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Sustainable development of Blue economies through higher education and innovation in Western Balkan Countries – BLUEWBC

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BLUEWBC

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Deliverable:	Dev. 2.3 – Course catalogues
Lead partner:	Vilnius Gediminas
Participating partners:	Norwegian University of Science and Technology, University of Split
Contact:	Vilma Puriene, vilma.puriene@vilniustech.lt
Date:	30-06-2021
Approved by:	QAB, PMB

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1. Innovation Management

Subject title	Innovation management			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**III**	**6**	**2L+2E+0P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Postgraduate Studies on Maritime Faculty, Study Programme Maritime Management and Logistics, 2 years (4 Terms), 120 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrolment and attending

GOALS OF STUDY:
To acquire basic knowledge and skills about innovation types and ideas.

NAME AND SURNAME OF PROFESSOR AND ASSISTANT:
PhD Sanja Peković – professor

TEACHING METHOD:
Lectures, exercises, case study, teamwork, consultations, homework, tests and final exam.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introduction to innovation management
II week	The basic concept of innovations / Innovation relevance
III week	Innovations typology / Innovation classification
IV week	Eco innovations
V week	**I test**
VI week	Service innovations / Management peculiarities of innovative activities in the service sector
VII week	Idea generation and creativity
VIII week	Innovations strategy
IX week	Organization of innovations
X week	Adaptability of innovations
XI week	**II test**
XII week	Innovation projects / Project cycle of innovation / Innovation and investment projects
XIII week	Innovation risk
XIV week	Innovation performance in EU
XV week	ICT and service innovations
XVI week	**Final exam**
Final week	Semester verification and marks enrolment
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During the semester**
6 credits x 40/30 = 8 hours **Structure:** **2 hours** of lectures **2 hours** of exercises **0 hours** of practical work	**Teaching and the Final Exam:** 8h x 16 = **128 hours** **Necessary preparation before the semester starting** (administration, enrolment, verification): 2 x 8h = 16 hours **Total hours for the course: 6 x 30 = 180 hours** **Additional hours** for preparing correction of final exam, including the taking of the exam 0 – 30 hours

4 hours of individual work, including consultations	**Structure of the students' duties:** 128h (lectures) + 16h (preparation) + 30h (additional work)

Students are obliged to attend lectures, take compulsory assignments and final exam.

IMO RECOMMENDED LITERATURE:

LITERATURE:

1. *Sanja Marinković, Menadžment inovacija u uslugama, 2012;*
2. *Robert D. Atkinson, Stephen J. Ezell, Ekonomika inovacija, Utrka za globalnu prednost, Mate, 2014;*
3. *Biljana Stošić, Menadžment inovacija: Inovacioni projekti, 2013.*
4. *Dawson P., Andriopoulos C. Managing Change, Creativity and innovation (third edition), SAGE Publications Ltd, 2017;*
5. *Trott, P. Innovation management and new product development. Harlow : FT/Prentice Hall, 2012.*
6. *Goffin, K., Mitchell, R. Innovation Management: Effective strategy and implementation 3rd ed. Red Globe Press, 2017.*

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. Tests (2*15points – in total 30 points);
2. Presentations & activity & teamwork (20 points);
3. Final exam (50 points).

Passing mark is awarded if the student collects more than 50 points.

SPECIAL NOTE FOR THE SUBJECT: Students are obligatory to take the lectures.

EXPECTED LEARNING OUTCOMES:

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

- define basic terms related to innovations,
- identify roles and understand the process of innovation development,
- identify different innovation types,
- understand the role of innovations as a competitive advantage.

QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES:

Survey carried out by the University, List of student attendance, Teaching process monitored by the Faculty, Analysis of the examination passing rate (Quality Management System in compliance with ISO 9001)

DATA PREPARED BY:	PhD Sanja Peković
NOTE:	

2. Innovation Management

Subject title	Innovation management			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**I**	**5**	**2L+1E+0P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Postgraduate Studies on Maritime Faculty, Study Programme Maritime sciences, 2 years (4 Terms), 120 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrolment and attending

GOALS OF STUDY:
To acquire basic knowledge and skills about innovation types and ideas.

NAME AND SURNAME OF PROFESSOR AND ASSISTANT:
PhD Sanja Peković – professor

TEACHING METHOD:
Lectures, exercises, case study, teamwork, consultations, homework, tests and final exam.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introduction to innovation management
II week	The basic concept of innovations / Innovation relevance
III week	Innovations typology / Innovation classification
IV week	Eco innovations
V week	**I test**
VI week	Service innovations / Management peculiarities of innovative activities in the service sector
VII week	Idea generation and creativity
VIII week	Innovations strategy
IX week	Organization of innovations
X week	Adaptability of innovations
XI week	**II test**
XII week	Innovation projects / Project cycle of innovation / Innovation and investment projects
XIII week	Innovation risk
XIV week	Innovation performance in EU
XV week	ICT and service innovations
XVI week	**Final exam**
Final week	Semester verification and marks enrolment
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During the semester**
6 credits x 40/30 = 8 hours **Structure:** **2 hours** of lectures **2 hours** of exercises **0 hours** of practical work **4 hours** of individual work, including consultations	**Teaching and the Final Exam:** 8h x 16 = **128 hours** **Necessary preparation before the semester starting** (administration, enrolment, verification): 2 x 8h = 16 hours **Total hours for the course: 6 x 30 = 180 hours** **Additional hours** for preparing correction of final exam, including the taking of the exam 0 – 30 hours

	Structure of the students' duties: 128h (lectures) + 16h (preparation) + 30h (additional work)

Students are obliged to attend lectures, take compulsory assignments and final exam.

IMO RECOMMENDED LITERATURE:

LITERATURE:

1. *Sanja Marinković, Menadžment inovacija u uslugama, 2012;*
2. *Robert D. Atkinson, Stephen J. Ezell, Ekonomika inovacija, Utrka za globalnu prednost, Mate, 2014;*
3. *Biljana Stošić, Menadžment inovacija: Inovacioni projekti, 2013.*
4. *Dawson P., Andriopoulos C. Managing Change, Creativity and innovation (third edition), SAGE Publications Ltd, 2017;*
5. *Trott, P. Innovation management and new product development. Harlow : FT/Prentice Hall, 2012.*
6. *Goffin, K., Mitchell, R. Innovation Management: Effective strategy and implementation 3rd ed. Red Globe Press, 2017.*

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

4. Tests (2*15points – in total 30 points);
5. Presentations & activity & teamwork (20 points);
6. Final exam (50 points).

Passing mark is awarded if the student collects more than 50 points.

SPECIAL NOTE FOR THE SUBJECT: Students are obligatory to take the lectures.

EXPECTED LEARNING OUTCOMES:

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

- define basic terms related to innovations,
- identify roles and understand the process of innovation development,
- identify different innovation types,
- understand the role of innovations as a competitive advantage.

QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES:

Survey carried out by the University, List of student attendance, Teaching process monitored by the Faculty, Analysis of the examination passing rate (Quality Management System in compliance with ISO 9001)

DATA PREPARED BY:	PhD Sanja Peković
NOTE:	

3. Maritime Entrepreneurship

Subject title	Maritime Entrepreneurship			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**III**	**5**	**3L+1E+0P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Postgraduate Studies on Maritime Faculty, Study Programme Maritime Management and Logistics, 2 years (4 Terms), 120 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrolment and attending

GOALS OF STUDY:
To provide an introduction to the fundamentals of entrepreneurship within the context of business opportunities in Blue Economy. In the course, students will have the opportunity to discover business opportunities in industries along the coast of Montenegro. The course applies disciplined entrepreneurship methodology from MIT Sloan School of Management and students will work on developing business ideas for Blue Economy.

