University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Ataturk's Principles and History of Turkish Revolution II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
AIT102	I	Spring	2	2	2	0	0
Course type: Compulsory Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Friday / 13:30 – 15:20			
Instructor information				**Aydoğan Erkan** Faculty of Maritime Studies Friday / 09:00 – 12:00 +90 (392) 650 26 00 / 4060 aydogan.erkan@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course examines the historical transformation of the Ottoman Empire into the modern Republic of Turkey, focusing on the political, social, economic, and cultural factors that influenced this transition. It covers the reform movements and modernization efforts during the late Ottoman period, the impact of Western cultures, and the challenges faced by the Empire. Special emphasis is placed on the Turkish War of Independence, the leadership of Mustafa Kemal Atatürk, and the establishment of the Republic of Turkey. Students will explore Atatürk's principles and reforms, understanding their historical significance and lasting influence on Turkish society and governance. The course combines historical analysis with primary sources, such as Atatürk's speeches, early Republican decrees, and relevant treaties, to provide a comprehensive understanding of this transformative period.
Course Aims and Objectives	The course aims to provide students with a comprehensive understanding of the historical, political, and social processes that led to the collapse of the Ottoman Empire and the foundation of the Republic of Turkey. It also seeks to introduce students to the principles, reforms, and leadership of Mustafa Kemal Atatürk, emphasizing their significance in shaping modern Turkey. • Explain the key historical, political, economic, and cultural factors that contributed to the decline of the Ottoman Empire. • Analyze the reform movements and modernization efforts during the late Ottoman period. • Describe the events of the Turkish War of Independence and the role of Mustafa Kemal Atatürk in establishing the Republic of Turkey. • Understand and explain Atatürk's principles and reforms, including their historical and contemporary relevance. • Critically evaluate the impact of Western cultural and political influences on the Ottoman Empire and early Turkish Republic. • Interpret primary historical sources, including speeches, treaties, and decrees, to gain insight into the period.

Course Learning Outcomes	**CLO1:** Identify the main political, social, and economic factors that contributed to the decline of the Ottoman Empire. **CLO2:** Explain the impact of Western influence on Ottoman reform movements and modernization efforts. **CLO3:** Analyze the conditions that led to the Turkish National Struggle under Mustafa Kemal Atatürk's leadership. **CLO4:** Evaluate the role of national and international dynamics in the foundation of the Republic of Turkey. **CLO5:** Interpret primary historical sources and documents related to the late Ottoman and early Republican periods. **CLO6:** Discuss the importance of Atatürk's reforms and principles in the establishment of a modern, secular nation-state. **CLO7:** Develop a critical perspective on the transformation from an empire to a republic within the context of world history. **CLO8:** Apply historical knowledge to understand contemporary political and social issues in Turkey.

Content of the Course

Week	*Subject*
1	**Introduction & Course Overview** • Overview of Atatürk's principles and vision • Recap of the establishment of the Republic of Turkey • Importance of reform movements in early Republican period
2	**The Political Reforms I** • Abolition of the Sultanate (1922) and Caliphate (1924) • Formation of a secular political system • Development of multi-party ideas and Republican governance
3	**The Political Reforms II** • Constitution of 1924 and amendments • Legal reforms: adoption of Swiss Civil Code, Italian Penal Code, and other Western models • The role of the judiciary in modernizing Turkey
4	**Social Reforms I** • Changes in family law and women's rights • Adoption of surnames (1934) and civil status reforms • Education reforms: unification of education, establishment of modern schools
5	**Social Reforms II** • Language reform and adoption of the Latin alphabet (1928) • Development of Turkish Language Association • Literacy campaigns and their impact on society
6	**Cultural Reforms I** • Secularization of cultural institutions • Theatre, literature, music, and the promotion of arts in early Republican Turkey • National identity and historical consciousness
7	**Cultural Reforms II** • Dress codes and cultural modernization • Adoption of Western calendar, time, and measurement systems • Promotion of national festivals and commemorations
8	**Economic Reforms I** • Establishment of state-owned enterprises • Agricultural development and modernization programs • Early industrialization efforts
9	**Economic Reforms II** • Banking and financial system reforms • Policies for economic independence and self-sufficiency • Infrastructure development: railways, ports, and communication systems
10	**Foreign Policy and National Defense** • Foreign relations of the Republic in early years • Lausanne Treaty implementation and diplomatic achievements • Military modernization and the role of the armed forces in nation-building
11	**Atatürk's Principles (Kemalism) I** • Republicanism, Nationalism, Populism • Secularism and state-society relations • Reformist and progressive vision

12	**Atatürk's Principles (Kemalism) II** • Statism and state intervention in the economy • Reformism and modernization principles • Implementation and societal impact
13	**Challenges and Opposition** • Social and political opposition to reforms • Regional and ideological resistance • Methods of overcoming challenges and promoting national unity
14	**Evaluation of Atatürk's Legacy** • Last years of Atatürk's leadership (1935–1938) • Consolidation of reforms and national institutions • Reflection on the effectiveness and impact of Atatürk's reforms
15	**Review and Final Assessment** • Comprehensive review of key reforms and principles • Class discussion on Atatürk's vision and contemporary relevance • Oral or written assessment

Methods and Techniques used in the Course

Lectures and Presentations: Theoretical background and key historical events are explained with the support of visual materials and timelines.

Class Discussions and Debates: Students are encouraged to critically discuss reform movements, revolutions, and Atatürk's principles to develop analytical thinking.

Document and Text Analysis: Examination of historical documents, speeches, treaties, and memoirs to understand events from primary sources.

Question–Answer Sessions: Active student participation through problem-based and guiding questions.

