges in the operations of international freight forwarders as logistics operators (digitalization, automation, globalization and consolidation of logistics operators, environmental challenges, and sustainability).

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 exam (with a minimum achievement of 50% of the points)
- 2nd exam (with a minimum achievement of 50% of the points)
- Seminar – independent research and presentation (evaluation according to detailed criteria with a minimum achievement of 50% of the points)
- Final exam (with a minimum achievement of 50% of the points)

1.8. Assessment[1] of Learning Outcomes

Course attendance	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 assessing acquired learning outcomes is conducted in accordance with the Regulations on Studies at the University of Rijeka and the Regulations on Studying at the Faculty of Maritime Studies in Rijeka as follows:

- Continuous knowledge assessment during classes – evaluates 70% of the acquired learning outcomes (LO): 1st exam – 25% (LO 1-4), 2nd exam – 25% (LO 5-8), preparation and presentation of a seminar within the research work – 20% (LO 9), which is evaluated based on detailed criteria; for each activity, the student must achieve at least 50% of the points.
- Final exam – evaluates 30% of the acquired learning outcomes (LO 1-8), whereby the student must achieve at least 50% of the points to pass the final exam.

Examples of assessing learning outcomes in relation to the established learning outcomes are:

1. Define and explain key terms (e.g., freight forwarder, logistics operator, 3PL, 4PL, etc.) and explain the differences between these terms.
2. Explain the role and significance of freight forwarding logistics in international trade using a concrete example.
3. List the key legal sources regulating freight forwarding activities and analyse the rights, obligations, and responsibilities of the freight forwarder arising from these sources.
4. List and explain the basic tasks of a freight forwarder (e.g., routing, cargo receipt, concluding transport contracts, concluding transport insurance contracts, etc.) and interpret the legal status and role of the freight forwarder within these tasks.
5. Analyse an example of a specific freight forwarding task conditioned by specific cargo (e.g., dangerous goods, live animals), explaining the role of the freight forwarder, specific activities, and documentation.
6. Interpret the purpose, function, and data contained within documents used in freight forwarding operations (e.g., bills of lading, waybills, single customs declarations, etc.).
7. Explain the role of Incoterms and interpret the obligations of the seller and buyer using a concrete Incoterm example (e.g., EXW, CIF, FOB, etc.).
8. Explain and analyse the impact of contemporary trends in the logistics services market (e.g., globalization, sustainability, digitalization, etc.) on the development and affirmation of logistics operators.
9. Apply and present acquired knowledge through research of a practical case from freight forwarding business practice.

1.10. Main Reading

1) teaching material for the e-course “Freight Forwarding” – accessible on the e-learning platform - Merlin (https://moodle.srce.hr) during the current academic year
2) Babić, D., Stanković, R., Bajor, I., Špediterski poslovi u logističkoj djelatnosti, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb , 2020.
3) Zelenika, R., Temelji logističke špedicije, Faculty of Economics, University of Rijeka, Rijeka, 2005.

1.11. Recommended Reading

1) Incoterms 2020, Pravila tumačenja trgovinskih termina Međunarodne trgovinske komore, HGK, 2020.
2) Zelenika, R., Logistički sustavi, Faculty of Economics, University of Rijeka, 2005.
3) Zelenika, R. Incoterms 2000 u teoriji i praksi – 100 savjeta i 100 primjera , Faculty of Economics, University of Rijeka, Rijeka, 2002.
4) Andrijanić, I., Aržek, Z., Prebežac, D., Zelenika, R., Transportno i špeditersko poslovanje, Faculty of Economics and Business, University of Zagreb, Zagreb, 2001.
5) Zelenika, R., Međunarodna špedicija, Faculty of Economics, University of Rijeka, Rijeka, 2000.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*

teaching material for the e-course “Freight Forwarding” – accessible on the e-learning platform - Merlin (https://moodle.srce.hr) during the current academic year	unlimited	30
Babić, D., Stanković, R., Bajor, I., Špediterski poslovi u logističkoj djelatnosti, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb , 2020.	3	30
Zelenika, R., Temelji logističke špedicije, Faculty of Economics, University of Rijeka, Rijeka, 2005.	5	30

1.13. Quality Assurance

The quality of studying is continuously monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An analysis of exam results is prepared annually, and a student survey is conducted once per semester.

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3.2. Course description

Generic information			
Head of Course	Sandra Tominac Coslovich, PhD		
Course	**English language 5**		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Elective		
Year of Study	3rd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	3	
	Number of Hours (L+E+S)	15 + 30 + 0	

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Course objectives meet the English language requirements for obtaining a B. Sc. degree in Logistics and Management in Maritime Transport and include acquiring communicative competence for effective use of English as a language of international maritime communication for the purpose of ensuring efficient business operations and management in the maritime industry.

1.2. Prerequisites for Course Registration

Successful completion of English language 4 course

1.3. Expected Learning Outcomes

Upon completing the course the students will be able:

1. To demonstrate 4 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
2. To demonstrate specialized language knowledge and skills in English for the purpose of performing specialist jobs in the field of logistics and management in maritime transport
3. To express themselves in speech and in writing and discuss specialist topics in English
4. To translate specialized texts from English into Croatian and vice versa
5. To use language skills in written and verbal communication in English among different specialists in the field of maritime transport

1.4. Course Outline

The course focuses on *content-based learning*. It applies the *communicative approach* to learning and teaching English as a Foreign Language (EFL) and English as a Second Language (ESL). The course focuses on the acquisition and practical use of: vocabulary/terminology skills (terms, polysemous words, multiple-word lexical units, collocations, lexical sets), discourse and pragmatic elements of shipping-related texts and communication, most frequent and typical grammatical structures and features restricted to maritime discourse (written and spoken) regarding the following topics: marine insurance, P&I clubs, marine accidents, general and particular average and maritime correspondence in various specialized matters.

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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

1. course attendance (lectures and exercises)
2. passing two written tests
3. passing final oral exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	0,5	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

2 continuous assessments/test + final oral exam

1. Explain the terms general and particular average and give examples of each in English.
2. Describe the job of an 'average adjuster' in English.
3. Enumerate and explain in English the types of loss covered by the P&I insurance.
4. Translate the given extract from the Institute cargo clauses from English into Croatian using the appropriate terminology.
5. Use the given information and write a formal inquiry in English via e-mail about the extent of the insurance cover.

1.10. Main Reading

1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP
5. Authorized lectures available on e-learning platform Merlin (moodle.srce.hr)

1.11. Recommended Reading

1. Abegg, B., Benford, M (2008) *Poslovno dopisivanje na hrvatskom i engleskom*, Masmedia/Langenscheidt
2. Evans, V., Dooley, J., Buchannan, D. (2016) *Logistics* (Career Paths series), Exporess Publishing
3. Peter van Kluijven (2005) *The International Maritime Language Programme*, De Alk & Heijen,
4. *MarEng Plus Learning Tool: https://blogit.utu.fi/mareng/marenf-plus/*

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf	Available online	20
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers	10	20
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press	10	20
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP	10	20
5. Authorized lectures available on e-learning platform Merlin (moodle.srce.hr)	Available online	20

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	Renato Ivče, PhD		
Course	Maritime transport technology		
Study Programme	Logistic and Management in Maritime Industry and Transport		
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)		30 + 15 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

To introduce students to international regulations, rules, recommendations and standards relating to the safe handling, stowage and transport of cargo. To introduce students to the characteristics of cargo in maritime transport, the principles of handling all types of cargo, planning cargo loading on ships of various technologies, and safety measures in the transport of cargo by sea.

1.2. Prerequisites for Course Registration

No prerequisites for course registration

1.3. Expected Learning Outcomes

1. - 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
3. - Analyse the general requirements for sea transport
4. - Apply requirements when transporting various types of dry cargo by sea.
5. - Apply requirements when transporting various types of liquid cargo by sea
6. - Apply requirements when transporting cargo with specific features
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. Ro - Ro maritime transportation technology Bulk cargo maritime transportation technology. Technology of maritime transportation of oil and products. Technology of maritime transportation liquefied gases. Maritime transportation of wood. Technology of maritime transportation of refrigerated cargo.

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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

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	0,5	Experiment	
Written exam		Oral exam	0,5	Essay		Research	
Project		Continuous Assessment	0,5	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 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 4-7 (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
2 D.J.House, Cargo Work, Butterworth-Heinemann
3. Vranić, D., Kos, S., Morska kontejnerska transportna tehnologija
4. Komadina, P. , Brodovi multimodalnog transportnog sustava
5. Komadina P. Tankeri

1.11. Recommended Reading

1. Biblioteka pomorskog časnika, sv. 1,
2. Biblioteka pomorskog časnika sv. 2,
3. Biblioteka pomorskog časnika sv. 3,
4. Biblioteka pomorskog časnika sv. 4.
5. 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*
Tereti u pomorskom prometu	30	40
Cargo work	Unlimited	40
Morska kontejnerska transportna tehnologija	7	40
Brodovi multimodalnog transporta	10	40
Tankeri	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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3.2. Course description

Generic information			
Head of Course	**Ines Kolanović, PhD**		
Course	**Port and terminal technology**		
Study Programme	**Logistic and Management in Maritime Industry and Transport**		
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)		45 + 15 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of this course is for students, upon completion, to be able to identify, analyze, and interpret the technical and technological characteristics of ports and terminals, as well as to distinguish between different transport 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 to:

1. Interpret the terms: transport technology, port and terminal technology, and transport-technological process
2. Analyze the elements and demonstrate the relationship between the port, transport, and economic systems
3. Identify and explain the basic characteristics of port-maritime facilities in relation to the provision of port services
4. Classify different groups of port warehouses according to various criteria
5. Present the technical and technological features of a terminal using a concrete example for different types of cargo
6. Distinguish and compare technological processes at port terminals

1.4. Course Outline

Terminological explanations: transport technology, port and terminal technology, transport-technological process. The impact of technological changes in shipping on the development of ports and terminals. Port infrastructure and superstructure. Planning and design of ports and terminals. Port and maritime facilities. Port warehouses. Special-purpose ports. River ports. Types of terminals. Methodology for assessing the capacity of port terminals. Technological processes at port terminals. Specialized terminals.