NAME AND SURNAME OF PROFESSOR AND ASSISTANT:

TEACHING METHOD:
Lectures, case studies and project work in groups. Preparation of project report with presentation.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introduction to entrepreneurship and conceptualization of Blue Economy
II week	Identifying business opportunities
III week	Market segmentation
IV week	Selecting a beachhead market
V week	**I test**
VI week	Profiling the persona
VII week	The value proposition
VIII week	Business model generation
IX week	The minimum viable business product
X week	The business plan
XI week	**II test**
XII week	Marketing plan
XIII week	HR
XIV week	Leadership
XV week	Scaling of business opportunities
XVI week	**Final exam**
Final week	Semester verification and marks enrolment
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During semester**
5 credits x 40/30 = 6 hours + 40 minutes **Structure:**	**Teaching and the Final Exam:** 6h + 40 min. x 16 = 106h + 40 minutes **Necessary preparation before Term starting** (admin., enrolment, verification): 6h + 40 min x 2 = 13h + 20min

3 hours of lectures **1** hour of exercises **0** hour of practical work **2** hour **40** minutes of individual work, including consultations	**Total hours for the course:** 5 x 30 = 150h **Additional hours for preparing correction of final exam, including the taking of the exam:** 30h **Structure of the students' duties:** 106h + 40 min.(lectures) + 13h + 20min + 30h (additional work)

Students are obliged to attend lectures, take compulsory assignments and final exam.

IMO RECOMMENDED LITERATURE:

There is no recommendation of literature regarding this subject.

LITERATURE:

- Aulet, B. (2013). Disciplined Entrepreneurship – 24 steps to a successful startup. John Wiley & Sons.
- Aulet, B. (2013). Disciplined Entrepreneurship – Workbook. John Wiley & Sons.
- European Commision. (2020) The EU Blue Economy Report 2020. Publications Office of the European Union.
- World Bank and United Nations Department of Economic and Social Affairs (2017). The potential of the Blue Economy. World Bank.
- Light matters – a case study on startup in maritime industry – provided by NTNU.

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. Tests (2*15points – in total 30 points);
2. Presentations & activity & teamwork (20 points);
3. Final exam (50 points).

Passing mark is awarded if the student collects more than 50 points.

SPECIAL NOTE FOR THE SUBJECT:

EXPECTED LEARNING OUTCOMES:

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

- Define the term entrepreneurship
- Identify and describe market segments, beachhead markets and personas
- Develop value propositions and business models for Blue Economy Startups.
- Define and describe the components of a business models.
- Develop a business plan for a business opportunity.
- Describe characteristics of scalable business models.

QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES:

Audits carried out by the University, audits of the teaching process carried out by the Faculty, student attendance records, data analysis and levels of satisfaction as per the certified quality system (Quality System Management, ISO 9001:2015).

DATA PREPARED BY:	Prof. dr Senka Šekularac Ivošević, doc. Dr Ilija Moric
NOTE:	

4. Maritime Offshore Technologies and Operations

Course title	Maritime Offshore Technologies and Operations			
Course code	**Course status**	**Semester**	**ECTS**	**Course load**
	Obligatory	**III**	**5**	**3L+1E+0P**

STUDY PROGRAMME: Academic postgraduate master studies of Maritime sciences, 2 years (4 semesters), 120 ECTS

ADMISSION REQUIREMENTS: No prerequisites for the course enrolment and attending.

COURSE GOALS: The aim of the course is to introduce students with maritime offshore industry, mainly oil and gas. The students will gain knowledge on the offshore operations and on sub-sea, top-side and floating production technologies. Sustainable offshore energy and carbon capture solutions will be presented. Knowledge of the main rules and regulations relating to the offshore activities is also provided.

TEACHER(S) AND ASSISTANT(S): Prof. Danilo Nikolic

TEACHING METHOD: Lectures. Exercises. Project assignments. Final exam. Consultations. Individual work.

COURSE CONTENT:

Preparation week	Introductions, preparation and enrolment to the term
I week	Introduction to the oil and gas industry. Estimates of oil and gas reserves. Oil and gas exploration and exploitation. An overview of the development of the offshore oil and gas industry.
II week	Underwater exploration for oil and gas. An overview of preparatory activities for offshore oil and gas production.
III week	Offshore construction of oil and gas structures and their division. Fixed and floating oil platforms (bottomside).
IV week	Deck construction of offshore oil and gas structures (topside).
V week	Influence of the marine environment on the design of offshore oil and gas structures.
VI week	Oil and gas transport facilities from offshore structure to shore / tankers.
VII week	Decommissioning and offshore structure (decommissioning). **Projected task**.
VIII week	Types of offshore ships. An overview of offshore operations. Planning, documenting and performing various safe offshore operations. Green technologies in offshore operations.
IX week	Rules and regulations relating to the offshore oil and gas industry. Requirements of the association of operators and offshore industry: OPITO, NORSOK, GOMO, etc.
X week	Maritime offshore logistics and supply chain.
XI week	Significance of the human factor in offshore operations. HRM / BRM / ERM.
XII week	Sustainable offshore energy. Offshore wind turbine construction. Carbon storage technologies under the sea.
XIII week	Relevant laws and regulations. Recent developments in international requirements and objectives for the protection of the marine environment, the EU, IMO, EEA and the UN. Zero emission goals and initiatives.
XIV week	Stakeholders in the offshore maritime industry, shipowners, shipyards, equipment manufacturers and service providers.
XV week	**Presentation of project results.**
XVI –XX weeks	Final and make-up exam. Semester verification and administrative procedures.

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During the semester**
5 credits x 40/30 = 6 hours + 40 minutes	**Teaching and the Final Exam**: 6h +40 min. x 16 = 106h + 40 minutes

Structure: **3** hours of lectures **1** hours of exercises **0** hours of practical work **2** hour **40** minutes of individual work, including consultations	**Necessary preparation before the semester starting** *(administration, enrolment, verification)* 6h + 40 min x 2 = 13h + 20min **Total hours for the course:** 5 x 30 = 150h **Additional hours for preparing correction of final exam, including the taking of the exam:** 150-(120h)=30h **Structure of the students' duties:** 106h + 40 min.(lectures) + 13h + 20min + 30h (additional work)

Students are required to attend lectures, prepare project and take the exam(s).

IMO RECOMMENDED LITERATURE:

There is no recommendation of literature regarding this subject.

LITERATURE:

1. *Handbook of Offshore Engineering, ISBN: 978-0-08-044381-2*
2. *Offshore Structures - Design, Construction and Maintenance, Mohamed A. El-Reedy, Elsevier, ISBN 978-0-12-385475-9*
3. *Guide of building and classing – mobile offshore units, ABS, 2008.*
4. *Offshore support vessels – a practical guide, The Nautical Institute, 2011.*
5. *Rules for classification of offshore service vessels, tugs and special ships, DNV, 2011.*
6. *Directive 2013/30/EU on the Safety of Offshore Oil and Gas Operations https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:178:0066:0106:en:PDF*
7. *https://www.worldoil.com/topics/eastern-mediterranean*

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. Project presentation, from 0 to 40 points;
2. Final exam, from 0 to 50 points;
3. Attendance and class activities, from 0 to 10 points;

Passing mark is awarded if collected more than 50 points.

SPECIAL NOTE FOR THE SUBJECT:

If needed, the course can be delivered in English.

EXPECTED LEARNING OUTCOMES:

Upon successful completion of this subject the student will be able to:

4. Specify maritime offshore industry.
5. Identify main ship types and competences needed for offshore operations.
6. Identify main rig types and competences needed for rig operations.
7. Recognize various maritime offshore operations.
8. Know the problems related to the danger of marine pollution by oil platforms and ways to prevent the spread of pollution in the event of an incident
9. Key international rules and regulations related to offshore operations.
10. Assessment of strategic threats and possibilities for offshore industry stakeholders.

QUALITY ASSESSMENT METHODS:

Audits carried out by the University, audits of the teaching process carried out by the Faculty, student attendance records, data analysis and levels of satisfaction as per the certified quality system (Quality System Management, ISO 9001:2015).