Audio-Visual Materials: Use of documentaries, maps, and archival records to support historical understanding.

Comparative Analysis: Evaluation of Ottoman reforms and Turkish modernization within the global context.

Research Assignments and Presentations: Students prepare individual or group projects on specific historical issues and present them to the class.

Sample Questions

Multiple Choice Questions (MCQs)

- Which of the following was a major reason for the decline of the Ottoman Empire?
  a) Industrialization in the Ottoman territories
  b) Political, economic, and social challenges from Western influence
  c) Expansion of Ottoman naval power
  d) Unification of Balkan states
- What was the primary goal of the reform movements in the late Ottoman period?
  a) Expansion of the empire
  b) Modernization and adaptation to Western political and cultural standards
  c) Religious domination in Europe
  d) Establishing colonies in Africa
- When was the Republic of Turkey officially proclaimed?
  a) 1919
  b) 1920
  c) 1923
  d) 1925

Short Answer Questions

- Explain the role of Mustafa Kemal Atatürk in the Turkish War of Independence.
- List and briefly describe three major reform movements undertaken during the late Ottoman period.
- How did Western cultural influences affect the political and social structure of the Ottoman Empire?

Essay Questions

- Analyze the political, economic, and social challenges that led to the collapse of the Ottoman Empire and how they contributed to the emergence of the Turkish Republic.
- Discuss the significance of Atatürk's principles in shaping the modern Turkish state.
- Compare the Ottoman modernization efforts with the reforms carried out after the establishment of the Republic of Turkey.

Materials Used in the Course

Textbooks & References

- Mango, Andrew. *Atatürk: The Biography of the Founder of Modern Turkey.* Overlook Press, 2000.
- Zürcher, Erik J. *Turkey: A Modern History.* I.B. Tauris, 2004.
- Karpat, Kemal H. *The Ottoman Empire and Modern Turkey.* University of Wisconsin Press, 2001.
- Turkish Ministry of National Education, *Atatürk's Principles and History of Turkish Revolution Textbook.*

Academic Articles & Papers

- Articles on the late Ottoman reforms (Tanzimat and Meşrutiyet) from journals such as *Middle Eastern Studies* and *Journal of Modern Turkish Studies.*
- Papers analyzing the Turkish War of Independence and establishment of the Republic.

Multimedia & Visual Aids

- Documentaries on Mustafa Kemal Atatürk and the Turkish War of Independence.
- Historical maps showing the partitioning of the Ottoman Empire and military campaigns during the independence struggle.
- Archival photographs of key events, leaders, and reforms.

Online Resources

- Official websites: Republic of Turkey Ministry of Culture and Tourism, Atatürk Research Center.
- Online digital archives and libraries for historical documents and treaties (e.g., Treaty of Lausanne, Sèvres).
- Educational platforms with lecture notes, summaries, and videos related to Turkish history.

Supplementary Materials

- Timelines of Ottoman decline and Turkish War of Independence.
- Handouts summarizing Atatürk's principles (Kemalism) and major reforms.
- Vocabulary lists for key historical terms in English to support comprehension.

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**		
PO1	3	3	3	3	2	2	2	2		
PO2	2	3	3	3	2	2	2	2		
PO3	2	2	3	3	3	3	3	3		
PO4	2	2	3	3	3	3	3	3		
PO5	3	3	3	3	3	3	3	3		
PO6	2	2	2	2	2	2	2	2		
PO7	1	1	2	2	2	2	2	2		
PO8	1	1	1	1	2	2	2	3		
PO9	1	1	1	1	1	1	2	3		
PO10	1	1	1	1	2	2	2	3		
PO11	1	1	2	2	2	2	2	2		
PO12	1	1	2	2	2	2	2	2		

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Decline of the Ottoman Empire	Lecture, Historical Analysis Sessions, Multimedia Presentations	Quizzes, Assignments, Midterm Exam
CLO2 – Western Influence & Reform Movements	Lecture, Document Analysis, Class Discussions	Assignments, Quizzes, Written Exams
CLO3 – Turkish National Struggle	Lecture, Case Studies, Primary Source Analysis	Midterm Exam, Assignments, Short Essays
CLO4 – Foundation of the Republic	Lecture, Debates, Comparative Analysis Activities	Assignments, Quizzes, Written Exams
CLO5 – Historical Source Interpretation	Document Study Workshops, Archival Material Analysis, Tutorials	Source Analysis Reports, Assignments, Quizzes
CLO6 – Atatürk's Reforms & Principles	Lecture, Group Discussions, Multimedia Presentations	Quizzes, Assignments, Midterm Exam
CLO7 – Empire–Republic Transformation Analysis	Seminar Sessions, Critical Thinking Activities, Case Studies	Essays, Assignments, Participation
CLO8 – Applying Historical Knowledge to Contemporary Issues	Discussions, Problem-Based Learning, Contemporary Case Evaluations	Assignments, Presentations, Final Exam

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**2**	**30**
Midterm Exam	**1**	**3**	**3**
Preparation for Midterm Exam	**1**	**20**	**20**
Final Exam	**1**	**3**	**3**
Preparation for Final Exam	**1**	**20**	**20**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	-	-	-
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**91**
ECTS Credit			**2**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	-	-
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	40
Final/Oral Exams	1	60
Total	**2**	**100**