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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

Students are required to: attend classes, pass two midterm exams (continuous knowledge assessment), complete and present an individual assignment, and pass the final exam. A student must attend at least 70% of the total number of lecture and seminar hours.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2	Class participation		Seminar paper		Experiment	
Written exam	0,9	Oral exam		Essay		Research	0,6
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

Procedure:

- The final grade in the course is the sum of the points earned by the student during the course (70% of the grade) and the points earned on the final exam (30% of the grade), in accordance with the Regulations on Studies of the University of Rijeka and the Regulations on Studying at the Faculty of Maritime Studies in Rijeka.

Continuous knowledge assessment:

Midterm Exam 1 – 25%; Learning outcomes: 1 to 4
Midterm Exam 2 – 25%; Learning outcomes: 5 and 6
Individual assignment – 20%; Learning outcomes: 1 to 6
- Final exam – 30%; Learning outcomes: 1 to 6

A minimum of 50% of the points must be achieved on each midterm exam.
A minimum of 50% of the points must be achieved on the individual assignment.
A minimum of 50% of the points must be achieved on the final exam.

Examples of learning outcome evaluation:

1. Define the terms: transport technology, port and terminal technology, transport-technological process (LO1)
2. Show and comment on the relationship between the port, transport and economic system using the example of the Republic of Croatia (LO2)
3. Using a specific example, highlight the basic characteristics of port-maritime facilities (LO3)
4. Group port warehouses according to different criteria (LO4)
5. Summarize the technical-technological characteristics of a container terminal using the example of the Port of Rijeka LO5)
6. Explain the technological process of transhipment and storage at a RO-RO terminal (LO6)

1.10. Main Reading

1. Kolanović, Ines: Teaching materials on the e-learning platform (Merlin)
2. Dundović, Čedomir: Lučki terminali, sveučilišni udžbenik, Pomorski fakultet u Rijeci, Rijeka, 2002.
3. Dundović, Čedomir, Kesić, Blanka: Tehnologija i organizacija luka, sveučilišni udžbenik, Pomorski fakultet u Rijeci, Rijeka, 2001.

1.11. Recommended Reading

1. Paulić, Mateja; Kolanović, Ines; Borucinsky, Mirjana: Logistics Processes and Port Operations in RO-RO terminals // Naše more 2021.Conference Proceedings / Mišković, Darijo; Hasanspahić, Nermin (ur.). Dubrovnik: Sveučilište u Dubrovniku, 2021. str. 254-262.
2. 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.
3. Notteboom, T., Pallis, A., Rodrigue, J. R.: Port Eoconomics, Management and Policy, New York, Routledge, 2021. (poglavlja: Port Terminals, Port Planning and Development)

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Teaching materials on Merlin	unlimited	30
Lučki terminali	16	30
Tehnologija i organizacija luka	16	30

1.13. Quality Assurance

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The quality of studies is continuously monitored in accordance with the requirements of the ISO 9001 standard and in accordance with European standards and guidelines for quality assurance implemented at the Faculty of Maritime Studies in Rijeka. At the end of the semester, teachers and associates are evaluated by students, in accordance with the Manual for the Quality of Studies at the University of Rijeka.

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3.2. Course description

Generic information		
Head of Course	**Livia Maglić, PhD**	
Course	**Internal Transport and Warehousing**	
Study Programme	**Logistics and Management in Maritime Industry and Transport**	
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)	30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Providing and obtaining a basic knowledge of rational planning, design, and operational management of internal transport and warehouse in port, industrial and transportation activities. Furthermore, gathering the knowledge necessary for the optimal technical and technological operations of a particular transport company. Analysis and comparison of possible ways as well as choosing the optimal way of handling material and managing the internal traffic process for the selected transport company.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

After passing the exam, students are expected to be able to:

1. Define internal transport and warehouse as a technical and technological unit
2. Define and explain all internal transport and warehouse processes requiring Spatio-temporal organisation, and technological, economic and environmental compliance of individual constituents segments
3. Establish clear criteria for the application and selection of means of internal transport and warehouse, with the calculation of the required capacities
4. Apply mathematical methods and models for evaluating alternative transportation and warehouse solutions
5. Analyse and compare possible ways of handling material and managing the internal transport process
6. Choose the optimal way of handling the material and managing the internal transport process in a specific case

1.4. Course Outline

Internal transport system design features. Packaging and sorting of goods. Examination of the flow of materials and processes in internal transport. The impact of internal transport on the physical layout and organization of work of economic entities. Features and role of warehousing in internal transport. Means of transport and equipment for internal transport and the warehouse. Material handling equipment and internal transport process management. Capacity estimation and simulation of internal transport processes.

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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

1. Passing two colloquiums
2. Final exam

1.8. Assessment of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1,0	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

Evaluation procedure:

- 70% during coursework and 30% on the final exam (according to the Regulations on Studies of the University of Rijeka and the Regulations on Studying at the Faculty of Maritime Studies in Rijeka).
- The final exam assesses the completeness of theoretical knowledge for rational planning, design, and operational management of internal transport and storage in port, industrial, and transport activities.

Examples of evaluation:

1. Define internal transport and storage as a technical-technological unit.
2. Define and explain all processes of internal transport and storage that require spatial-temporal organisation, as well as technological, economic, and environmental alignment of individual component segments.
3. State clear criteria for the application and selection of means for internal transport and storage.
4. Explain how you would apply mathematical methods and models to evaluate alternative solutions for transport and storage.
5. Analyse and compare possible methods of material handling and management of the internal transport process.
6. For a specific case, explain the procedure for selecting the optimal method of material handling and management of the internal transport process.

1.10. Main Reading

1. Dundović, Č., Hess, S.: Unutarnji transport i skladištenje, Pomorski fakultet u Rijeci, Rijeka, 2007.
2. Šamanović, J.: Logistički i distribucijski sustavi, Ekonomski fakultet, Split, 1999.

1.11. Recommended Reading

1. Hompelten, M., Schmidt, T., Warehouse Management / Automation and Organisation of Warehouse and Order Picking Systems, Springer, 2010.
2. Dundović, Č.: Prekrcajna sredstva prekidnog transporta, Pomorski fakultet u Rijeci, Rijeka, 2005.
3. Zrnić, Đ., Savić, D., Simulacija procesa unutrašnjeg transporta, Mašinski fakultet, Beograd, 1985.
4. Schroeder, G.R., Upravljanje proizvodnjom / Odlučivanje u funkciji proizvodnje, Četvrto izdanje, Mate d.o.o., Zagreb, 1999.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Dundović, Č., Hess, S.: Unutarnji transport i skladištenje, Pomorski fakultet u Rijeci, Rijeka, 2007.	5	20
Šamanović, J.: Logistički i distribucijski sustavi, Ekonomski fakultet, Split, 1999.	5	20

1.13. Quality Assurance

The quality of the study is monitored following the ISO 9001 system and in line with European standards and guidelines for quality assurance, which are implemented at the Faculty of Maritime Studies in Rijeka. Once a year, pass rates are analysed and appropriate measures are taken.

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3.2. Course description

Generic information			
Head of Course	Dario Ogrizović, PhD		
Course	Cloud computing		
Study Programme	Logistic and Management in Maritime Industry and Transport		
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, the theoretical foundations of cloud computing are explained, which relate to the emergence, etymology and characteristics of cloud computing, as well as virtualization as the basis for the emergence of cloud computing. The basic division of service models that are available using standard network technologies and protocols is stated, and the basic implementations and the most important cloud computing service providers are presented.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

1. Explain the theoretical foundations of cloud computing, which relate to the emergence, etymology and characteristics of cloud computing
2. Present virtualization as the basis for the emergence of cloud computing and types of virtualizations
3. Compare cloud computing architectures
4. List and distinguish between service models and cloud computing performance models
5. Describe and compare the most important cloud computing service providers through a historical overview, global network of data centers and CDN nodes
6. Distinguish and systematize the types and purposes of available public and private cloud computing services
7. Implement computer and network services and storage services
8. Analyse security issues and costs of doing business in cloud computing

1.4. Course Outline

Theoretical foundations of cloud computing. Origin, etymology and characteristics of cloud computing. Virtualization. Cloud computing architectures. Cloud computing service models. Cloud computing performance models. The most important cloud computing service providers. Global network of data centers and CDN nodes. Type and purpose of available cloud computing services. Multicloud. Security issues and their solutions. Costs of doing business in cloud computing.

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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

1. Attendance and activity in class
2. Attendance and activity in laboratory exercises
3. Project
4. Written exam (midterms and exam)

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	0,5	Seminar paper		Experiment	
Written exam	1	Oral exam		Essay		Research	
Project	0,5	Continuous Assessment	0,5	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 process of evaluation of the acquired learning outcomes takes place during continuous assessments (through class activities (10%), preparation and presentation of a project (20%), 2 midterm exams - total 40%) and at the final part of the exam (30%). A minimum of 50% of points must be achieved in individual knowledge assessments.