PREPARED BY:	Prof. Danilo Nikolic, PhD
NOTE:	

5. Technologies of Yachts and Marinas

Subject title	Technologies of Yachts and Marinas			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**V**	**5**	**2L+2E+0P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Undergraduate Studies on Maritime Faculty, Study Programme Nautical Studies and Transportation, 3 years (6 Terms), 180 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrolment and attending

GOALS OF STUDY:
Recognize the specifics of the yacht, its aspects of safety, security and environmental protection. Introduction to the specifics of the marina as a business organization. Innovation and entrepreneurial (I&E) aspects in marinas. Define the term and describe the content of the basic functions of management (planning, organizing, leading and controlling) in the business of marinas.

NAME AND SURNAME OF PROFESSOR AND ASSISTANT: dr Zoran Kovacevic – teacher

TEACHING METHOD:
Lectures, exercises, consultations, colloquia, case studies/project.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Nautical tourism: Marinas and yachts (M&Y) - introduction. National and international regulations.
II week	Building technology and management of yachts.
III week	Normative regulation of the safety and security of yachts.
IV week	Management yachts in terms of the environment.
V week	Yachts in the context of nautical tourism. Global Distribution Systems – an innovative product.
VI week	**The First Compulsory Assignment**
VII week	Types and categories of marinas.
VIII week	Planning, design, construction and equipping of marinas. Case of developing new tourist products in M&Y: (Lecture and case/assignment).
IX week	Nautical and tourist services, organization and quality management of services in marinas. Case of IoT and tracking devices – an innovative approach, (Lecture and case/assignment).
X week	Measurement and analysis of marina business performance. Assignment: Propose new value adding service, develop business plan as a business entrepreneur.
XI week	The interaction of the environment and the operational management of the marina, Blue Flag.
XII week	Nautical tourism in the Mediterranean area.
XIII week	Control as a function of management in marinas.
XIV week	Nautical tourist ports in Montenegro.
XV week	**The Second Compulsory Assignment**
XVI week	**Final exam**
Final week	Semester verification and marks enrolment
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During semester**

5 credits x 40/30 = 6 hours + 40 minutes **Structure:** **2** hours of lectures **2** hours of exercise **0** hours of practical work **2** hours **40** minutes of individual work, including consultations	**Teaching and the Final Exam:** 6h + 40 min. x 16 = 106h + 40 minutes **Necessary preparation before Term starting** (admin., enrolment, verification): 6h + 40 min x 2 = 13h + 20min **Total hours for the course:** 5 x 30 = 150h **Additional hours for preparing correction of final exam, including the taking of the exam:** 30h **Structure of the students' duties:** 106h + 40 min.(lectures) + 13h + 20min + 30h (additional work)

Students are obliged to attend lectures, submit homework assignments and take final exam.

IMO RECOMMENDED LITERATURE:

There is no recommendation of literature regarding this subject.

LITERATURE:

1. Dulčić, A.: Nautički turizam i upravljanje lukom nautičkog turizma, Ekonomski fakultet, Split, 2002
2. Šamanović, J.: Nautički turizam i menadžment marina. Visoka pomorska škola u Splitu. Split, 2002.
3. Luković, T., Šamanović, J., Menadžment i ekonomika nautičkog turizma, Hrvatski Hidrografski Institut, Split, 2007.
4. Kovacevic, Z., Technology of yachts and marinas, PFK Kotor - PDF Script.

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. The First Compulsory Assignment, from 0 to 10 points;
2. The Second Compulsory Assignment, from 0 to 10 points;
3. Attendance, 0 to 10 points;
4. Seminar paper with presentation, from 0 to 20 points;
5. Final exam, from 0 to 50 points.

Passing mark is awarded if the student collects more than 50 points.

SPECIAL NOTE FOR THE SUBJECT:

EXPECTED LEARNING OUTCOMES:

It is expected that students after passing the exam in the course can compare national and international regulations in the field of yacht management; define yacht construction and management technologies from the aspect of safety and security; argue the importance of yachts within nautical tourism and its I&E principles; define the types of marinas as well as the ways of building marinas; analyse the technical tasks of marina management and aspects of external factors on their work; define domestic significant marinas and compare them, and define their importance at the international level.

QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES:

Survey carried out by the University, List of student attendance, Teaching process monitored by the Faculty, Analysis of the examination passing rate (Quality Management System in compliance with ISO 9001)

DATA PREPARED BY:	Dr. Zoran Kovačević
NOTE:	

6. Safety and Security in Maritime Industry

Subject title	Safety and Security in Maritime Industry			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**III**	**5**	**2L+1E+0P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Undergraduate Studies on Maritime Faculty, Study Programme Maritime Management and Logistics, 3 years (6 Terms), 180 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrollment and attending

GOALS OF STUDY:
The course aims to provide students with knowledge of basic concepts in maritime affairs, the characteristics of maritime activities and modern trends, international maritime regulations, especially those related to the aspect of safety and security of navigation.

NAME AND SURNAME OF PROFESSOR AND ASSISTANT:
PhD Špiro Ivošević – professor, Radmila Gagić – asisstant

TEACHING METHOD:
Lectures and debates. Preparation of one seminar paper on assigned topic, preparation for tests and final exam. Consultations.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introduction of the subject. Maritime history. Economic significance of maritime affairs.
II week	Maritime economic activities.
III week	Maritime non-economic activities.
IV week	Ship and port development.
V week	Types of vessels.
VI week	Types of terminals and quays.
VII week	**The First Compulsory Assignment**
VIII week	International and National Maritime Authorities.
IX week	International maritime conventions. SOLAS. MARPOL.
X week	International maritime conventions. The Load Line Convention. The Maritime Labour Convention.
XI week	The ISM Code. International Ship and Port Facility Security Code (ISPS Code).
XII week	Port of Call.
XIII week	Ship's and Port operations. The duration of the port stay and the port's strategy and Finance.
XIV week	Safety and Security operations procedure. Port Policy, lobbying and relationships.
XV week	Working in Harbour. **The Second Compulsory Assignment**
XVI week	**Final exam**
Final week	Semester verification and marks enrolment
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	During semester
5 credits x 40/30 = 6 hours + 40 minutes **Structure:** **2** hours of lectures **1** hour of exercise **0** hour of practical work **2** hour **40** minutes of individual work, including consultations	**Teaching and the Final Exam:** 6h + 40 min. x 16 = 106h + 40 minutes **Necessary preparation before Term starting** (admin., enrolment, verification): 6h + 40 min x 2 = 13h + 20min **Total hours for the course:** 5 x 30 = 150h **Additional hours for preparing correction of final exam, including the taking of the exam:** 30h **Structure of the students' duties:** 106h + 40 min.(lectures) + 13h + 20min + 30h (additional work)

Students are obliged to attend lectures, take compulsory assignments and final exam.

IMO RECOMMENDED LITERATURE:

1. *Captain J. W. Dickie, Reeds 21st Centery Ship Management, Bloomsbury, 2014.*
2. *Maritime management, Setting global standards for business and management education, Course handbook, 2015.*
3. *Klaas Van Dokkum, Ship Knowledge, Dokmar Maritime Publisher, 2015.*
4. *PROCEDURES FOR PORT STATE CONTROL (2012 Edition) IMO Sales No. IB650E ISBN 978-92-801-1550-5*
5. *INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS) - General cargo ships: Guidelines for surveys, assessment and repair of hull structure. London, Witherby & Co. Ltd, 1999 (ISBN 1-85609-189-9)*
6. *INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS) - Guidelines for coatings maintenance and repairs. London, Witherby & Co. Ltd., 2005. (ISBN 1-85609-308-5)*
7. *SEAGULL CBTs learning materials according STCW Convention: Vessel inspection and OVID (Offshore Vesse Particulars Questionnaire),*
8. *VIDEOTEL CBTs learning materials according STCW Convention: Security at sea, International safety management code, Security Awarenes, Security duties.*

LITERATURE:

1. Rules and Regulations of the Classification Societies on inspections of ships (BV, LR, DNV, NKK, GL, RINA, ABS).
2. International Conventions STCW 95, MARPOL 73/78, SOLAS;
3. Script: Ship inspection and surveillance techniques, Š. Ivošević; 2014
4. A. Lompar, Ship Science, University of Montenegro, Kotor, 2002.