	Percentage	Course Grade	Coefficient
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Introduction to Information Technologies							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
CMP102	I	Spring	3	3	3	0	0
Course type: Compulsory Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Wednesday / 08:30 – 11:20			
Instructor information				**Aydoğan Erkan** Faculty of Maritime Studies Friday / 09:00 – 12:00 +90 (392) 650 26 00 / 4060 aydogan.erkan@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course provides a comprehensive introduction to the fundamental concepts and applications of information technologies. Students will explore the internal components of computer systems, understand the roles of hardware and software, and examine the principles of system and application software. The course also covers the use of input/output and storage devices, the organization and management of data, and the fundamentals of the Internet and the World Wide Web. Practical skills in commonly used productivity software, including Microsoft Word and Excel, are emphasized to develop students' ability to create, format, manage, and present digital documents and data effectively. By the end of the course, students will have a solid foundation in both the theoretical and practical aspects of information technologies, enabling them to apply IT skills in academic, professional, and everyday contexts.
Course Aims and Objectives	The aim of this course is to provide students with a solid understanding of the principles, components, and applications of information technologies. It seeks to develop both theoretical knowledge and practical skills, enabling students to effectively use digital tools and software for personal, academic, and professional purposes. The course also emphasizes the critical role of IT in modern society and introduces students to best practices in data management, document preparation, and digital communication. • Understand the internal structure and components of computer systems, including the system unit, input/output, and storage devices. • Explain the functions and types of system software and application software. • Navigate and utilize the Internet and the World Wide Web for information retrieval and communication. • Develop proficiency in word processing, including document creation, editing, formatting, and management using Microsoft Word. • Apply spreadsheet skills in Microsoft Excel to organize, analyze, and present data effectively. • Demonstrate the ability to integrate graphical objects, tables, and other visual elements into digital documents. • Apply IT knowledge to solve practical problems and complete tasks efficiently in academic and professional contexts.
	CLO1 – Computer Systems Fundamentals: Demonstrate a clear understanding of the basic components and functions of computer systems, including the system unit, input/output devices, and storage technologies.

Course Learning Outcomes	**CLO2 – System and Application Software:** Explain the roles, functionalities, and practical applications of system software and application software in computing environments. **CLO3 – Internet and Web Navigation:** Navigate and utilize the Internet and the World Wide Web effectively for research, communication, and information retrieval. **CLO4 – Word Processing – Basic:** Create, edit, format, and manage documents using Microsoft Word, including tables, graphical objects, and print-ready layouts. **CLO5 – Word Processing – Advanced:** Apply advanced document management techniques, such as organizing, revising, and sharing digital documents. **CLO6 – Spreadsheet Skills – Basic:** Use Microsoft Excel for data entry, formatting, basic calculations, and creating charts and visual representations of data. **CLO7 – Spreadsheet Skills – Advanced / Data Analysis:** Apply formulas, functions, and analytical tools in spreadsheets to solve practical problems and visualize data. **CLO8 – Problem-Solving and Critical Thinking:** Develop problem-solving and critical thinking skills through practical exercises and the application of IT tools. **CLO9 – IT for Academic and Professional Tasks:** Demonstrate proficiency in using IT applications to support academic, professional, and personal tasks. **CLO10 – Integrated IT Applications:** Combine multiple IT skills and software tools to increase productivity, organize information, and communicate effectively across various contexts.

Content of the Course

Week	*Subject*
1	**Course Introduction and Syllabus Overview** • Overview of the course objectives, learning outcomes, and assessment methods • Importance of information technologies in modern society and professional life • Understanding basic IT terminology and concepts
2	**Inside the System Unit** • Components of a computer system: CPU, memory, motherboard, and power supply • Types of computers: desktops, laptops, servers, embedded systems • How the system unit interacts with input/output devices and storage
3	**Input, Output, and Storage Devices** • Input devices: keyboard, mouse, scanner, digital cameras • Output devices: monitors, printers, speakers • Storage devices: HDDs, SSDs, optical disks, flash drives, cloud storage • Comparison of storage technologies and their performance metrics
4	**System Software** • Operating systems: purpose, types, and examples (Windows, Linux, macOS) • Utility software: file management, antivirus programs, disk management • Boot process and system configuration
5	**Application Software** • Difference between system software and application software • Categories: productivity software, multimedia software, database software • Overview of common office applications and specialized software
6	**The Internet and the World Wide Web** • History and development of the Internet • Internet services: email, VoIP, cloud computing, file sharing • Web technologies: browsers, search engines, websites, web security basics
7	**Midterm Exam** • Review of Weeks 1–6 • Assessment covering theory and practical knowledge of computer components, software, and internet basics
8	**Introduction to Word** • Basic interface and navigation of Word • Creating, opening, saving, and closing documents • Understanding document templates and styles
9	**Editing Documents** • Selecting, copying, cutting, and pasting text • Using Undo, Redo, Find, and Replace features • Inserting symbols, hyperlinks, and page breaks
10	**Formatting Text** • Font styles, sizes, and colors • Paragraph formatting: alignment, indentation, spacing • Applying bullets, numbering, and multilevel lists
11	**Managing Documents & Working with Tables** • Using headers, footers, and page numbers • Creating, formatting, and modifying tables

	• Sorting and calculating data in tables
12	**Working with Graphical Objects** • Inserting and formatting images, shapes, and SmartArt • Using WordArt, text boxes, and charts • Arranging objects and layering techniques
13	**Printing Documents & Revision** • Document layout and page setup • Print preview, printing options, and print settings • Revision strategies: reviewing changes, comments, and track changes
14	**Introduction to Excel** • Understanding spreadsheet concepts and the Excel interface • Creating and saving workbooks • Entering data, basic formulas, and simple functions • Introduction to charts and basic data visualization
15	**Final Exam** • Comprehensive assessment covering Word, Excel, and general IT concepts • Practical exercises and problem-solving tasks

Methods and Techniques used in the Course

Lectures and Interactive Presentations: Detailed explanations of IT concepts, system components, and software applications, supported by slides, diagrams, and live demonstrations.