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

1. Explain the theoretical foundations of cloud computing, which relate to the emergence, etymology and characteristics of cloud computing
2. Present virtualization as the basis for the emergence of cloud computing and types of virtualizations
3. Compare cloud computing architectures
4. List and distinguish between service models and cloud computing performance models
5. Describe and compare the most important cloud computing service providers through a historical overview, global network of data centers and CDN nodes
6. Distinguish and systematize the types and purposes of available public and private cloud computing services
7. Implement computer and network services and storage services
8. Analyse security issues and costs of doing business in cloud computing

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 papers from:

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	40
Chopra, R.: Cloud Computing: An Introduction, Mercury Learning & Information, 2017.	5	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	Gorana Mudronja, PhD		
Course	Marketing		
Study Programme	Logistics and Management in the Maritime Industry and Transport		
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)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of the course is to provide students with fundamental knowledge of marketing principles, consumer behavior, and marketing strategies in the modern business environment. Students will gain insight into market research concepts, the basics of digital marketing, branding principles, and the role of psychology in marketing.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Interpret the fundamental concepts of marketing and their role in the business environment.
2. Distinguish key factors that influence consumer behavior and the decision-making process, and recognize their implications for marketing activities.
3. Describe the fundamental aspects of digital marketing and analyze various digital marketing strategies.
4. Explain the role of psychology in marketing and its impact on consumer behavior, and identify ways to apply it in marketing strategies.
5. Describe the basic principles of branding and brand management, and recognize their role in business operations.

1.4. Course Outline

1. Fundamental marketing concepts: definition of marketing, micromarketing and macromarketing, advantages and disadvantages of marketing
2. Fundamental marketing concepts: marketing mix, market research, and market segmentation
3. Consumer behavior: definition, influences, types, Prospect Theory
4. Consumer behavior: the decision-making process, influence of perceptions and attitudes on consumer decisions
5. Marketing in the maritime and transport sectors
6. Digital marketing
7. Digital marketing: influencer marketing
8. Psychology of marketing
9. Branding and brand management
10. Digital marketing and branding in the maritime and transport sectors
11. Examples and case studies

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

Class attendance, midterm exams, making and presenting a presentation, and the 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		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

Student obligations include regular class attendance, passing the first midterm exam, passing the second midterm exam, making and presenting a presentation, and taking the final exam. The assessment of achieved learning outcomes is conducted in accordance with the Regulations on Studies and Studying at the University of Rijeka and the Regulations on Studying at the University of Rijeka, Faculty of Maritime Studies, as follows:

- First midterm exam: 30%, Learning outcomes 1 and 2.
- Second midterm exam: 30%, Learning outcomes 3, 4, and 5.
- Making and presenting a presentation: 10%, Learning outcomes 1, 2, 3, 4, and 5.
- Final exam: 30%, , Learning outcomes 1, 2, 3, 4, and 5.

To be eligible to take the final exam, students must meet the following requirements:

- Achieve at least 50% of the total points on each midterm exam.
- Achieve at least 35 points, which represents 50% of the total points available through continuous assessment during the course.
- Making and presenting a presentation is mandatory.

The final exam constitutes 30% of the total grade, and students must achieve at least 50% of the total points on the final exam in order to pass the course. Attendance at lectures and exercises is mandatory, with regular attendance monitoring. A student may be absent from no more than 50% of classes.

Examples of learning outcome assessment tasks during the course and the final exam:

1. Explain what micromarketing is and how it is applied in the sale of products and services.
2. Explain the Prospect Theory.
3. Describe the SEO (Search Engine Optimization).
4. Explain the psychological marketing strategy of the anchoring effect.
5. Describe a corporate brand.

1.10. Main Reading

1. Grbac, B.: Identitet marketinga, Rijeka: Sveučilište u Rijeci, Ekonomski fakultet, 2006.
2. Course materials available on the e-learning platform Merlin (https://moodle.srce.hr).

1.11. Recommended Reading

1. Vranešević, Tihomir; Došen Ozretić, Đurđana; Pavičić, Jurica; i ostali autori: Osnove marketinga, Zagreb: Sveučilište Zagrebu, Ekonomski fakultet, 2021.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Grbac, B.: Identitet marketinga, Rijeka: Sveučilište u Rijeci, Ekonomski fakultet, 2006.	3	20
Course materials available on the e-learning platform Merlin (https://moodle.srce.hr)	-	20

1.13. Quality Assurance

The quality of the study program is monitored in accordance with the ISO 9001 quality management system and in line with the European Standards and Guidelines for Quality Assurance, as implemented at the Faculty of Maritime Studies, University of Rijeka.

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3.2. Course description

Generic information			
Head of Course	Siniša Vilke, PhD		
Course	Land transport technology		
Study Programme	**Logistic and Management in Maritime Industry and Transport**		
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)		45 + 30 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The objective of the course is to gain basic knowledge of transportation planning of land transportation infrastructure facilities, utilisation characteristics of road and rail vehicles, and the range of road and rail transportation infrastructures in order to develop a transportation synthesis of land transportation technologies.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

After completing the course and passing the exam, students will be able to:

1. Interpret the methodology of traffic planning of land transport infrastructure facilities
2. Calculate the operational characteristics of road vehicles and assess their technical and transport characteristics based on given parameters
3. Interpret the transverse and longitudinal stability of road transport vehicles according to the given criteria
4. Interpret the operational characteristics of railway transport vehicles and compare their indicators based on given performances
5. Apply numerical methods in the analysis of the throughput of road and railway transport infrastructure
6. Interpret and compare combined land transport technologies
7. Interpret legal provisions in the organization of domestic and international land transport
8. Develop and write a research program task for the analysis of a passenger or freight transport line

1.4. Course Outline

Land transport infrastructure and transport demand planning. Modal distribution of passenger and freight transport. Road transport infrastructure. Road vehicles: operational characteristics of road vehicles, lateral and longitudinal stability. Technological features of road transport. Legislation in the organization of national and international transport.
Railway transport infrastructure. Towing and rolling stock. Performance characteristics of railway vehicles. Graphical representation of train traffic (timetables). Technological features of railway transport. Range of road and rail transport infrastructure. Land transport technologies. Technologies for combined transport.

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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 lecture and exercise hours, prepare and present a seminar paper, and pass the exams (continuous assessment) in order to take the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	2,5	Class participation		Seminar paper		Experiment	
Written exam		Oral exam	1	Essay		Research	
Project	0,5	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 of assessment of acquired learning outcomes is carried out by the Study Regulations of the University of Rijeka and the Study Regulations at the Faculty Maritime Studies in Rijeka as follows:

- 70% of the acquired learning outcomes are evaluated through continuous assessment during classes, within the 1st exam (25%), 2nd exam (25%), through the development of a program assignment – project (10%) and the presentation of a research assignment – seminar (10%); in this case, the student must achieve a minimum of 50% of points for each exam, and the presentation of the research assignment is evaluated based on defined assessment criteria;
- 30% of the acquired learning outcomes are evaluated in the final part of the exam, whereby the student must achieve a minimum of 50% of points to pass the final exam

Examples of assessment of learning outcomes to establish learning outcomes are:

1. Explain the methodology of traffic planning of land infrastructure facilities.
2. Explain the operational characteristics of road and rail transport vehicles.
3. Calculate the transverse and longitudinal stability of road transport vehicles according to the given criteria.
4. Analyze road and rail transport infrastructure.
5. Explain numerical methods in the analysis of land transport systems.
6. Explain the application of combined transport technologies.
7. Explain the basic legal provisions for the organization of land transport infrastructure.

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.
3. Teaching material for the e-course available in the MS system - Merlin *(https://moodle.srce.hr)*

1.11. Recommended 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. 1. Vilke, S.; Petrović, I.; Tadić, F.: Evaluation and Selection of the Railroad Route between Rijeka and Zagre Applied Sciences, 12, (2022), 3, 1306.
2. Vilke, S.; Mance, D.; Debelić, B.; Maslarić, M: Correlation between freight transport industry and economi growth – panel analysis of CEE countries, Promet–Traffic & Transportation, 33 (2021), 4, 517 – 526.
3. Badanjak, D., Bogović, B., Jenić, V.: Organizacija željezničkog prometa, FPZ, Zagreb, 2006
4. Županović, I.: Tehnologija cestovnog prometa, FPZ, 2003, Zagreb
5. Padjen, J.: Osnove prometnog planiranja, Informator, Zagreb, 1986.
6. Cerovac, V.: Tehnika i sigurnost prometa, FPZ, Zagreb, 2001.

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	30
Baričević, H.: Tehnologija kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2001.	10	30
Teaching material for the e-course available in the MS system - Merlin *(https://moodle.srce.hr)*	-	30

1.13. Quality Assurance

The quality of studies is constantly monitored by the system ISO 9001, which was introduced at the Faculty Maritime Studies in Rijeka. An analysis of examinations is made annually and a student survey is conducted once a semester.