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. The First Compulsory assignement, from 0 to 35 points.
2. The Second Compulsory assignement, from 0 to 35 points.
3. Final exam, from 0 to 25 points.
4. Lecture attendance, from 0 to 5 points.

Passing mark is awarded if the student collects more than 50 points.

SPECIAL NOTE FOR THE SUBJECT:

EXPECTED LEARNING OUTCOMES:

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

- Recognize economic and maritime importance.
- Distinguish maritime economic activities from non-economic activities.
- Define seaports and port security.
- Recognize the technical and technological characteristics of ships and their division.
- Explain the aspect of safety and security of navigation.
- Interpret the general concepts of international maritime regulations on navigation safety and env. protection.
- Understand the importance and role of international conventions and codes.
- Define risk and quality in maritime affairs.
- Identify the role and importance of individuals in ensuring safety and security at sea.

QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES:

Survey carried out by the University, List of student attendance, Teaching process monitored by the Faculty, Analysis of the examination passing rate (Quality Management System in compliance with ISO 9001)

DATA PREPARED BY:	PhD Špiro Ivošević

7. Basics of seaport logistics

Subject title	Basics of seaport logistics			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**IV**	**3**	**2L+1E+0P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Undergraduate Studies on Maritime Faculty, Study Programme Maritime Management and Logistics, 3 years (6 Terms), 180 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrollment and attending

GOALS OF STUDY:
Enabling students to understand the basic categories and concepts of logistics in seaports.

NAME AND SURNAME OF PROFESSOR AND ASSISTANT:
PhD Mimo Drašković – Associate Professor

TEACHING METHOD:
Lectures and debates. Preparation of one seminar paper on assigned topic, preparation for tests and final exam. Consultations.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introductory lecture. Introduction to the curriculum and student obligations. Explanations
II week	The concept of seaport logistics. Aim, tasks and importance of seaport logistics.
III week	Basic functions of the seaport logistics.
IV week	Logistics entities and logistics activities in seaports.
V week	The connection between logistics and marketing.
VI week	Possibilities of application of logistics in the seaport transport.
VII week	Logistics and seaport transport services.
VIII week	The First Compulsory Assignment
IX week	The role and importance of information in seaport logistics.
X week	Material and financial logistics flows in seaports.
XI week	Cargo flows in seaports.
XII week	The structure of the seaport logistics system.
XIII week	The concept of seaport logistics marketing.
XIV week	The Second Compulsory Assignment
XV week	Modern logistics strategies in seaports.
XVI week	Final exam
Final week	Semester verification and marks enrolment
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During the semester**

3 credits x 40/30 = 4 hours Structure: **2 hours** of lectures **1 hours** of exercises **1 hour** of individual work including consultations	Teaching and final exam: (4 hours) x 16 = **64 hours** Necessary preparations before the semester start (administration, enrolment, verification): 2 x (4 hours and 20 minutes) = 8 hours **Total hours:** **3 x 30 = 90 hours** **Remedial classes (additional hours)** for preparing the make-up exam, including the exam: 0 - 30 hours. **Total workload structure**: 64 hours (classes) + 8 hours (preparation) + 18 hours (remedial classes)

Students are obliged to attend lectures, take compulsory assignments and final exam.

IMO RECOMMENDED LITERATURE:

There is no recommendation of literature regarding this subject.

LITERATURE:

1. Drašković, Mimo (2008), Integrated marketing logistics in the management system of the Port of Bar, Kotor: Faculty of Maritime Studies,

2. Drašković, Mimo (2011), Global marketing logistics strategies, script, Kotor: Faculty of Maritime Studies

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. The First Compulsory assignement, from 0 to 35 points.
2. The Second Compulsory assignement, from 0 to 35 points.
3. Essay, from 0 to 5 points.
4. Final exam, from 0 to 20 points.
5. Lecture attendance, from 0 to 5 points.

Passing mark is awarded if the student collects more than 50 points.

SPECIAL NOTE FOR THE SUBJECT:

EXPECTED LEARNING OUTCOMES:

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

- Define the term logistics
- Describe the specifics of seaport logistics
- Define the goal, task and importance of seaport logistics
- Describe modern concepts of seaport logistics
- Describe the possibilities of applying logistics in maritime transport
- Describe the importance of information in seaport logistics
- Describe modern logistics strategies in seaports
- Describe the possibilities of applying modern logistics concepts in seaports
- Define the basic problems in the application of logistics in seaports.

QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES:

Survey carried out by the University, List of student attendance, Teaching process monitored by the Faculty, Analysis of the examination passing rate (Quality Management System in compliance with ISO 9001)

DATA PREPARED BY:	PhD Mimo Drašković
NOTE:	

8. Environmental Management

Subject title	Environmental management			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**V**	**4**	**2L+1E+1P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Undergraduate Studies on Maritime Faculty, Study Programme Maritime Management and Logistics, 3 years (6 Terms), 180 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrolment and attending

GOALS OF STUDY:
Pollution of the marine environment from vessels. Defining potential sources of pollution. Pollution prevention and taking appropriate measures if pollution is detected. Adoption of the provisions of the MARPOL Convention 73/78 and legal regulations. To provide a theoretical and practical knowledge of entrepreneurship and innovation, which would allow students to orient themselves better in national and international environments while incepting and developing business companies. Knowledge of entrepreneurship and innovation would let to solve urgent management and economic issues in order to maintain performance sustainability and efficiency of business companies.

NAME AND SURNAME OF PROFESSOR AND ASSISTANT:
PhD Danilo Nikolić – professor, Radmila Gagić – assistant

TEACHING METHOD:
Lectures and debates. Preparation of one seminar paper on assigned topic, preparation for tests and final exam. Work on simulator. Consultations.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introduction to the subject. Pollution / contamination of the sea. Pollution / contamination of the sea as a result of human activities. Sustainable development goals.
II week	Marine environment. Marine pollution.
III week	Ship as a source of pollution of the marine environment. Harmful effects of the ship on the marine environment. International regulations. Domestic regulations on the protection of the sea and the marine environment. Prevention of Pollution from Ships - MARPOL Convention 73/78.
IV week	Annex I - Prevention of oil pollution from ships. SOPEP – Ship Oil Pollution Emergency Plan: mandatory and optional requirements.
V week	Annex II - Prevention of Pollution by Noxious Liquid Substances
VI week	Annex III - Prevention of pollution by harmful substances, which are transported by sea in packaged form
VII week	Annex IV - Prevention of pollution by sanitary waste water
VIII week	Annex V - Prevention of pollution by garbage from ships
IX week	Annex VI - Prevention of air pollution from ships
X week	International Convention for the Control and Management of Ships' Ballast Water and Sediments International conventions for prevention of marine pollution from the ship recycling process.
XI week	International conventions for prevention of marine pollution from underwater noise. International conventions for prevention of marine pollution from antifouling paints.
XII week	Contingency Plan for Accidental Marine Pollution in Montenegro.
XIII week	Marine renewable energy.