Hands-on Laboratory Exercises: Practical sessions in computer labs for students to apply concepts, including document creation in Word and spreadsheet operations in Excel.

Guided Tutorials: Step-by-step instruction on performing tasks, troubleshooting errors, and mastering software functions.

Case Studies and Problem-Solving Exercises: Real-world scenarios to develop critical thinking and application skills.

Group Work and Collaborative Projects: Encouraging teamwork to complete tasks and projects using IT tools.

Quizzes and Formative Assessments: Regular in-class or online quizzes to reinforce understanding and track progress.

Independent Assignments and Practice Tasks: Homework and exercises to consolidate skills learned in class.

Discussion and Question-Answer Sessions: Opportunities for students to clarify concepts, discuss challenges, and explore advanced applications.

Demonstrations of Internet and Web Tools: Practical exposure to searching, browsing, and using web-based resources effectively.

Sample Questions

Multiple Choice Questions (MCQs):

- Which of the following is an example of an input device?
  a) Monitor
  b) Keyboard
  c) Printer
  d) Speaker
- What is the primary function of system software?
  a) Create documents
  b) Control and manage hardware
  c) Browse the internet
  d) Format spreadsheets

True/False Questions:

- The CPU is considered the brain of the computer. (True/False)
- Excel cannot be used for data analysis. (True/False)

Short Answer Questions:

- Explain the difference between system software and application software.
- List three types of storage devices and briefly describe each.

Practical/Applied Questions:

- Create a Word document including a table and insert a graphical object.
- Using Excel, create a simple spreadsheet to calculate the total cost of items and apply a formula for automatic summation.

Scenario-Based Questions:

- Your manager asks you to prepare a report including text, tables, and images. Which software would you use, and which steps would you follow to ensure proper formatting and presentation?
- A company wants to organize its employee data in a spreadsheet. Explain how you would structure the data and which Excel functions could help in summarizing information.

Essay/Long Answer Questions:

- Discuss the role of the Internet and World Wide Web in modern business and education.
- Explain the components of a system unit and their functions in detail.

Materials Used in the Course

Textbooks and Reference Books:

- Shelly, G. B., Vermaat, M. E. *Discovering Computers 2019: Digital Technology, Data, and Devices.* Cengage Learning.
- Frydenberg, Mark. *Microsoft Office 2019 Step by Step.* Microsoft Press.
- Tanenbaum, Andrew S. *Structured Computer Organization.* Pearson.

Software Applications:

- Microsoft Word (2010 or later)
- Microsoft Excel (2010 or later)
- Web browsers (Chrome, Firefox, Edge) for Internet and WWW exercises
- Operating systems: Windows or MacOS

Hardware Tools:

- Desktop or laptop computers
- Input devices: keyboard, mouse, scanner
- Output devices: monitor, printer
- Storage devices: external hard drives, USB flash drives

Online Resources and Tutorials:

- Microsoft Office official tutorials and help guides
- Online IT courses (e.g., Coursera, Khan Academy) for additional practice
- Interactive simulations for understanding system units, storage, and networking

Lecture Materials and Handouts:

- Instructor-prepared lecture slides and notes
- Step-by-step manuals for Word and Excel exercises
- Sample projects and templates for hands-on practice

Multimedia Tools:

- Videos demonstrating software usage
- Interactive exercises and quizzes for reinforcing concepts

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	2	2	3	2	2	2	2	2
PO2	1	1	2	2	1	2	2	2	3	2
PO3	2	2	2	1	2	2	3	3	2	2
PO4	1	1	1	1	2	3	3	1	1	2
PO5	3	1	3	2	2	2	2	2	3	2
PO6	2	2	2	2	3	2	3	2	2	2
PO7	1	1	1	1	1	1	1	1	1	1
PO8	1	1	1	1	0	1	1	1	1	1
PO9	1	1	1	1	1	1	1	1	0	1
PO10	1	1	2	3	3	2	1	1	1	3
PO11	1	1	1	1	1	1	1	1	1	2
PO12	1	1	1	1	1	1	1	1	1	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Computer Systems Fundamentals	Lecture, Multimedia Presentation, Demonstration	Quizzes, Midterm Exam, Assignments
CLO2 – System and Application Software	Lecture, Tutorials, Case Studies	Quizzes, Assignments, Midterm Exam
CLO3 – Internet and Web Navigation	Lecture, Hands-on Practice, Online Exercises	Practical Exercises, Assignments, Quizzes
CLO4 – Word Processing – Basic	Lecture, Demonstration, Hands-on Training	Lab Reports, Practical Exams, Assignments
CLO5 – Word Processing – Advanced	Guided Exercises, Project Work, Workshops	Project Reports, Practical Exams, Lab Exercises
CLO6 – Spreadsheet Skills – Basic	Lecture, Hands-on Training, Tutorials	Lab Reports, Practical Exercises, Quizzes
CLO7 – Spreadsheet Skills – Advanced / Data Analysis	Problem-Solving Exercises, Case Studies, Hands-on Practice	Lab Reports, Project Work, Practical Exams
CLO8 – Problem-Solving and Critical Thinking	Scenario-Based Exercises, Group Discussions, Hands-on Practice	Assignments, Practical Exams, Quizzes
CLO9 – IT for Academic and Professional Tasks	Lecture, Guided Projects, Tutorials	Project Reports, Assignments, Quizzes
CLO10 – Integrated IT Applications	Integrated Exercises, Case Studies, Group Projects	Project Reports, Practical Exams, Lab Exercises

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**3**	**45**
Midterm Exam	**1**	**3**	**3**
Preparation for Midterm Exam	**1**	**20**	**20**
Final Exam	**1**	**3**	**3**
Preparation for Final Exam	**1**	**20**	**20**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	-	-	-
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**106**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	-	-
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	40
Final/Oral Exams	1	60
Total	**2**	**100**