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Course description

Generic information			
Head of Course	**Mirjana Borucinsky**		
Course	**German Language 1**		
Study Programme	**Logistics and Management in Maritime Affairs and Transport**		
Type of Course	**elective**		
Year of Study	**3**	Semester	**V**
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		**3**
	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

It is expected that the student 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	☐ Practical work
	☐ Seminars and workshops	☐ Multimedia and Network
	☐ Exercises	☐ Laboratory
	☒ E-learning	☐ Mentorship
	☐ Field work	☐ 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	0,25	Seminar paper		Experiment	
Written exam		Oral exam	0,25	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

Through continuous assessment the student can achieve up to 70% (Learning Outcomes 1 to 5) of the total score, through summative assessment in the form of an oral exam (Learning Outcomes 1,2,3 and 5) up to 30% of total score.

Examples of learning outcomes evaluation through continuous and summative assessment:

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 (bzw. Englische). Benutzen Sie dabei Fachterminologie.
5. Schreiben Sie einen Geschäftsbrief in dem Sie sich für ein Produkt interessieren.

1.10. Main Reading

1. Fox, R. *Verkehrswesen*, Školska knjiga, Zagreb, 1996.
2. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004.
3. Perlmann-Balme, M., Tomaszewski, A.: *Themen aktuell 3, Zertifikatsband*, Kursbuch, Max Hueber Verlag, 2004.
4. Perlmann-Balme, M., Tomaszewski, A.:: *Themen aktuell 3, Zertifikatsband*, Arbeitsbuch, Max Hueber Verlag, 2004.

1.11. Recommended Reading

1. Gutremuth, J., Konerding, B., Perseke, J., Seegert, N., *Güterverkehr – Spedition – Logistik*, Bildungsverlag EINS GmbH, Troisdorf, 2002.
2. Hurm, A., *Njemačko-hrvatski rječnik*, Školska knjiga, Zagreb, 1998.
3. Hurm., A., Jakić, B., *Hrvatsko-njemački rječnik*, Školska knjiga, Zagreb, 1999.
4. Kunkel-Razum, Kathrin: *Duden: Briefe gut und richtig schreiben*. Dudenverlag, 2003.
5. Marčetić, T., *Pregled gramatike njemačkog jezika*, Školska knjiga, Zagreb, 1999.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Fox, R. *Verkehrswesen*, Školska knjiga, Zagreb, 1996.	10	10
2. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004	10	10

1.13. Quality Assurance

Internal:

- ☐ Student feedback (SET - Student evaluation of teaching) at the end of academic year.
- ☐ Course review by the head of course at the end of academic year.

[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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External:
Programme quality review carried by the QA Agency.

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3.2. Course description

Generic information			
Head of Course	Edvard Tijan, PhD		
Course	Sustainable Logistics		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	mandatory		
Year of Study	3		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		4
	Number of Hours (L+E+S)		30 + 0 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The goal of this course is to familiarize students with the principles and practices of sustainability in logistics, as well as an ecological approach to logistics. The focus of the lectures is on reducing the negative impacts of logistics activities on the environment, the economy, and society (the three pillars of sustainability). Students will gain knowledge about the impact of logistics on pollution and greenhouse gas emissions.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

After passing the exam, students will be able to:

1. Adopt the basic concepts of ecological, economic, and social sustainability
2. Assess the impact of different types of transport on the environment
3. Compare different approaches for reducing emissions in transport and warehousing operations
4. Explain the importance of integrating sustainable practices into logistics operations
5. Identify opportunities for reducing the carbon footprint within logistics processes

1.4. Course Outline

1. Introduction to sustainable logistics and sustainable development
2. The role of green logistics and transport in sustainable supply chains
3. Green logistics networks and green supply chains
4. Regulations and standards: ISO 14001, European and global sustainability initiatives
5. Reduction of greenhouse gas emissions
6. Environmental impact of transport – reducing emissions in transport systems
7. New vehicle technologies and ecological fuels
8. Ecology and sustainable maritime transport
9. The impact of air transport on sustainability
10. Intermodal transport and route optimization in the context of sustainability
11. Environmental impact of inventory management, warehousing, distribution…
12. Waste management in logistics: reverse logistics and circular economy
13. Implementation of sustainable solutions in logistics systems

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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

1. Attendance of classes
2. Classroom activity
3. Taking the midterm exam
4. Taking the final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1	Class participation	0,5	Seminar paper		Experiment	
Written exam		Oral exam	0,5	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.

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

Continuous assessment and grading include classroom activity and two midterm exams, followed by the final exam. Assessment is conducted in accordance with the current university and faculty regulations on studying. During continuous assessment, students can earn up to 70% of the total course points, and the remaining 30% can be earned on the final exam.

On each midterm exam, it is necessary to achieve at least 50% of the points possible on that exam.

Through continuous classroom assessment (midterm exams and classroom activity), students must cumulatively achieve at least 35% of the total course points (out of the possible 70%) in order to be eligible to take the final exam.

On the final exam, students can earn 30% of the total course points (with students required to achieve at least 50% of the points possible on the final exam to pass it).

Attendance at lectures is mandatory, and student attendance will be monitored. Students may miss a maximum of 50% of the classes.

Examples of learning outcome assessment:
Learning outcome 1: State the goals of economic sustainability and explain the difference between ecological and social sustainability.
Learning outcome 2: Compare the environmental impact of road and railway transport.
Learning outcome 3: What are the advantages of switching to electric vehicles in transport operations?
Learning outcome 4: How can sustainable practices improve the reputation of a logistics company?
Learning outcome 5: List and explain three specific solutions for reducing the carbon footprint in transport processes.

1.10. Main Reading

1. Edvard Tijan, Održiva logistika, on-line materijali (Merlin)
2. Psaraftis: Sustainable shipping: a cross-disciplinary view, Springer, 2019.

1.11. Recommended Reading

1. Jović, Tijan, Žgaljić, Aksentijević: Improving Maritime Transport Sustainability Using Blockchain-Based Information Exchange // Sustainability, 12 (2020), 21; 8866, 19. doi: 10.3390/su12218866
2. Žgaljić, Tijan, Jugović, Poletan Jugović: Implementation of sustainable Motorways of the Sea services - Multi-criteria analysis of Croatian port system // Sustainability, 11 (2019), 23; 6827, 21. doi: 10.3390/su11236827
3. Tijan, Agatić, Jović, Aksentijević: Maritime National Single Window — A Prerequisite for Sustainable Seaport Business // Sustainability, 11 (2019), 17; 4570, 21. doi: 10.3390/su11174570
4. Grent, Trautrims, Yew Wong: Sustainable Logistics and Supply Chain Management - Principles and practices for sustainable operations and management, Kogan Page LTD, London, 2017.
5. Behnam, G.H. Bell, Hensher, Sarkis (eds.) Green Logistics and Transportation: A Sustainable Supply Chain Perspective Springer 2015.
6. Lun, Lai, Wong, Cheng, Green Shipping Management, Springer 2016.
7. McKinnon, Cullinane, Browne, Whiteing: Green Logistics - Improving the Environmental Sustainability of Logistics, Kogan Page 2010.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Edvard Tijan, Održiva logistika, on-line materijali (Merlin)		
Psaraftis: Sustainable shipping : a cross-disciplinary view, Springer, 2019.	5	40

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1.13. Quality Assurance

The quality of study is monitored in accordance with the ISO 9001 system and in line with European standards and guidelines for quality assurance implemented at the University of Rijeka, Faculty of Maritime Studies. Once a year, the pass rates are analyzed and appropriate measures are taken (an anonymous survey is conducted in which students evaluate the quality of delivered teaching). An analysis of student performance on completed exams is also carried out.

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3.2. Course description

Generic information		
Head of Course	Gorana Mudronja, PhD Alen Jugović, PhD	
Course	Entrepreneurship	
Study Programme	Logistics and Management in the Maritime Industry and Transport	
Type of Course	Mandatory	
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

The aim of the course is to enable students to understand the fundamental concepts, principles, and the role of entrepreneurship in the modern business environment. Students will develop practical skills necessary for creating a business plan that includes the key elements required for establishing a business.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Explain the fundamental concepts of entrepreneurship and their role in the business environment.
2. Describe various methods for generating business ideas and methods for prototype testing aimed at developing innovative entrepreneurial solutions.
3. Describe different business models and apply tools for the development and evaluation of business models.
4. Develop a business plan.
5. Distinguish between different legal and organizational forms of businesses.

1.4. Course Outline

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1. Fundamental concepts of entrepreneurship
2. Business idea generation (methods of idea generation)
3. Business idea generation (creative problem solving)
4. Business model (value proposition canvas)
5. Business model (business model canvas)
6. Prototype testing in the market
7. Corporate social responsibility, social entrepreneurship, and intercultural business practices
8. Entrepreneurship in the maritime and transport sectors
9. Business plan (venture description, production plan)
10. Business plan (marketing plan, organizational plan)
11. Business plan (financial plan)
12. Legal and organizational forms of businesses in the Republic of Croatia (craft, limited liability company)
13. Legal and organizational forms of businesses in the Republic of Croatia (simple limited liability company, joint stock company, family agricultural business)

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

Class attendance, midterm exams, preparation and presentation of a project assignment, and the 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		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

Student obligations include regular class attendance, passing the first midterm exam, passing the second midterm exam, preparing and presenting a project assignment, and taking the final exam. The assessment of achieved learning outcomes is conducted in accordance with the Regulations on Studies and Studying at the University of Rijeka and the Regulations on Studying at the University of Rijeka, Faculty of Maritime Studies, as follows:

- First midterm exam: 25%, Learning outcomes 1, 2, and 3.
- Second midterm exam: 25%, Learning outcomes 4 and 5.
- Project assignment (preparation and presentation): 20%, Learning outcomes 1, 2, 3, 4, and 5.
- Final exam: 30%, Learning outcomes 1, 2, 3, 4, and 5.