XIV week	Entrepreneurship in environmental management.
XV week	Innovative technologies and solutions in sea and coastal environmental protection.
XVI week	**Final exam**
Final week	Semester verification and marks enrolment
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During semester**
5 credits x 40/30 = 6 hours + 40 minutes **Structure:** **3** hours of lectures **1** hour of exercise **0** hour of practical work **2** hour **40** minutes of individual work, including consultations	**Teaching and the Final Exam:** 6h + 40 min. x 16 = 106h + 40 minutes **Necessary preparation before Term starting** (admin., enrolment, verification): 6h + 40 min x 2 = 13h + 20min **Total hours for the course:** 5 x 30 = 150h **Additional hours for preparing correction of final exam, including the taking of the exam:** 30h **Structure of the students' duties:** 106h + 40 min.(lectures) + 13h + 20min + 30h (additional work)

Students are obliged to attend lectures, take compulsory assignments and final exam.

IMO RECOMMENDED LITERATURE:

Video (DVDs) & CDs: FIGHTING POLLUTION - PREVENTING POLLUTION AT SEA (EDITION 3), WASTE AND GARBAGE MANAGEMENT CODE NO: 627, CODE NO: 607 – 612, BALLAST WATER MANAGEMENT, MARPOL. THE NEW RULES, STOWAWAYS A NEW VIEW ON PREVENTION, SOPEP (CBT # 0004), BALLAST WATER MANAGEMENT (CBT # 0027).

IMO References*:*

1. INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973 (MARPOL 1973) (IN IMO SALES NO. IC520E) (CONSOLIDATED EDITION, 2011) (ISBN 978-92-801-15321).
2. POLLUTION PREVENTION EQUIPMENT UNDER MARPOL, 2006 EDITION. IMO SALES NO. IA646E ISBN 978-92-801-14706.
3. MANUAL ON OIL POLLUTION - SECTION I – PREVENTION (2011 EDITION) ISBN 978-92-801-4244-0.
4. MANUAL ON OIL POLLUTION - SECTION II – CONTINGENCY PLANNING, 1995 EDITION IMO SALES NO. IA560E ISBN 978-92-801-13303.
5. MANUAL ON OIL POLLUTION - SECTION III - SALVAGE, 1997 EDITION IMO SALES NO. IA566E ISBN 978-92-801-14423.
6. MANUAL ON OIL POLLUTION - SECTION IV – COMBATING OIL SPILLS, 2005 EDITION IMO SALES NO. IA569E ISBN 978-92-801-41771.
7. MANUAL ON OIL POLLUTION - SECTION V: ADMINISTRATIVE ASPECTS OF OIL POLLUTION RESPONSE, 2009 EDITION IMO SALES NO. IA572E ISBN 978-92-801-15000.

LITERATURE:

1. Nikolić D, Zaštita mora i priobalja, lecturing material.
2. Goffin, K., Mitchell, R. Innovation Management: Effective strategy and implementation 3rd ed. Red Globe Press, 2017.
3. Technology entrepreneurship : taking innovation to the marketplace / Thomas N. Duening, Robert D. Hisrich, Michael A. Lechter. 2015. London: Academic Press.
4. Schilling M., Strategic Management of Technological Innovation (Irwin Management) 5th Edition. McGraw-Hill Education, 2016.

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. Attendance and activity in classes, from 0 to 25 points.
2. Practical work - flyer, from 0 to 5 points.
3. Practical work - presentation x2, from 0 to 10 points.
4. Practical work - eco quiz, from 0 to 5 points.

5. Practical work - independent eco project, from 0 to 5 points. 6. Final exam, from 0 to 50 points. Passing mark is awarded if the student collects more than 50 points.
SPECIAL NOTE FOR THE SUBJECT:
EXPECTED LEARNING OUTCOMES: Demonstrates a knowledge and understanding of the types and characteristics of pollutants, and assess effects of pollution to the marine environment and human life. Categorize the Most Common Sources of pollution from ships and describe prevention measures to prevent pollution of the marine environment. Interpret the basic content of the International Convention on Marine Pollution 73/78 and its annexes (Marpol Annexes I - VI), and the most important international regulations on the prevention of pollution from ships (applies to machinery spaces, cargo, ballast tanks). Connect actions against pollution with the necessary equipment. Interpret Intervention Plan (SOPEP) and give a brief description of the main elements that will be included in SOPEP (Article 26 of Annex I of MARPOL). Understand basic principles of entrepreneurship in marine environmental management and innovative solutions in protecting sea and coastal areas.
QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES: Survey carried out by the University, List of student attendance, Teaching process monitored by the Faculty, Analysis of the examination passing rate (Quality Management System in compliance with ISO 9001)

DATA PREPARED BY:	PhD Danilo Nikolić
NOTE:	

9. Operation and Maintenance of Ship

Subject title	Operation and Maintenance of Ship			
Subject code	**Subject status**	**Semester**	**ECTS**	**Class load**
	Obligatory	**IV**	**4**	**2L+1E+0P**

STUDY PROGRAMMES FOR WHICH IT IS ORGANIZED:
Academic Undergraduate Studies on Maritime Faculty, Study Programme Nautical Studies, 3 years (6 Terms), 180 ECTS credits

ADMISSION REQUIREMENT:
No prerequisites for course enrolment and attending

GOALS OF STUDY:
The subject aims to teach students about the ways of proper maintenance of the ship and ship operation, in accordance with the STCW'10 Convention (A-II/1, A-II/2, A-VI), ISM and ISPS Code and IMO model course 7.01. (items 3.1.1.1-6).

NAME AND SURNAME OF PROFESSOR AND ASSISTANT:
PhD Špiro Ivošević – professor, Radmila Gagić - assistant

TEACHING METHOD:
Lectures, practical exercises, learning, performing individual practical exercises, debates, consultations.

SUBJECT CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	The impact of International regulations on ship maintenance. IMO, ISM Code, Link between IMO and the 2030 Agenda for Sustainable development (SDGs).
II week	Inclusive and equitable quality education in Maritime business. Maintenance philosophy. Planning and cost of maintenance. AMOS software.
III week	Built resilient infrastructure and sustainable industrialization and foster innovation. Impact of materials and process of welding onto maintenance.
IV week	Corrosion concept. Special forms of corrosion. Interaction of biological agents and corrosion.
V week	Corrosion assessment and corrosion prevention.
VI week	Scope of survey and maintenance procedures of different elements of ship's structure.
VII week	**The First Compulsory Assignment**
VIII week	Maintenance procedures of different elements of ship's structure.
IX week	IMO's technical assistance work and the SDGs.
X week	Maintenance of immersed part of hull. Inspection of hatch covers and ballast tanks.
XI week	Ships operations. Surveys, inspections and reporting on ship's condition.
XII week	Ships operations. Surveys, planning and preparing vessel for dry dock.
XIII week	Promotion peaceful and inclusive society for Sustainable development. Ship's and Port Facility issue. Security procedures, emergency situations, security related documentation and training.
XIV week	Procedures for maintaining ship's security using into account piracy and armed robbery.
XV week	**The Second Compulsory Assignment**
XVI week	**Final exam**
Final week	Verification of the semester
XVIII-XXI week	Additional and remedial classes and corrective exam term

STUDENTS' WORKLOAD PER SUBJECT

Per week	**During semester**
4 credits x 40/30 = 5 hours + 20 minutes	**Teaching and the Final Exam:** 5h + 20 min. x 16 = 85h + 20 minutes

Structure: **2** hours of lectures **1** hour of exercise **0** hours of practical work **2** hours **20** minutes of individual work, including consultations	**Necessary preparation before Term starting (admin., enrolment, verification):** 5h + 20 min x 2 = 10h + 40min **Total hours for the course:** 4 x 30 = 120h **Additional hours for preparing correction of final exam, including the taking of the exam:** 24h **Structure of the students' duties:** 85h + 20 min.(lectures) + 10h + 40min + 24h (additional work)

Students are required to attend classes (lectures and exercises) and to take Preliminary Exams and the Final Exam.