	Percentage	Course Grade	Coefficient
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: English II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
ENG102	I	Spring	3	3	3	0	0
Course type: Compulsory Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Wednesday / 13:30 – 16:20			
Instructor information				**Aydoğan Erkan** Faculty of Maritime Studies Friday / 09:00 – 12:00 +90 (392) 650 26 00 / 4060 aydogan.erkan@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	*English II (ENG 102)* is designed to enhance students' ability to communicate effectively in English by focusing on language use in everyday life situations. The course introduces vocabulary, expressions, and basic grammatical structures at the A2/B1 level of the Common European Framework of Reference for Languages (CEFR). Emphasis is placed on developing functional language skills for real-life communication, including greetings, introductions, describing people and routines, asking for information, expressing preferences, and making simple social interactions. Students will engage in a variety of communicative activities such as role-plays, dialogues, and listening comprehension exercises to improve fluency, accuracy, and confidence in using English. The course also aims to raise awareness of how language conveys meaning in specific contexts, enabling learners to respond appropriately in both familiar and new situations. By the end of the course, students will be able to participate in basic conversations, understand spoken English in common contexts, and use everyday vocabulary effectively in speaking and listening tasks.
Course Aims and Objectives	The primary aim of *English I (ENG 101)* is to provide students with the fundamental linguistic tools and communicative strategies needed to interact in everyday situations at an A2/B1 level of the CEFR. The course aims to build students' confidence in using English as a medium of communication by focusing on functional language use, vocabulary expansion, and listening and speaking skills. • Understand and use everyday expressions and basic phrases related to immediate needs and familiar topics. • Introduce themselves and others, ask and answer questions about personal details, and describe daily routines. • Use appropriate vocabulary and expressions to interact in contexts such as shopping, travel, health, socializing, and work. • Demonstrate the ability to ask for and give directions, make arrangements, and express likes, dislikes, and preferences. • Apply strategies to maintain conversations in English, including making invitations, offers, suggestions, and responding politely. • Develop basic listening comprehension skills for real-life communication scenarios. • Strengthen oral fluency and accuracy through practice in dialogues, role-plays, and discussions. • Gain cultural awareness by comparing customs, traditions, and social practices across cultures.

Course Learning Outcomes	**CLO1:** Communicate effectively in everyday contexts using appropriate vocabulary, expressions, and structures at an A2/B1 CEFR level. **CLO2:** Introduce themselves and others, and exchange personal information accurately in both spoken and written forms. **CLO3:** Describe daily routines, habits, hobbies, and preferences using common verbs, adjectives, and frequently used expressions. **CLO4:** Ask for and give directions, make requests, and express needs in everyday situations such as shopping, travel, and dining. **CLO5:** Demonstrate comprehension of short oral texts, including conversations and dialogues, through listening-based tasks. **CLO6:** Express personal opinions, likes, dislikes, and preferences in social and interpersonal communication. **CLO7:** Participate actively in role-plays and dialogues that simulate real-life communication settings (e.g., health, work, travel, social interactions). **CLO8:** Apply basic grammatical structures—including present, past, and future tenses; prepositions; and question forms—to produce accurate and meaningful sentences. **CLO9:** Use English appropriately for intercultural communication, demonstrating awareness of cultural similarities and differences in daily life and traditions. **CLO10:** Show improved confidence and fluency in speaking, listening, and engaging in conversations in English.

Content of the Course

Week	*Subject*
1	**Introduction & Course Orientation** • Course overview and objectives • Importance of English in daily life • Introduction to basic greetings and self-introduction • Classroom language and expressions
2	**Talking About Yourself and Others** • Describing yourself, family, and friends • Asking and answering personal questions • Common verbs and adjectives for description
3	**Daily Routines and Habits** • Vocabulary for everyday activities • Talking about routines using simple present tense • Time expressions (e.g., always, usually, sometimes)
4	**Places and Directions** • Vocabulary for locations in town and transportation • Asking for and giving directions • Prepositions of place and movement
5	**Food and Drinks** • Vocabulary related to meals, groceries, and restaurants • Ordering food and drinks • Expressing likes, dislikes, and preferences
6	**Hobbies and Free Time** • Vocabulary for hobbies, sports, and leisure activities • Talking about routines and preferences • Using frequency adverbs
7	**Shopping and Money** • Vocabulary for shopping, products, and prices • Asking for information and making purchases • Expressing quantity and cost
8	**Health and Illness** • Vocabulary for body parts, symptoms, and medical situations • Expressing how you feel and giving advice • Making simple requests for help
9	**Work and Professions** • Vocabulary for jobs, workplaces, and daily tasks • Talking about duties and responsibilities • Asking and answering about someone's work
10	**Travel and Transportation** • Vocabulary for travel, tickets, and accommodations • Asking for travel information and making arrangements • Discussing past and future travel plans
11	**Weather and Environment** • Vocabulary for weather conditions, seasons, and nature • Describing the environment and climate

	• Making small talk about the weather
12	**Socializing and Making Plans** • Invitations, offers, and suggestions • Accepting and refusing politely • Talking about future arrangements using “will” and “going to”
13	**Culture and Daily Life** • Vocabulary for festivals, traditions, and cultural activities • Comparing your culture with others • Expressing opinions and preferences
14	**Review of Key Functions and Vocabulary** • Revision of greetings, daily routines, hobbies, and travel • Practice dialogues in simulated real-life situations • Listening and speaking exercises for comprehension
15	**Final Assessment & Speaking Practice** • Oral presentations or dialogues • Listening comprehension assessment • Review and feedback on progress

Methods and Techniques used in the Course

Communicative Language Teaching (CLT): Focus on real-life communication and functional language use through role-plays, pair work, and group activities.