To be eligible to take the final exam, students must meet the following requirements:
- Achieve at least 50% of the total points on each midterm exam.
- Achieve at least 35 points, which represents 50% of the total points available through continuous assessment during the course.
- The preparation and presentation of the project assignment are mandatory.

The final exam constitutes 30% of the total grade, and students must achieve at least 50% of the total points on the final exam in order to pass the course. Class attendance at lectures and exercises is mandatory, with regular attendance monitoring. A student may be absent from no more than 50% of classes.

Examples of learning outcome assessment tasks during the course and the final exam:
1. Define the term entrepreneurship.
2. Describe problem analysis as a method for generating business ideas.
3. Describe the freemium business model.
4. Based on your business idea, prepare a description of the entrepreneurial venture and develop a production plan as part of your business plan.
5. Explain the difference between a craft business (hrv. obrt) and a limited liability company (hrv. d.o.o.) regarding liability for debts that cannot be paid.

1.10. Main Reading

1. Hirsch, Robert D.; Peters, Michael P.; Shepherd, Dean A.: Poduzetništvo, Zagreb: Mate, 2011.
2. Course materials available on the e-learning platform Merlin (https://moodle.srce.hr).

1.11. Recommended Reading

1. Ribić, Damir; Pleša Puljić, Nikolina: Osnove poduzetništva, Zagreb: Školska knjiga, 2020.
2. Buble, Marin; Buble, Mario: Poduzetništvo, Split: ASPIRA, visoka škola za menadžment i dizajn, 2014.
3. Mudronja, G.; Aksentijevć, D.; Jugović, A. (2022.). An overview of innovations and technology for sustainable development of seaports u F. X. Martinez de Oses, M. La Castellis i Sanabra (ur.). Proceedings of 9th International Conference on Maritime Transport (str. 1-15). Barcelona, Španjolska: Universidad Politecnica de Catalunya

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Hirsch, Robert D.; Peters, Michael P.; Shepherd, Dean A.: Poduzetništvo, Zagreb: Mate, 2011.	3	50
Course materials available on the e-learning platform Merlin (https://moodle.srce.hr)	-	50

1.13. Quality Assurance

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The quality of the study program is monitored in accordance with the ISO 9001 quality management system and in line with the European Standards and Guidelines for Quality Assurance, as implemented at the Faculty of Maritime Studies, University of Rijeka.

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3.2. Course description

Generic information		
Head of Course	Borna Debelić, PhD	
Course	Strategic Management	
Study Programme	Logistic and Management in Maritime Industry and Transport	
Type of Course	Mandatory	
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

Introduction to relevant aspects of contemporary strategic management theory, the practical process of strategic management and its stages, especially environmental analysis, setting organizational direction, formulating strategies, implementing strategies, controlling and evaluating strategies, and feedback loops in strategic management.

1.2. Prerequisites for Course Registration

/

1.3. Expected Learning Outcomes

After completing and passing the course, students will be able to:
1. Describe the elements and relationships in the strategic management system;
2. Highlight and explain the possibilities of applying strategic management;
3. List and interpret the parts of the environment and the method of conducting an environmental analysis;
4. Explain the business mission, vision and goals;
5. List and review approaches to formulating a strategy;
6. Identify and interpret the principles and content of strategy implementation;
7. List and explain strategic control.

1.4. Course Outline

Introduction to strategic management
Environmental analysis
Setting the mission, vision, and goals
Strategy formulation
Strategy implementation
Strategic control

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

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1.6. Comments	

1.7. Student Obligations

1. Class attendance
2. Activity in the lessons
3. Study, research and problem solving
4. Passing the colloquia
5. Exam passing

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation	1	Seminar paper		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

Learning outcomes evaluation procedure:
- Record of class performance: 5%
- Scoring of class activities: 5%
- Knowledge assessment through two preliminary exams: 50%
- Presentation and knowledge assessment through case studies: 10%
- Knowledge assessment in the final exam: 30%.

Examples of learning outcomes evaluation:
1. List and discuss the elements and relationships in the strategic management system.
2. List and explain the possibilities of applying strategic management.
3. Describe the parts of the environment and list the methods of conducting environmental analysis.
4. Describe and explain the principles and approaches in creating a business mission, vision and goals.
5. List the approaches to formulating strategy and explain the advantages and disadvantages of each of them.
6. Explain and describe the principles and content of strategy implementation.
7. List the elements and explain the process of strategic control.

1.10. Main Reading

1. Teaching materials on the e-learning system – Merlin (https://moodle.srce.hr)
2. Buble M., et al. (2005). Strateški menadžment. Zagreb: Sinergija d.o.o.
3. Bahtijarević-Šiber, F. (2014). Strateški menadžment ljudskih potencijala : suvremeni trendovi i izazovi. Zagreb: Školska knjiga.

1.11. Recommended Reading

1. Mencer I. (2003). Strateški menadžment i poslovna politika. Rijeka: Vita-graf d.o.o.
2. Buble, M. (2013). Osnove menadžmenta. Zagreb: Sinergija d.o.o.
3. Sikavica, P., Bahtijarević- Siber, F.,Vokić Pološki, N. (2008). Temelji menadžmenta. Zagreb: Školska knjiga.
4. Sikavica, P., Bahtijarević-Šiber, F. (2004). Menadžment. Zagreb: Masmedija d.o.o.
5. Buble M. (2009). Menadžment, 2. izd. Split: Ekonomski fakultet.
6. Nicholas, C. S. (1995). Menadžment malih poduzeća. Zagreb: Mate d.o.o.
7. Sikavica, P., Bahtijarević-Šiber, F. (2001). Leksikon menadžmenta. Zagreb: Masmedija d.o.o.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Buble M., et al. (2005). Strateški menadžment. Zagreb: Sinergija d.o.o.	6	70

1.13. Quality Assurance

The quality of studying is continuously 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, University of Rijeka. An analysis of exam taking is prepared annually, and a survey among students is conducted every semester.

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3.2. Course description

Generic information			
Head of Course	Edvard Tijan, PhD		
Course	Student Practicum		
Study Programme	Logistics and Management in Maritime Industry and Transport, undergraduate level		
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)		0 + 60 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of the course is to advance students' knowledge and business competencies by simulating business processes in the form of workshops. Through various simulations, students have the opportunity to acquire business skills and practically apply the knowledge they have gained in the field of transport and logistics.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

1. Describe and explain various activities in business processes within the fields of transport and logistics.
2. Connect individual interdependent business processes in the maritime, port or transport systems, as well as logistics.
3. Apply existing knowledge acquired during studies and explain methods of implementation in work processes, as well as interpret the importance of specific competencies for the functionality of business processes.

1.4. Course Outline

Within the practical course, students will become familiar with relevant tasks in the field of maritime transport and logistics, and they will supplement and verify own professional knowledge related to understanding business processes. As part of the practical course, field classes will also be organized in companies.

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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

1. Attendance of practicum
2. Activity at practicum
3. Writing the final report

1.8. Assessment[1] of Learning Outcomes

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

Regular attendance, work, and student engagement, as well as the preparation of a report on the completed practicum, are evaluated. The course does not have a numerical grade. Students must attend at least 70% of the classes.

1.10. Main Reading

None.

1.11. Recommended Reading

None.

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 line with European standards and guidelines for quality assurance implemented at the University of Rijeka, Faculty of Maritime Studies. Once a year, the pass rates are analyzed and appropriate measures are taken (an anonymous survey is conducted in which students evaluate the quality of delivered teaching). An analysis of student performance on completed exams is also carried out.

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3.2. Course description

Generic information		
Head of Course	Edvard Tijan, Ph.D. Mladen Jardas, Ph.D.	
Course	Student Internship	
Study Programme	Logistic and Management in Maritime Industry and Transport	
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)	0 + 60 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The student checks and supplements their professional knowledge while comprehensively understanding the work process

1.2. Prerequisites for Course Registration

-

1.3. Expected Learning Outcomes

After learning, the student will be able to:

1. Apply acquired knowledge and skills from the professional content of the completed courses.
2. Gain experience in the work process.
3. Develop and deepen competencies for solving specific professional tasks.

1.4. Course Outline

Student Internship in the undergraduate university study program is carried out individually within a work organization whose activities fall within the student's field of study and where tasks are aligned with the Internship Regulations and the content of the study curriculum. During the internship, the student becomes acquainted with relevant tasks for which they are being trained through the educational program, with the goal of verifying and supplementing their professional knowledge while gaining a comprehensive understanding 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 internship lasts for 10 working days, and a written report on the completed practice (work log) is prepared.

1.8. Assessment[1] of Learning Outcomes

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

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

The students' effort and work, as well as the preparation of the report on the completed internship, are evaluated and assessed

1.10. Main Reading

no

1.11. Recommended Reading

no

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 failure to pass are analysed and appropriate measures are adopted.