IMO RECOMMENDED LITERATURE:

Textbooks:

1. *Kuo. Chengi., Safety Management and its Maritime Application, The Nautical Institute, London, 2007 (ISBN 1870077830)*
2. *Guidelines for the Inspection and Maintenance of Double Hull Tanker Structures. OCIMF. London, Witherby. 1995 (ISBN 1-8560-9090-9)*

Bibliography:

3. *KEMP, J.F. & YOUNG, P. - Ship construction: Sketches and notes. Oxford, Butterworth-Heinemann, 1991. (ISBN 0-7506-0381-X)*
4. *NAUTICAL INSTITUTE - Improving ship operational design. London, The Nautical Institute, 1998.*
5. *Transforming our world: the 2030 Agenda for Sustainable Development https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E*
6. *The Sustainable Development Goals Report 2020: https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf*
7. *IMO's technical assistance work and the SDGs https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/TC.1-Circ.69.pdf*
8. *IMO SDG brochure: https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/IMO%20SDG%20Brochure.pdf*
9. *IMO Secretariat's SDG Strategy: https://wwwcdn.imo.org/localresources/en/MediaCentre/Documents/SDG_Strategy%20and%20planning.pdf*

Teaching aids:

10. *Instructor Manual (Part D of IMO model course 7.01)*

LITERATURE:

1. *Vujović, L., Ivošević, Š. written lectures „Maintenance and operation of the ship"*
2. *Vujović, L: „Ship's terotechnology"*
3. *Ilić, V.: script. "Maintenance of the ship with elements of logistics", Bijela 2004.*
4. *Dulić S.: „ISM Code"*
5. *AMOS Aset Management broshure Instruction*

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

During the teaching process, the student has the option to obtain total 100 points that are consisted of: First Preliminary Exam (35 points in total); Second Preliminary Exam (35 points); Final Exam that includes the whole Course material and is consisted of written and oral part (30 points). The main condition for doing Preliminary Exams is regularly attended lectures and exercises. The final mark is derivate in the following way: The student has passed an exam if she/he has obtained more than 50 points of maximum 100 points and if she/he has regularly attended classes and performed all obligations arise from the continuous following of the lectures.

SPECIAL NOTE FOR THE SUBJECT:

EXPECTED LEARNING OUTCOMES:

Upon successful completion of this subject the student will be able to:

- Describe national and international regulations as well as classification rules related to subject.

• Describe and interpret management in accordance ISM code. • Demonstrate knowladge related to ship's operations. • Argument advantages and disadvantages of different anti-corrosion methods. • Describe different methodes and procedures for corrosion protection. • Describe process of survey and inspection of different segments of the vessel. • Define relation between specific operations and planned maintenance.
QUALITY ASSESSMENT METHODS ENSURING THE DESIRED LEARNING OUTCOMES: Survey carried out by the University, List of student attendance, Teaching process monitored by the Faculty, Analysis of the examination passing rate (Quality Management System in compliance with ISO 9001)

DATA PREPARED BY:	PhD Špiro Ivošević
NOTE:	

10. English Language I

Course title	English Language I			
Course code	**Course status**	**Semester**	**ECTS**	**Course load**
	Obligatory	**II**	**3**	**2L+1E+0P**

STUDY PROGRAMME:

Undergraduate academic study programme of Nautical and Maritime Transport, 3 years (6 semesters), 180 ECTS credits

ADMISSION REQUIREMENTS:

There are no pre-conditions for the enrolment of this course.

COURSE GOALS:

The goal of the subject is to learn students how to communicate on general and specialized topics in English. They should also learn to write short letters, collect information, ask and give information related to general subjects and professional maritime domain. All four language skills are being developed. Not only linguistic but also communicative competence is enhanced.

TEACHER(S) AND ASSISTANT(S):

Associate professor - Milena Dževerdanović-Pejović, PhD, mr Zorica Đurović, teaching assistant

TEACHING METHOD:

Lectures are based on the communicative approach, i.e., the functional method. Students do seminar papers and homework assignments. Consultations are twice a week.

COURSE CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	The IMO, MARPOL, SOLAS STCW, ISM Code, COLREGs. Simple Present Tense and the Present Continuous Tense. Semantic field related to lexemes and phrases expressing responsibilities and duties onboard (responsible for, liable for, in charge of).
II week	Ship particulars, Ship types, Size, Capacity, Crew, Shipboard routine understanding, talking about general subjects; Countries, nationalities, flags. Simple Past and Past Continuous Tense
III week	Ship construction: Shipbuilding, Ship structure, Basics of Seaman ship profession. Present Perfect, Past Continuous and Past Perfect Tense. Job interview. Filling in job application.
IV week	Direction onboard the ship, ship's movement, prepositions used to express position at sea and on board ; Future tenses (shall and will/going to/present continuous for future actions)
V week	**Test I**
VI wek	Safety equipment: Personal life-saving appliances, Fire – fighting equipment; Understanding purpose and position of safety equipment on board: check lists understanding. Passive. The

	use of prepositions of place (at berth, at sea). Collocations (to fight the fire, to launch a lifeboat).
VII week	Collocations (*to fight the fire, to launch a lifeboat*).
VIII week	Navigational equipment Sea Charts, Navigation Bridge. Modal auxiliaries
IX week	Emergency procedures, Man Overboard, Distress situations. Adverbs of place and manner. Exploring and discussing old and modern methods of navigation. Making notes and conclusions (therefore, thus, to conclude, to sum up)
X week	General English texts, reading numerical information and alphabet; writing short letters. Main and relative clauses. Connectors. Intonation, stress, pronunciation.
XI week	Maritime and general English idioms, Expressing personal attitudes and opinions, likes and dislikes. Sentences- asking questions, question words and negative forms.
XII week	Pilotage, Stowaways, Piracy . Conditional sentences. Describing current maritime trends and discussing situations regarding safety at sea. Writing short essay. Videos on piracy and affected sea routes.
XIII week	**Test II**
XIV week	Automatic Identification System , GPS, GMDSS, Electronic Navigation. Text understanding and organization of information.
XV week	Study Papers' Presentation
XVI - XX weeks	Final and make-up exam. Semester verification and administrative procedure.

STUDENTS' WORKLOAD FOR THE COURSE

Per week	**During the semester**
3 credits x 40/30 = 5hours + 20 minutes Structure: 2 hours of lectures 2 hours of exercises 1 hour 20 minutes of individual work, including consultations	Teaching and final exam: 5h + 20 min. x 16 = 85h + 20 minutes Necessary preparations before the semester start (administration., enrolment, verification): 5h + 20 min x 2 = 10h + 40min Total hours: 4 x 30 = 120h Remedial classes (additional hours) for preparing the make-up exam, including the exam: 24h Total workload structure: 85h + 20 min (lectures) + 10h + 40min + 24h (remedial classes)

Students are required to attend classes, take the test(s) and exam(s).

IMO RECOMMENDED LITERATURE:

Bibliography:

IMO Model Course 3.17

LITERATURE:

1. Ashley A. (1992) A Handbook of Commercial Correspondence, Oxford University Press, London

2. MarEng, Web-based English Learning Tool, EU Leonardo Project, http://mareng.utu.fi/
3. Grice, T. (2012) English for the Maritime Industry: A language coursebook for seafarers
4. IMO Model Course 3.17 (2009) London: International Maritime Organization.
5. Jurlina T., (1999): Maritime English I, Fakultet za pomorstvo, Kotor.
6. Dževerdanović-Pejović M (2014) Maritime English I, textbooks with exercises, Kotor: Faculty of Maritime Studies.
7. Van Kluijven, Peter C. (2003) The International Maritime English Programme. Alkmar: Alk&Heijnen Publishers.
8. BBC World Service (Learning English section) http://www.bbc.co.uk/worldwide (General English)
9. Marine Accident Investigation Branch http://www.maib.detr.gov.uk

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. Homework assignments from 0 do 5 points;
2. The First Compulsory Test , from 0 to 20 points;
3. The Second Compulsory Test, from 0 to 20 points;
4. Attendance, from 0 to 5 points.
5. Final Exam, 50 points.