Task-Based Learning: Students complete meaningful tasks such as dialogues, presentations, and problem-solving activities to practice authentic language.

Listening and Speaking Practice: Regular listening comprehension exercises, oral drills, and speaking activities to improve fluency and accuracy.

Interactive Activities: Games, simulations, and discussions that engage learners in authentic use of vocabulary and expressions.

Reading and Writing Integration: Short texts, dialogues, and written tasks are used to reinforce vocabulary, grammar, and comprehension.

Audio-Visual Aids: Use of multimedia materials, including videos, audio recordings, and digital tools, to enhance listening and speaking practice.

Formative Assessment Techniques: Continuous evaluation through class participation, quizzes, oral practice, and feedback sessions.

Sample Questions

Speaking / Oral Practice:

- Can you introduce yourself and talk about your family?
- What do you usually do on weekends?
- How do you ask for directions to the nearest bus station?
- Could you order a meal at a restaurant?
- How would you make plans with a friend for next Saturday?

Listening Comprehension:

- Listen to a short dialogue between two people in a shop. What are they buying?
- Listen to a weather forecast. What will the weather be like tomorrow?
- Listen to a conversation at a train station. Where is the person traveling?

Reading Comprehension:

- Read a short text about a person's daily routine. What time does he wake up?
- Read a menu from a restaurant. What is the price of the chicken salad?
- Read a travel advertisement. Where is the trip going and how many days does it last?

Writing:

- Write a short paragraph about your favorite hobby.
- Write an email to a friend inviting them to your birthday party.
- Write 5–6 sentences describing your city or town.

Materials Used in the Course

Textbooks

- *English for Everyday Life* – Basic A2/B1 Level
- *Oxford English Grammar and Vocabulary for Students*

Reference Books

- *English Vocabulary in Use: Elementary & Pre-Intermediate*
- *Collins Easy Learning English Grammar & Practice*
- *Oxford Practice Grammar*

Online Resources & Platforms

- Interactive English learning websites (e.g., BBC Learning English, Cambridge English)
- Online quizzes and exercises related to vocabulary, grammar, and listening comprehension
- Video and audio materials for listening practice

Supplementary Materials

- Handouts for weekly topics, dialogues, and exercises
- Flashcards for vocabulary practice
- Role-play and simulation activity sheets for oral communication practice

Tools & Equipment

- Multimedia classroom with projector and audio system
- Computers or tablets for interactive exercises and online practice
- Whiteboard for in-class explanations and group activities

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	2	2	3	2	1	2	2	2
PO2	1	1	2	2	1	2	1	2	3	2
PO3	2	2	2	1	2	2	3	3	2	2
PO4	1	1	1	1	2	3	3	1	1	2
PO5	3	1	3	2	2	2	2	2	3	2
PO6	2	2	2	2	3	2	3	2	2	2
PO7	1	1	1	1	1	1	1	1	1	1
PO8	1	1	1	1	0	1	1	1	1	1
PO9	1	1	1	1	1	1	1	1	0	1
PO10	1	1	2	3	3	2	1	1	1	3
PO11	1	1	1	1	1	1	1	1	1	2
PO12	1	1	1	1	1	1	1	1	1	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lecture, Question–Answer	Midterm Exam, Final Exam
CLO2	Lecture, Pair/Group Work	Midterm Exam, Final Exam
CLO3	Lecture, Practice Activities	Midterm Exam, Final Exam
CLO4	Lecture, Role-Play, Simulations	Quizzes, Midterm Exam, Final Exam
CLO5	Lecture, Listening Activities	Quizzes, Midterm Exam, Final Exam
CLO6	Lecture, Interactive Tasks	Midterm Exam, Final Exam
CLO7	Lecture, Role-Play, Dialogues	Performance Tasks, Final Exam
CLO8	Lecture, Grammar Practice	Quizzes, Midterm Exam, Final Exam
CLO9	Lecture, Cultural Activities	Assignments, Midterm Exam, Final Exam
CLO10	Lecture, Communication Practice	Oral Exam, Midterm Exam, Final Exam

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**3**	**45**
Midterm Exam	**1**	**3**	**3**
Preparation for Midterm Exam	**1**	**20**	**20**
Final Exam	**1**	**3**	**3**
Preparation for Final Exam	**1**	**20**	**20**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	-	-	-
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**106**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	-	-
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	40
Final/Oral Exams	1	60
Total	**2**	**100**