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3.2. Course Description

Generic information		
Head of Course	**Igor Vio, PhD**	
Course	**Maritime Administrative Law**	
Study Programme	**Logistic and Management in Maritime Industry and Transport**	
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 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

After passing the exam, students will be able:

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 Shipping.
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 Shipping, 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 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)	45
Pomorsko ratno pravo	Sufficient (in library and book shop)	45
Pomorsko upravno pravo	Sufficient (in library and book shop)	45

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	**Livia Maglić, PhD**	
Course	**Material handling equipment**	
Study Programme	**Logistic and Management in Maritime Industry and Transport**	
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+30+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The primary objective of this course is to familiarise students with material handling equipment and their operational characteristics, depending on the type of cargo and handling methods.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

Upon successful completion of the course, students will be able to:

1. Define fundamental concepts such as transport, transfer, transhipment, and material handling equipment.
2. Categorise material handling equipment according to cargo type and technological transhipment process.
3. Explain and identify factors that determine the operational characteristics of material handling equipment.
4. Compare and provide examples of the application of different types of material handling equipment depending on the technological transhipment process.
5. Explain the methods for evaluating, selecting, and determining the required number of material handling equipment.
6. Recognise and interpret the importance of safety aspects when working with material handling equipment.
7. Calculate productivity, determine power class, stability, and load of port material handling equipment, and interpret the results.

1.4. Course Outline

Concepts of transport, transfer, and transhipment. Types and basic characteristics of material handling equipment. Productivity of material handling equipment. Determining power class, rated capacity, and working speeds of cranes. Load handling devices. Documentation, inspection, and testing of cranes. Safety measures when working with cranes.

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. Passing two colloquiums
2. Final exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	2,0	Class participation		Seminar paper		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.

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

Evaluation procedure:

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:

- Continuous assessment: 70% of learning outcomes are evaluated through two colloquiums (1st: outcomes 1-4, 35%; 2nd: outcomes 5-7, 35%)
- Final exam: 30% of learning outcomes (1-7) are evaluated, with a minimum of 50% required to pass.

Examples of evaluation:

1. Explain the concept of material handling equipment.
2. What are the basic quantities in material flow technology? Explain their significance for cargo transfer in continuous transport.
3. List the main criteria for classifying material handling equipment and provide examples for each category.
4. Based on a given numerical example, calculate the utilisation coefficients of the rated capacity of material handling equipment and explain their significance for operation.
5. Explain the path relation as an indicator for evaluating the operation of material handling equipment.
6. List and describe safety measures when working with cranes.

1.10. Main Reading

- Lecture notes by the lecturer available on the e-learning platform Merlin
- Dundović, Č., Prekrcajna sredstva prekidnog transporta, sveučilišni udžbenik, 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, doktorska disertacija, 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.

1.12. Number of Main Reading Examples

Title	Number of examples	Number of students
Lecture notes available on the e-learning platform Merlin	Unlimited	/
Dundović, Č., Prekrcajna sredstva prekidnog transporta, sveučilišni udžbenik,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 the study is continuously monitored following the ISO 9001 system and in line with European standards and guidelines for quality assurance, as implemented at the Faculty of Maritime Studies, University of Rijeka. Annual exam analysis is conducted, and student surveys are carried out each semester.

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3.2. Course description

Generic information		
Head of Course	Siniša Vilke, PhD	
Course	Traffic safety	
Study Programme	**Logistic and Management in Maritime Industry and Transport**	
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)	45 + 15 + 0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The aim of the course is to gain the basic knowledge of the system of safety and health at work in maritime, road, rail and air transport.

1.2. Prerequisites for Course Registration

1.3. Expected Learning Outcomes

After completing the course and passing the exam, the student will be able to:
1. Interpret and explain the regulations in the international and national system of traffic safety and occupational safety.
2. Interpret occupational safety obligations and describe protective equipment in the port and on-board ship.
3. Interpret the principles and measures of safe work in the port and interpret the principles of fire protection in the port.
4. Classify dangerous goods in traffic and analyze procedures for transporting dangerous goods.
5. Distinguish and compare the application of different forms of ITS in-land transport safety.
6. Interpret time intervals and phases of signaling traffic devices and identify traffic flow collisions at a given example of an intersection.
7. Interpret and compare safety elements in the construction design of roads and intersections.
8. Identify, distinguish and interpret safety elements at railway and road crossings (RCR).

1.4. Course Outline

International Traffic and Occupational Safety System. Legal system, principles and implementation of occupational health and safety. Protection of workers on board and in port. Safety precautions in port and on board. Dangerous cargo. Fire protection. Safety factors in road transport. Safety in rail transport. Application of ITS security in inland transport. Main features of the air transport system from the point of view of safety. Possibilities for improving safety, training and prevention in all modes of transport.

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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 lecture and exercise hours, prepare and present a seminar paper, and pass the exams (continuous assessment) in order 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							

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

The procedure of assessment of acquired learning outcomes is carried out by the Study Regulations of the University of Rijeka and the Study Regulations at the Faculty Maritime Studies in Rijeka as follows:
- 70% of the acquired learning outcomes are evaluated through continuous assessment during classes, within the 1st exam (25%), 2nd exam (25%), and through the development of a program assignment – project (20%); in this case, the student must achieve a minimum of 50% of points for each exam, and the presentation of the research assignment is evaluated based on defined assessment criteria;
- 30% of the acquired learning outcomes are evaluated in the final part of the exam, whereby the student must achieve a minimum of 50% of points to pass the final exam.

Examples of assessment of learning outcomes with set learning outcomes are:

1. Explain the basic legal provisions in the traffic safety system.
2. Describe the obligations of occupational safety and protective equipment in the port and on board.
3. Explain the measures for working safely in the port and describe the principles and application of fire protection in the port.
4. Analyze dangerous goods in traffic and explain the procedures for their transport.
5. Explain the various forms of application of ITS in road and rail traffic safety.
6. Determine the time intervals and phases of traffic signal devices and traffic flow collisions at a given intersection.
7. Describe the construction and traffic elements in a road design from a safety perspective.
8. Explain the signaling and safety elements in a given example of a railway-road crossing.

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. Baričević, H.; Vilke, S.: Logistika i sigurnost kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2016.
4. Cerovac, V., Tehnika i sigurnost prometa, Fakultet prometnih znanosti, Zagreb, 2001.
5. Matković, M., Protupožarna zaštita na brodovima, Fakultet za pomorstvo i saobraćaj, Rijeka, 2000.
6. Baričević, H., Tehnologija kopnenog prometa, Pomorski fakultet, Glosa, Rijeka, 2001.
7. Božičević, J., Topolnik, D., Infrastruktura cestovnog prometa, Fakultet prometnih znanosti, Zagreb, 1996.
8. Teaching materials for the e-course available in the LM system - Merlin *(https://moodle.srce.hr)*

[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.

1.11. Recommended Reading

1. Vilke, S.; Tadić, F.; Ćelić, J.; Debelić, B.: Decision support system in urban traffic management, ODS 2022 – International Conference on Optimization and Decision Sciences, 2022.
2. Vilke, S.; Knežević, J.; Dundović, K.: The Impact of Human Factors on Safety at Railway- Road Crossings in the Western Part of Croatia, Pomorski zbornik, 64 (2024), 1; 47-62.
3. International Convention on the Safety of Human Life at Sea, 1974
4. International Code on the Carriage of Dangerous Goods by Sea (IMDG).
5. International Code for the Construction and Equipment of Ships Carrying Liquefied Gases (IGC),
6. International Code for the Construction and Equipment of Ships for the Carriage of Hazardous Chemicals in Spilled State (IBC),
7. Zakon o prijevozu opasnih tvari Republike Hrvatske, Narodne novine«, br. 97/93., 34/95, 151/03
8. Božičević, J. Ceste I. i II., Zagreb, 1993.
9. Fundamental principles of occupational safety and health, ILO, 2001.

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	30
Zec, D., Siguran rad u luci, Fakultet za pomorstvo i saobraćaj, Rijeka, 1991.	7	30
Baričević, H.; Vilke, S.: Logistika i sigurnost kopnenog prometa, Pomorski fakultet u Rijeci, Rijeka, 2016.	10	30
Cerovac, V., Tehnika i sigurnost prometa, fakultet prometnih znanosti, Zagreb, 1997.	4	30
Matković, M., Protupožarna zaštita na brodovima, Fakultet za pomorstvo i saobraćaj, Rijeka, 2000.	5	30
Baričević, H., Tehnologija kopnenog prometa, Pomorski fakultet, Glosa, Rijeka, 2001.	10	30
Božičević, J., Topolnik, D., Infrastruktura cestovnog prometa, Zagreb, 1996.	6	30
Teaching materials for the e-course available in the LM system - Merlin *(https://moodle.srce.hr)*	-	30

1.13. Quality Assurance

The quality of examinations is constantly monitored by the system ISO 9001, which was introduced at Faculty Maritime Studies in Rijeka. An analysis of examinations 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	**Igor Vio, PhD**	
Course	**Transport Insurance**	
Study Programme	**Logistic and Management in Maritime Industry and Transport**	
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

After passing the exam, students will be able:

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.

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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. Enumerate 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)	21
Sustav transportnih osiguranja	Sufficient (in library and book shop)	21
Međunarodna osiguranja	Available on the website (pfri.uniri.hr)	21

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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Generic information		
Head of Course	**Biserka Rukavina, PhD**	
Course	**The Law of Maritime Transport**	
Study Programme	**Logistics and Management in Maritime Industry and Transport**	
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

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 in shipping business, in particular in the field of maritime transport. The aim is to enable students to understand the basic legal concepts of maritime business to the extent necessary to carry out the tasks for which students are educated.

1.2. Prerequisites for Course Registration

None.