Passing mark is gained if the student collects at least 50 points.

SPECIAL NOTE FOR THE COURSE:

EXPECTED LEARNING OUTCOMES:

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

1. Read, speak and write on level "B", in accordance with the common European framework for languages;
2. Apply specialized vocabulary related to ship's parts and direction, ship's sides and movement;
3. Make difference between formal and informal style in writing and speech;
4. Ask questions and present information relating to general and professional topics;
5. Fill in job applications and forms relating to the inspection of ship and equipment on board ship.

QUALITY ASSESSMENT METHODS:

Audits carried out by the University, student attendance records, audits of the teaching process carried out by the Faculty , data analysis and levels of satisfaction as per the certified quality system (Quality System Management, ISO 9001: 2015)

DATA PREPARED BY:	Milena Dževerdanović-Pejović, Associate professor
NOTE(S):	

11. English Language I

Subject title	English Language I			
Subject code	**Subject status**	**Semester**	**ECTS**	**Course load**
	Obligatory	**II**	**5**	**3P+2V+0L**

Study programme:
Basic academic studies at the Maritime Faculty, Study Programme Maritime Management and Logistics, 3 years (6 semesters), 180 ECTS credits

REQUIREMENTS FOR ENROLMENT:
There are no special requirements for enrolling this course.

GOAL OF STUDY:
The goal of the subject is that students should learn basic grammar structures, terms and phrases used in everyday life and on actual topics. Topics are modern such as the Internet, social networks, business language and genres like email and job applications. Also, to provide some knowledge of entrepreneurship, which would allow students to be fluent and confident in entrepreneurship related vocabulary and in management and developing business companies. Both linguistic and communicative competence are encouraged.

Name of the teacher:
Dr Sanela Pejaković

TEACHING METHOD:
Lectures are based on communicative approach and optimal inclusion of students into activities during the course. Students do homeworks and presentations.

SUBJECT CONTENT:

Preparatory week	Preparation and semester enrolment.
I week	Course introduction. Unit 1: Trends. Spending and trending. Grammar: Present simple, continuous and perfect. State verbs. Vocabulary relating to friendship.Speaking: social media.
II week	Unit 2: What a story! Unbelievable situations. Grammar: Narrative forms and desribing past events. Verbs had/was/were. Writing a narrative. Speaking: Showing interest.
III week	Unit 3: Life skills. Challenges. Grammar: Expressing obligation, permission and possibility. Writing an opinion. Speaking: Practical instructions.
IV week	Unit 4: Space. Living on water, Forest bathing, Natural world. Grammar: Future tense with will and going to for predictions. Writing: Avoiding repetition. Speaking: Making and enquiry.
V week	Test I
VI week	Unit 5: Enertaiment: Universally popular? Mosquito smasher? Grammar: Present perfect simple and past simple. Linkers and cohesion. Writing a film review. Speaking: Comparing and recommending.
VII week	Unit 6: In control? Machines in our lives and taking control over weather. Present perfect simple and continuous. Compound nouns and writing a professional email. Speaking: Changing arrangements.
VIII week	Unit 7: Ambitions. Good prospects. Ask an expert. Grammar: *used to* and *would.* Question forms, collocations. Writing an application letter. Speaking: Clarification and making notes.

	Unit X: Introduction to entrepreneurship. Writing a Business Plan.Building a New-Venture Team. Specific and basic vocabulary for entrepreneurship and business development and management related topics. Assemble a team and write a business plan for maritime related business idea or business challenge development and employment into the market.
IX week	Unit 8: Choices. World happiness report. What makes a hero? Real and unreal conditionals. Grammar. Prefixes. Speaking: Giving a talk
X week	Unit 9. Describing appearances, paintings, speculating and making deductions. Making comparisons. Grammar: Phrasal verbs. Writing: Taking part in online discussions. Speaking: Making complaints
XI week	Unit 10: Compete and cooperate. Talking about business, competition, sports. Grammar: Use of the article a/an, the or no article; Passive. Speaking: Making recommendations.
XII week	Unit 11: Consequences: Talking about crime, about people's behaviour and social representation. Grammar: Unreal conditional. Speaking: Making decisions vocabulary and phrases. Writing: Making an apology.
XIII week	Test II
XIV week	Unit 12: Influence. Language of advertising and discourse means used in persuading people. Grammar: Dependent prepositions, linking, complex noun phrases. Speaking: Agreeing and disagreeing.
XV week	Preparation for the final exam.
XVI - XX week	Final weeks and make up exam. Verification of marks.

Students load per semester

Per week 5 credits x 40/30 = 6 hours and 40 minutes Structure: 3 hours lectures 2 hour of exercises 1 hour and 40 minutes of individual work (preparation for laboratory work, tests, homework) and consultations.	**During semester** Lectures and final exam: (6 hours and 40 minues) x 16 = **106 hours and 40 minutes** Necessary preparations before start of the semester (administration, enrolment, verification): 2 x (6 hours and 40 minutes) = 13 hours and 20 minutes **Total load for the subject: 5 x 30 = 150 sati** **Additional work** for preparation in the make up term , including taking additional exam from 0 - 30 hours. Load structure: 106 hours and 40 minuta (lectures) + 13 hours and 20 minutes(preparation) + 30 hours (additional work)

Students are obliged to attend lectures, tests and final exam

IMO recommended literature:

Books:

1. *Blakey, T.N. English for Maritime Studies. 2nd ed. Prentice Hall College Div, 1988 (ISBN-13: 978-0132813792)*
2. *MarEng, Web-based English Learning Tool, EU Leonardo Project*

LITERATURE:

1. *Roberts Rachael, Heather Buchanan and Emma Pathare Ashley A. (2015) Navigate: Coursebook with video and Oxfod Online Skills, London: Oxford University Press*
2. *Dževerdanović-Pejović M., (2012) Tipovi diskursa i žanrovske karakteristike u pomorskoj komunikaciji,doktorska disertacija, Beograd: Filološki fakultet.*
3. *Atkinson et al. (2008) Business English. Warszava: Edgard.*
4. *Grussendorf , Marion. English for Logistics. 2009. London: Oxford University Press.*
5. BBC World Service (Learning English section) http://www.bbc.co.uk/worldwide (General English)
6. *Entrepreneurship: starting and operating a small business. 2016. Global edition. Pearson education.*
7. *Effectual entrepreneurship / Stuart Read ... [et al.]. 2017. Abingdon: Routledge.*

8. *Technology entrepreneurship : taking innovation to the marketplace / Thomas N. Duening, Robert D. Hisrich, Michael A. Lechter. 2015. London: Academic Press.*

Knowledge assessment and marking:

1. Homework, from 0 to 5 points;
2. First Test, from 0 to 20 points;
3. Second Test, from 0 to 20 points;
4. Attendance, from 0 to 5 points;
5. Final Exam, from 0 to 50 points;

Passing mark is obtained if the student collects at least 50 points.

SPECIAL REMARK FOR THE SUBJECT:

Expected results:
After passed exam, the students should read, listen , speak and write on the level "B" (independent user) and use general vocabulary in expressing opinion, emotions, requirements, recommendations.

QUALITY ASSESSMENT: Control of Education process is carried out by University, Faculty according to the Attendance list and other documents. There is also the Analysis of data and quality measurement in accordance with the certified quality system ISO 9001:2015).

DATA PREPARED BY:	Prof.dr Milena Dževerdanović-Pejović
NOTE:	

12. Engineering Graphics in Shipping

Course title	Engineering Graphics in Shipping			
Course code	**Course status**	**Semester**	**ECTS**	**Course load**
	Obligatory	**I**	**3**	**2L+0E+1P**

STUDY PROGRAMME:
Undergraduate academic study programme of Marine Engineering 3 years (6 semesters), 180 ECTS credits

ADMISSION REQUIREMENTS:
There are no special requirements.