	Percentage	Course Grade	Coefficient
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Strenght of Materials							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MEC209	II	Fall	3	3	2	2	0
Course type: Compulsory Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				20	20	20	40
Course Venue and Time				Wednesday 09.30-12.20			
Instructor information				**Chf. Eng. Volkan Varışlı** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4095 volkan.varisli@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	The Strength of Materials course provides an in-depth exploration of the fundamental principles of material mechanics, with a particular focus on understanding how materials behave under various types of loading. The course begins with a review of statics and introduces the concept of deformable bodies, internal forces, and three-dimensional stress distribution. Students will learn to analyze axial, shear, and bending forces in structural elements such as beams, columns, and frames, utilizing both analytical and graphical methods. The course emphasizes the calculation of normal, shear, and bearing stresses, as well as the mechanical properties of materials, including stress-strain behavior, yield points, ultimate stress, and failure criteria. Advanced topics include the elastic deformation of axially loaded members, torsion of circular shafts, states of stress, and analysis of stresses in beams, including composite and combined stresses. Methods for determining deflection of beams, including multiple integration, superposition, and energy methods, are also covered. Throughout the course, theoretical concepts are integrated with practical examples, problem-solving techniques, and design principles according to allowable stress design (ASD) standards. By the end of the course, students will have developed a comprehensive understanding of material behavior under load, enabling them to analyze, design, and evaluate structural components in engineering applications.
Course Aims and Objectives	The aim of the *Strength of Materials* course is to provide students with a solid foundation in understanding the behavior of materials and structural elements under various types of mechanical loads. The course is designed to develop students' analytical, problem-solving, and design skills, enabling them to predict stresses, strains, and deformations in engineering components accurately. It also aims to connect theoretical principles with practical applications in mechanical, civil, and marine engineering contexts. • Comprehend the fundamental concepts of stress, strain, and mechanical properties of materials. • Analyze internal forces in structural elements and draw axial, shear, and bending moment diagrams. • Calculate normal, shear, and bearing stresses in beams, columns, shafts, and other engineering components. • Understand and apply elastic deformation theory for axially loaded members and torsional members. • Evaluate combined stresses, flexural stresses, and composite beam behavior. • Determine beam deflections using multiple methods, including integration, superposition, and energy principles. • Apply engineering design principles according to allowable stress design (ASD) standards.

	• Solve practical engineering problems involving the selection of materials and design of structural elements.
Course Learning Outcomes	**LO1 – Knowledge and Understanding** Understand the mechanical behavior of materials under different types of loading, including axial, torsional, bending, and combined loads. Explain concepts of stress, strain, elastic deformation, and structural performance under various conditions. **LO2 – Application of Knowledge** Apply theoretical principles to analyze and calculate normal, shear, and bearing stresses, strains, axial deformations, torsional deformations, and deflections in beams, shafts, and other structural elements. **LO3 – Analytical and Technical Skills** Draw axial force, shear force, and bending moment diagrams for beams, columns, and frames using analytical and graphical methods. Apply beam theory, flexure formulas, shear stress equations, and energy methods to determine deflections and internal forces. **LO4 – Evaluation and Critical Thinking** Evaluate structural performance under different loading conditions. Analyze design choices and recommend solutions to optimize material usage, safety, and performance in mechanical, civil, and marine engineering structures. **LO5 – Communication and Interpretation** Interpret and communicate results of stress, strain, and deflection analyses using appropriate engineering terminology, notation, and graphical representations in reports and presentations. **LO6 – Problem-Solving and Decision-Making** Demonstrate problem-solving skills by applying mechanics of materials principles to practical engineering problems. Design beam and shaft cross-sections according to allowable stress design (ASD) criteria, considering material properties, operational conditions, and safety standards.

Content of the Course

Week	*Subject*
1	Introduction to strength of materials Course objectives, course description, review of statics and definitions of deformable bodies, internal loading in 3D bodies.
2	Introduction to strength of materials Course objectives, course description, review of statics and definitions of deformable bodies, internal loading in 3D bodies.
3	Axial force, Shear force and bending moment diagrams Drawing the AFD, SFD, and BMD for beams, columns, and frames by using the method of sections and the graphical method. Differential relationships between load and shear and bending moment.
4	Axial force, Shear force and bending moment diagrams Drawing the AFD, SFD, and BMD for beams, columns, and frames by using the method of sections and the graphical method. Differential relationships between load and shear and bending moment.
5	Normal, shear and bearing stress Normal and shear stress at a point, concept of deformation and strain, examples of average normal, shear stress and bearing stress.
6	Mechanical properties of materials Stress and strain diagrams for ductile and brittle materials, yield point, ultimate stress and failure points.
7	Midterm Exam
8	Elastic deformation of axially loaded members Force deformation relationships, statically indeterminate case; force method.
9	Elastic deformation of axially loaded members Force deformation relationships, statically indeterminate case; force method.
10	Torsion of circular shafts Shear stress due to torsion.
11	States of stress States of stress with emphasis on two dimensional problems, Moher's circle for plane stress.
12	Stresses in Beams Pure bending and shear stress in beams, flexure formula, composite beams, Combined Stresses, Design beam cross section according to ASD.
13	Stresses in Beams Pure bending and shear stress in beams, flexure formula, composite beams, Combined Stresses, Design beam cross section according to ASD.
14	Deflection of beams Multiple integration method, method of superposition, and Energy method.
15	Final Exam

Methods and Techniques Used in the Course

Lectures and Conceptual Discussions:

- Presentation of fundamental theories and principles of strength of materials.
- Explanation of stress-strain relationships, material properties, and structural behavior.
- Use of real-life examples from mechanical, civil, and marine engineering applications.

Problem-Solving Sessions:

- Step-by-step derivation of formulas and equations.
- Practice exercises on axial, torsional, and bending loads.
- Development of analytical skills for drawing axial force, shear force, and bending moment diagrams.

Graphical and Analytical Techniques:

- Use of graphical methods for internal force analysis.
- Construction of diagrams using both manual and software-assisted techniques.
- Application of energy methods and superposition for deflection calculations.

Laboratory and Simulation Work (if applicable):

- Hands-on experiments to measure stress, strain, and deformation in material samples.
- Use of strain gauges and torsion testing equipment for practical understanding.
- Simulations of beam deflections, torsion, and combined stresses using engineering software.

Case Studies and Applied Examples:

- Analysis of real-world engineering structures to connect theory with practice.
- Design exercises for beams, shafts, and structural elements considering allowable stress design (ASD).

Interactive Discussions and Peer Learning:

- Group discussions to interpret results, verify calculations, and explore alternative solutions.
- Q&A sessions to reinforce understanding of complex topics.