1.3. Expected Learning Outcomes

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

1. State and interpret the basic legal principles and rules 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 in shipping operations in accordance with international and national maritime property law.
4. Distinguish and interpret the contracts for the employment of seagoing 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 specifics 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

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

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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 ☐ Presentation
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 colloquia (continuous knowledge testing) and a positively evaluated presentation (ppt presentation) 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	0,5	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.

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 3 midterm examinations (60 %), student presentation (10 %) and at the final part of the exam (30 %).

Examples of Assessment of Learning Outcomes:
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

1. Authorized lectures on the e-learning platform MERLIN (online materials).
2. Pavić, Drago, Pomorsko imovinsko pravo, Književni krug, Split, 2006.

1.11. Recommended Reading

1. Pomorski zakonik, Consolidated text.
2. Pavić, Drago, Pomorsko osiguranje, Pravo i praksa, Split, 2012.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
Pavić, Drago, Pomorsko imovinsko pravo, Književni krug, Split, 2006.	5	40

1.13. Quality Assurance

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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	Neven Grubišić, PhD		
Course	Route planning		
Study Programme	Logistic and Management in Maritime Industry and Transport		
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)		30+15+0

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

The purpose of the course is to acquire knowledge about transport networks, visualization and metrics of transport networks, movement optimization, trip planning, and vehicle routing on the transport network.

1.2. Prerequisites for Course Registration

None

1.3. Expected Learning Outcomes

Upon completing the course, the student will be able to:

1. Represent a transport network based on given elements and characteristics using graph theory, incidence matrices, adjacency matrices, and topological matrices.
2. Compare the accessibility, development, and connectivity of two or more transport networks represented by corresponding graphs.
3. Solve at least one standard network transport-logistics problem (shortest path, minimum spanning tree, optimal path for homogeneous goods) using an appropriate algorithm.
4. Explain the flow conservation law in networks and determine the maximum flow in a network using the minimum cut rule.
5. Solve the traveling salesman problem (Hamiltonian cycle) or the Chinese postman problem (Eulerian tour) using the appropriate method on a given transport network.
6. Solve the trip routing problem by determining the route and travel sequence for a transport fleet using the Clarke-Wright savings algorithm on a single-depot transport network, with the help of software.
7. Plan the optimal number of vehicles in public transport and the sequence of trips according to a timetable or sailing schedule.

1.4. Course Outline

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Conceptual definition of transport networks and the problem domain. Graph theory: application in modeling transport networks. Capacities and flows in transport networks: flow conservation law, flows in a network with a single source and sink, network cuts, maximum network flow, algorithms for determining maximum flow. Methods and algorithms for calculating minimum spanning trees and shortest paths in a network. Shortest path in a stochastic network. Trip planning for transport vehicles within a network. Hamiltonian cycle and Eulerian tour. Traveling Salesman Problem (TSP): solving TSP using branch and bound methods and integer programming. Time-space planning of transport vehicles on the network. Vehicle Routing Problem (VRP): routing from one or more depots. Planning the optimal number of vehicles in public transport and scheduling timetables. Welsh-Powell algorithm. Crew scheduling.

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	Lectures and assignments are performed in a specialized classroom	

1.7. Student Obligations

Students are required to regularly attend classes and actively participate in solving example exercises during computer-based practice sessions. A minimum number of course credits, in accordance with the Study Regulations, is a prerequisite for taking the final exam.

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper		Experiment	
Written exam	0,5	Oral exam	0,5	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 evaluation of achieved learning outcomes is conducted in accordance with the Regulations on Study Programs of the University of Rijeka and the Study Regulations of the Faculty of Maritime Studies in Rijeka as follows:

Classroom activities
Thematic control tests for verifying understanding of the material; regular completion is graded.
Learning outcomes 1–7: 10 points

Continuous Knowledge Assessment
Assignment 1: Graph metrics and their application to transport networks
Learning outcomes: 1–2: 10 points
Assignment 2: Vehicle trip planning on a network (TSP)
Learning outcomes: 3–5: 10 points
Assignment 3: Vehicle Routing Problem (VRP) on a network
Learning outcome: 6: 20 points
Assignment 4: Timetable and optimal number of vehicles in public transport
Learning outcome: 7: 20 points

A total of 70 points (70% of the final grade) can be earned through course activities (lectures and exercises).
The final exam carries a maximum of 30 points (30% of the final grade).
Assignments must be completed with at least 70% success (prerequisite for taking the final exam).
A minimum of 50% of the available points from class activities must be earned.
The final exam evaluates 30% of the learning outcomes, and students must achieve at least 50% success to pass.

Examples of evaluation by individual learning outcome:

1) For a given graph, determine the adjacency matrix, incidence matrix, and the degree of each node in the graph. (LO1)
2) For the illustrated transport network, determine: network diameter, average node degree, average shortest path length, most accessible node, and least accessible node. (LO2)
3) Determine the shortest path from origin to destination in the presented transport network using Dijkstra's algorithm. (LO3)
4) Explain the relationship between maximum flow and network capacity. (LO4)
5) For the transport network represented by a graph, determine a route starting at node A such that all edges are traversed and the vehicle returns to the starting point with minimal total time, using the branch and bound method. (LO5)
6) Create a trip and vehicle rotation plan starting from terminal B, determining the optimal travel plan and number of vehicles needed to transport goods. Given are distances between nodes, demand at each node, and vehicle capacities. Present the plan graphically and solve the task using the savings algorithm and a VRP solver. (LO6)
7) A public transport timetable is provided in a table for five stops, covering the time period from 08:00 to 18:00. Travel time between adjacent stops is 1 hour. Graphically present the timetable and determine the minimum number of buses required to maintain the line service, as well as the trip sequence for each vehicle according to destinations. (LO7)

1.10. Main Reading

1. Mehanović, M.: Mreže u saobraćaju i komunikacijama, Univerzitet u Sarajevu, Fakultet za saobraćaj i komunikacije, Sarajevo, 2015.
2. Teodorović, D., Janić, M.: Transportation Engineering: Theory, Practice and Modeling, 2nd edition, Butterworth-Heinemann, 2022.
3. Grubišić, N.: Prometne mreže – nastavni materijali, Sveučilište u Rijeci, Pomorski fakultet.

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1.11. Recommended Reading

1. Pašagić, H.: *Matematičke metode u prometu*, Sveučilište u Zagrebu, Fakultet prometnih znanosti, Zagreb, 2003.
2. Bauk, S.I.: Kvantitativne metode optimizacije u funkciji naučnog menadžmenta, Ekonomska laboratorija za istraživanje tranzicije Podgorica, Podgorica, 2011.
3. Mulero, C.M.: Solving Problems with LINGO – Optimization Modeling Software for Linear, Nonlinear and Integer Programming, 2019.

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	30
Teodorović, D., Janić, M.: Transportation Engineering: Theory, Practice and Modeling, 2nd edition, BH, 2022.	5	30
Grubišić, N.: Prometne mreže - nastavni materijali, Sveučilište u Rijeci, Pomorski fakultet.	accessible online	30

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	Sandra Tominac Coslovich, PhD		
Course	**English language 6**		
Study Programme	Logistics and Management in Maritime Industry and Transport		
Type of Course	Elective		
Year of Study	3rd		
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload	3	
	Number of Hours (L+E+S)	15 + 30 + 0	

1. GENERAL COURSE DESCRIPTION

1.1. Course Objectives

Course objectives meet the English language requirements for obtaining a B. Sc. degree in Logistics and Management in Maritime Transport and include acquiring communicative competence for effective use of English as a language of international maritime communication for the purpose of ensuring efficient business operations and management in the maritime industry.

1.2. Prerequisites for Course Registration

Successful completion of English language 5 course

1.3. Expected Learning Outcomes

Upon completing the course the students will be able:

1. To demonstrate 4 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
2. To demonstrate specialized language knowledge and skills in English for the purpose of performing specialist jobs in the field of logistics and management in maritime transport
3. To express themselves in speech and in writing and discuss specialist topics in English
4. To translate specialized texts from English into Croatian and vice versa
5. To use language skills in written and verbal communication in English among different specialists in the field of maritime transport
6. To present independently a topic from the field of logistics and management in maritime transport

1.4. Course Outline

The course focuses on *content-based learning*. It applies the *communicative approach* to learning and teaching English as a Foreign Language (EFL) and English as a Second Language (ESL). The course focuses on the acquisition and practical use of: vocabulary/terminology skills (terms, polysemous words, multiple-word lexical units, collocations, lexical sets), discourse and pragmatic elements of shipping-related texts and communication, most frequent and typical grammatical structures and features restricted to maritime discourse (written and spoken) regarding the following topics: cargo damage, cargo claims, notes of protest, sea protest, ship management, market players in shipping.