COURSE GOALS:
The course aims is to introduce students with basic elements of technical drawing, computer and engineering graphics considering STCW'10 Convention (Table A - III/1) and IMO model course 7.04 (Items 3.2.6. and 3.2.7).

TEACHER(S) AND ASSISTANT(S): Špiro Ivošević, PhD; Radmila Gagić

TEACHING METHOD:
Lectures, practical exercises, homework, consultations.

COURSE CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introduction. Engineering and computer graphics. Types of drawings 3.2.6.1.
II week	Materials, tools and basic elements of technical drawing. Formats,scales.
III week	Rules, regulations and recommendations related to ISO and DIN standards in creating of technical drawings. 3.2.6.1.
IV week	Technical drawings and sketching 3.2.6.2 The first graphical task.
V week	Introduction to projection. Fundamentals of AutoCAD – 2D graphics. Pictorial projection 3.2.6.3 The basic rules of orthogonal and axonometric projecting. The second graphical task.
VI week	**Compulsory assignment I**
VII week	Basics of 3D graphics. Using of AutoCAD for drawing and modelling – 3D graphics. Sections and development 3.2.6.4.
VIII week	Dimensioning 3.2.6.5.
IX week	Tolerances of shapes and dimensions 3.2.6.6.; 3.2.6.7. Diferrent states of surface. The third graphical task.
X week	Displaying of standard elements, scheme, symbols of different technical machines and devices.
XI week	Engineering drawing practice 3.2.6.8 Understanding of schemes, drawings and diagrams. The fourth graphical task.
XII week	The interpretation of ship's documentation and technical drawings 3.2.6.8. Ship's technical documentation 3.2.6.8. The interpretation of piping, hydraulic and pneumatic diagrams 3.2.7.
XIII week	3D models from 3D scanning. Fundamentals of 3D printing.
XIV week	Applying 3D printing process for manufacturing different technical parts and assemblies.
XV week	Entrepreneurship in 3D printing. **Compulsory assignment II**
XVI-XX week	**Remedial classes and correction term. Semester verification and marks registration.**

STUDENTS' WORKLOAD FOR THE COURSE:

Per week	**During the semester**
3 credits x 40/30 = 4 hours	**Teaching and the Final Exam:** 4h x 16 = **64 hours**

Structure: **2** hours of lectures **0** hours of exercises **1** hour of practical work **1** hour of individual work, including consultations	**Necessary preparation before the semester starting** (administration, enrolment, verification): 2 x 4h = 8 hours **Total hours for the course: 3 x 30 = 90 hours** **Additional hours** for preparing correction of final exam, including the taking of the exam 0 – 30 hours **Structure of the students' duties:** 64h (lectures) + 8h (preparation) + 18h (additional work)

Students are required to attend classes, do homework and take the tests and exam(s).

IMO RECOMMENDED LITERATURE:

Textbooks:

1. *Simmonds, C.H and Maguire, D.E Progressive Engineering Drawing for T.E.C. Students, London. Hodder and Stoughton Ltd 1983 (ISBN 03-40-26196-x-0) OUT OF PRINT 1999*
2. *Jackson, L and Morton, T.D. General Engineering Knowledge for Marine Engineers. 5th ed. London, Thomas Reed Publications Ltd. 1990. (ISBN 09-47-63776-1)*
3. *Taylor, D.A. Introduction to Marine Engineering. 2nd ed. London, Butterworth 1990 (ISBN 07-50-6253-9)*

Teaching aids:

1. *Instructor Manual (Part D of this course in IMO model 7.04)*

LITERATURE:

1. *The Marine Engineers graphics script (workbook): R. Vukasojević, Š. Ivošević;*
2. *Pantelić T.: Technical drawing;*
3. *James H. Earle: Engineering Design Graphics;*
4. *Roy Plastock, Gordon Kalley: Computer Graphics;*
5. *Colin H. Simmons, Neil Phelps, Dennis E. Maguire: Manual of Engineering Drawings;*
6. *George Omura: AutoCAD 2009.*

METHODS OF KNOWLEDGE ASSESSMENT AND MARKING:

1. Four Graphical tasks, totally 0 to 8 points (of which 2 graphical tasks, totally 0 do 4 points – practical work);
2. The First Compulsory Assignment, from 0 to 30 points (of which 18 points – practical work);
3. The Second Compulsory Assignment, from 0 to 30 points (of which 18 points – practical work);
4. Final exam, from 0 to 30 points (of which 20 points – practical work);;
5. Attendance to lectures, from 0 to 2 points

Passing mark is awarded if the student collects more than 50 points.

SPECIAL NOTE FOR THE COURSE: If necessary, the course can be delivered in English.

EXPECTED LEARNING OUTCOMES:

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

- Describe and analyze the elements of the technical drawing and to interpret it adequately (ISO, DIN, MNE standards).
- Distinguish different types of technical drawings and sketches.
- Create a sketch, technical drawing of an engineering elements in orthogonal projection.
- Defining of sections as well as understand dimensioning and tolerances, marks of roughness in technical drawings.
- Describe and interpret schemes and symbols of electrical, pneumatic and thermal devices.
- Understand and interpret basic operations for creation and modifying objects using AutoCAD.
- Create 2D and 3D graphic elements using AutoCAD.
- Define and interpret ship's technical documents.
- Specify and clarify the possibilities of generating 3D models using 3D scanning.
- Describe the process of 3D printing and interpret theoretical and practical steps in a specific example.
- Understand and elaborate the potentials of applying 3D printing in entrepreneurship.

QUALITY ASSESSMENT METHODS:

Audits carried out by the University, audits of the teaching process carried out by the Faculty, student attendance records, data analysis and levels of satisfaction as per the certified quality system (Quality System Management, ISO 9001:2015).

PREPARED BY:	Phd Špiro Ivošević
NOTE(S):	

13. Engineering Graphics in Shipping

Course title	Engineering Graphics in Shipping			
Course code	**Course status**	**Semester**	**ECTS**	**Course load**
	Obligatory	**III**	**3**	**2L+0E+1P**

STUDY PROGRAMME:
Undergraduate academic study programme of Marine Electrotechnics 3 years (6 semesters), 180 ECTS credits

ADMISSION REQUIREMENTS:
There are no special requirements.

COURSE GOALS:
The course aims is to introduce students with basic elements of technical drawing, computer and engineering graphics.

TEACHER(S) AND ASSISTANT(S): Špiro Ivošević, PhD; Radmila Gagić, MSc

TEACHING METHOD:
Lectures, practical exercises, homework, consultations.

COURSE CONTENT:

Preparatory weeks	Preparation and semester enrolment
I week	Introduction. Engineering and computer graphics. Types of drawings.
II week	Materials, tools and basic elements of technical drawing. Formats,scales.
III week	Rules, regulations and recommendations related to ISO and DIN standards in creating of technical drawings.
IV week	Technical drawings and sketching. The first graphical task.
V week	Introduction to projection. Fundamentals of AutoCAD – 2D graphics. Pictorial projection. The basic rules of orthogonal and axonometric projecting. The second graphical task.
VI week	**Compulsory assignment I**
VII week	Basics of 3D graphics. Using of AutoCAD for drawing and modelling – 3D graphics. Sections and development.
VIII week	Dimensioning.
IX week	Tolerances of shapes and dimensions. Diferrent states of surface. The third graphical task.
X week	Displaying of standard elements, scheme, symbols of different technical machines and devices.
XI week	Engineering drawing practice. Understanding of schemes, drawings and diagrams. The fourth graphical task.
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Teaching aids:

2. *Instructor Manual (Part D of this course in IMO model 7.04)*

LITERATURE:

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3. *James H. Earle: Engineering Design Graphics;*
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5. *Colin H. Simmons, Neil Phelps, Dennis E. Maguire: Manual of Engineering Drawings;*
6. *George Omura: AutoCAD 2009.*

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PREPARED BY:	Phd Špiro Ivošević

NOTE(S):	