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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

1. course attendance (lectures and exercises)
2. giving a presentation
3. passing a written test
4. passing final oral exam

1.8. Assessment[1] of Learning Outcomes

Course attendance	1,5	Class participation		Seminar paper	0,5	Experiment	
Written exam	0,5	Oral exam	0,5	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

2 continuous assessments/test + final oral exam

1. *Describe different types of cargo damage in English.*
2. *Explain in English the purpose of the letters of protest.*
3. *Explain in English the concept of cargo claim and translate the term into Croatian.*
4. *Translate the text on ship management from English into Croatian using the appropriate terminology.*
5. *Write a seminar paper in English on a chosen topic from the field of maritime transport and present it in class.*
6. *Write a job application in English.*

1.10. Main Reading

1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP
5. Authorized lectures available on e-learning platform Merlin (moodle.srce.hr)

1.11. Recommended Reading

1. Abegg, B., Benford, M (2008) *Poslovno dopisivanje na hrvatskom i engleskom*, Masmedia/Langenscheidt
2. Evans, V., Dooley, J., Buchannan, D. (2016) *Logistics* (Career Paths series), Exporess Publishing
3. Peter van Kluijven (2005) *The International Maritime Language Programme*, De Alk & Heijen,
4. *MarEng Plus Learning Tool: https://blogit.utu.fi/mareng/marenf-plus/*

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Boris Pritchard (2004) *Ship's business in English*, Pomorski fakultet u Rijeci, https://www.pfri.uniri.hr/bopri/documents/EnglishinShippingandMaritimeLaw.pdf	Available online	20
2. John Allison, Jeremy Townend (2017) *In Company 3.0 Logistics* (Student's book), Macmillan Publishers	10	20
3. Ashley, A. (2003) *Oxford Handbook of Commercial Correspondence,* (Student's Book and Workbook). Oxford University Press	10	20
4. Jones, L. & Alexander, R. (2000) *New International Business English*, (Student's Book and Workbook). Cambridge UP	10	20
5. Authorized lectures available on e-learning platform Merlin (moodle.srce.hr)	Available online	20

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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Course description

Generic information			
Head of Course	**Mirjana Borucinsky**		
Course	**German Language 2**		
Study Programme	**Logistics and Management in Maritime Industry and Transport**		
Type of Course	**elective**		
Year of Study	**III**	Semester	**VI**
Estimated Student Workload and Methods of Instruction	ECTS coefficient of Student Workload		**3**
	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

Successfully completed course German language I.

1.3. Expected Learning Outcomes

It is expected that the student 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 of Learning Outcomes

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Course attendance	1,5	Class participation	0,25	Seminar paper		Experiment	
Written exam		Oral exam	0,25	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

Through continuous assessment the student can achieve up to 70% (Learning Outcomes 1 to 5) of the total score, through summative assessment in the form of an oral exam (Learning Outcomes 1,2,3 and 5) up to 30% of total score.

Examples of learning outcomes evaluation through continuous and summative assessment:

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

2. Fox, R. *Verkehrswesen*, Školska knjiga, Zagreb, 1996.
3. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004.
4. Perlmann-Balme, M., Tomaszewski, A.: *Themen aktuell 3, Zertifikatsband*, Kursbuch, Max Hueber Verlag, 2004.
5. Perlmann-Balme, M., Tomaszewski, A.:: *Themen aktuell 3, Zertifikatsband*, Arbeitsbuch, Max Hueber Verlag, 2004.

1.11. Recommended Reading

1. Gutremuth, J., Konerding, B., Perseke, J., Seegert, N., *Güterverkehr – Spedition – Logistik*, Bildungsverlag EINS GmbH, Troisdorf, 2002.
2. Hurm, A., *Njemačko-hrvatski rječnik*, Školska knjiga, Zagreb, 1998.
3. Hurm., A., Jakić, B., *Hrvatsko-njemački rječnik*, Školska knjiga, Zagreb, 1999.
4. Kunkel-Razum, Kathrin: *Duden: Briefe gut und richtig schreiben*. Dudenverlag, 2003.
5. Marčetić, T., *Pregled gramatike njemačkog jezika*, Školska knjiga, Zagreb, 1999.

1.12. Number of Main Reading Examples

Title	*Number of examples*	*Number of students*
1. Fox, R. *Verkehrswesen*, Školska knjiga, Zagreb, 1996.	10	10
2. Hering, A., Matussek, M., *Geschäftskommunikation*, Max Hueber Verlag, D-85737 Ismaning, 2004	10	10

1.13. Quality Assurance

Internal:

- Student feedback (SET - Student evaluation of teaching) at the end of academic year.
- Course review by the head of course at the end of academic year.

External:

Programme quality review carried by the QA Agency.

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3.2. Course description

Generic information		
Head of Course		
Course	UNDERGRADUATE FINAL THESIS	
Study Programme	Logistics and Management in Maritime Industry and Transport	
Type of Course	Mandatory	
Year of Study	3rd	
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 objective of the course is to enable students to independently apply the theoretical and practical knowledge acquired during their studies in the treatment of a selected professional or scientific topic. Students are encouraged to critically analyze domestic and foreign literature, correctly apply research methodology, and structurally compose written work in accordance with academic standards and faculty regulations. Special attention is given to developing the ability to interpret and evaluate relevant data, theoretical approaches, and practical examples. Through the process of consultations with a mentor and a final defense, students acquire competencies to present the results and conclusions of their research before a professional committee, thereby demonstrating academic maturity and the ability to solve complex problems.

1.2. Prerequisites for Course Registration

The student enrolls in the course Final Thesis by registering for the sixth (summer) semester of the undergraduate study program.

1.3. Expected Learning Outcomes

It is expected that the student will be able to:

1. Analyse relevant domestic and foreign literature and identify key insights, viewpoints, and facts related to the research topic.
2. Apply research methodology in the planning, processing, and interpretation of collected data.
3. Synthesize data from various sources and compose a coherent final thesis text that includes illustrations (tables, graphs, diagrams) in accordance with research methodology.
4. Evaluate research results and formulate conclusions that reflect an understanding of the problem and the ability for critical thinking.
5. Present and defend the main results and conclusions of the final thesis before a mentor or professional committee.

1.4. Course Outline

The final thesis is an independent professional or scientific treatment of a selected topic. By completing it, the student demonstrates possession of the necessary competencies and learning outcomes, as well as the ability to apply theoretical and practical knowledge acquired during the studies. In the process of defending the final thesis, the student must demonstrate mastery of relevant scientific and professional knowledge related to the chosen topic. The thesis is written and defended in Croatian, though, exceptionally, it may also be written and defended in English. The oral defence is conducted before the mentor or a Committee for the Defence and Evaluation of the final thesis.

1.5. Modes of Instruction	☐ Lectures	☒ Practical work
	☐ Seminars and workshops	☐ Multimedia and Network

	☐ Exercises ☐ E-learning ☐ Field work	☐ Laboratory ☒ Mentorship ☒ Other (research and collaboration with industry professionals, analysis and processing of practical examples and data, and so forth)
1.6. Comments		

1.7. Student Obligations

The student, in agreement with the mentor, must choose the topic of the final thesis and write it according to the instructions found on the faculty website:
https://www.pfri.uniri.hr/web/hr/dokumenti/Upute.za.izradu.zavrsnog.rada.PFRI.26.3.2024.pdf

As assistance for the student, a template for preparing the final thesis is also available on the faculty pages:
https://www.pfri.uniri.hr/web/hr/dokumenti/Predlozak_za_zavrsni_rad_08.07.2024.docx

The paper must be grammatically, orthographically, and stylistically correct.

After the first consultative meeting between the student and mentor, the student consults the assigned literature, studies the subject matter, consults their own collected sources, and thoroughly develops the content of the thesis.

Once the mentor approves and accepts the final thesis, the student submits the final version to the student office.
The final thesis is written in accordance with the Regulations on the Final Thesis:
https://www.pfri.uniri.hr/web/hr/dokumenti/pravni_akti/Pravilnik.o.zavrsnom.radu.na.sveucilisnom.prijediplomskom.studiju.pdf

1.8. Assessment[1] of Learning Outcomes

Course attendance		Class participation		Seminar paper		Experiment	
Written exam		Oral exam		Essay		Research	3,5
Project		Continuous Assessment		Presentation		Practical work	
Portfolio		Mentorship work	1,5	Final thesis in written form	3,5	Oral defence of the final thesis	1,5

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

Verification of the achievement of learning outcomes is conducted before the mentor or a professional Committee composed of three members, including the mentor. An external associate can be a member of the Committee if the thesis topic requires additional specific knowledge and competencies. The student must defend the thesis with an oral presentation and by answering questions. The Committee evaluates the quality and coverage of the work, clarity and precision of the presentation, the ability to answer professional questions, and the level of mastery of the chosen topic. During the defence, a report is kept in which data about the work, questions posed, and the candidate's success grade are recorded.
The originality of the final thesis is checked using an appropriate IT system, and the mentor, based on the analysis, compiles a report on the conducted check. A positive opinion from the mentor and confirmation of the originality of the work are prerequisites for accepting the work and organizing the defense.

1.10. Mandatory literature (at the time of study program proposal submission)

[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. Mandatory literature from the course for which the final thesis is registered and written
2. Additional literature in agreement with the course instructor – mentor
3. Instructions for writing the final thesis, editors: Prof. Dr. I. Kolanović, Associate Prof. Dr. A. Perić Hadžić, Associate Prof. Dr. I. Jurdana, Assistant Prof. Dr. M. Jardas, University of Rijeka, Faculty of Maritime Studies, Rijeka, 2024 – available at https://www.pfri.uniri.hr/web/hr/dokumenti/Upute.za.izradu.zavrsnog.rada.PFRI.26.3.2024.pdf

1.11. Recommended Reading (at the time of study program proposal submission)

1. Mandatory literature from the course for which the final thesis is registered and written
2. Additional literature in agreement with the course instructor – mentor

1.12. Number of Main Reading Examples

Title	*Reading examples*	*Number of students*

1.13. Quality Assurance

The quality of studying is continuously monitored in accordance with the ISO 9001 system implemented at the Faculty of Maritime Studies in Rijeka. An annual analysis of exam pass rates is conducted, and student surveys are carried out once per semester. Additionally, pass rate results are analyzed annually, and appropriate measures are taken based on the findings.