Assessment-Based Learning:

- Regular quizzes, assignments, and in-class problem-solving to track progress.
- Midterm and final exams with theoretical and applied problem-solving components.

Sample Questions

Axial Loading and Stress Analysis
a) A steel rod of circular cross-section 25 mm in diameter is subjected to a tensile force of 50 kN. Calculate the normal stress in the rod.
b) A composite bar is made of steel and aluminum connected in series, subjected to an axial load. Determine the load carried by each material if the total elongation is limited to a specified value.

Shear Force and Bending Moment Diagrams
a) Draw the shear force and bending moment diagrams for a simply supported beam of length 6 m carrying a uniformly distributed load of 5 kN/m.
b) A cantilever beam of length 4 m carries a point load of 10 kN at its free end. Determine the maximum bending moment and its location.

Torsion and Circular Shafts
a) A solid circular shaft of diameter 50 mm is subjected to a torque of 2 kN·m. Determine the maximum shear stress in the shaft.
b) Explain the difference between torsion in solid and hollow shafts, and discuss which design is more efficient for transmitting power.

Combined Stresses
a) A structural member is subjected to axial load and bending moment simultaneously. Determine the maximum normal stress using the flexure formula.
b) Explain the concept of principal stresses and sketch Mohr's circle for a given two-dimensional stress element.

Beam Deflection
a) Determine the deflection at the midpoint of a simply supported beam with length Lsubjected to a central point load P, using the double integration method.
b) Explain the use of the method of superposition in calculating beam deflections for combined loading.

Material Properties and Stress-Strain Relationships
a) Compare the stress-strain curves of ductile and brittle materials.
b) A steel specimen has a yield strength of 250 MPa and an ultimate strength of 400 MPa. Determine the factor of safety if it is subjected to a working tensile stress of 150 MPa.

Practical/Design-Based Problem
A simply supported beam of length 5 m carries a triangular distributed load with a maximum intensity of 6 kN/m at the midspan. Determine:

- Shear force at supports
- Maximum bending moment and its location
- Maximum bending stress for a rectangular beam section with a width of 100 mm and depth of 200 mm

Materials Used in the Course

Textbooks

- Beer, F.P., Johnston, E.R., DeWolf, J.T., & Mazurek, D.F. *Mechanics of Materials*, 8th Edition, McGraw-Hill.
- Hibbeler, R.C. *Mechanics of Materials*, 11th Edition, Pearson.
- Gere, J.M., & Goodno, B.J. *Mechanics of Materials*, 9th Edition, Cengage Learning.

Lecture Notes and Presentations

- Instructor-prepared lecture slides covering theory, derivations, and worked examples.
- Supplementary notes on beam deflections, torsion, combined stresses, and energy methods.

Reference Books and Academic Papers

- Ugural, A.C., & Fenster, S.K. *Advanced Strength and Applied Elasticity*, 5th Edition.
- Timoshenko, S., & Goodier, J.N. *Theory of Elasticity*, 3rd Edition.
- Selected peer-reviewed journal articles on material performance, composite beams, and torsional analysis in marine and mechanical applications.

Problem-Solving Workbooks

- Engineering problem sets for AFD, SFD, BMD, and stress analysis exercises.
- Practical application examples, including marine and structural engineering case studies.

Software Tools

- MATLAB / MathCAD: For solving statically indeterminate problems and plotting diagrams.
- SolidWorks Simulation / ANSYS Mechanical: For virtual stress analysis and validation of theoretical calculations.

Online Resources

- Educational platforms with supplementary tutorials and animations for visualizing deformation, bending, and torsion.
- Open-source repositories for example problems and solutions in engineering mechanics.

Laboratory and Workshop Materials (if applicable)

- Physical models of beams, shafts, and columns for experimental measurement of stress and deflection.
- Strain gauges and data acquisition systems for observing real-time deformations.

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of marine engineering principles, systems, and machinery operations, and effectively apply this knowledge to ensure safe, efficient, and sustainable vessel performance in compliance with IMO and STCW standards.				✓	Technical Knowledge & Applied Sciences
2	Apply advanced engineering design principles to develop, adapt, and optimize mechanical, electrical, and control systems onboard ships and in shore-based industrial contexts, integrating safety, cost-efficiency, and environmental considerations.				✓	Analytical & Computational Skills
3	Perform engineering watchkeeping duties and operational management with professional responsibility, situational awareness, and adherence to international maritime conventions and best practices.				✓	Sustainable Design & Safe Operating
4	Identify, formulate, and analyze complex engineering problems using appropriate theoretical, computational, and experimental techniques to derive sound, data-driven solutions in marine and related engineering domains.			✓		Research & Experimentation
5	Integrate principles of safety culture, risk assessment, and environmental protection into all engineering practices, promoting sustainable operations aligned with IMO conventions such as MARPOL and SOLAS.			✓		Innovation & Digital Competence
6	Employ advanced digital tools, diagnostic systems, and automation technologies for monitoring, control, and performance assessment of marine and industrial systems, in line with the requirements of the evolving maritime digitalization era.				✓	Regulatory Frameworks & Safety
7	Demonstrate competence in planning, executing, and managing engineering projects, including resource allocation, budgeting, and maintenance planning, while ensuring quality, safety, and compliance with regulatory frameworks.				✓	Teamwork & Leadership
8	Function effectively as a leader and member of multidisciplinary and multicultural teams, fostering collaboration, ethical conduct, and efficient communication in dynamic and often high-stress maritime environments.				✓	Project Management & Entrepreneurship
9	Communicate effectively in both written and oral forms with clarity, professionalism, and technical precision in English and other relevant languages within maritime and industrial contexts.			✓		Ethics & Professionalism
10	Adhere to the ethical and professional standards of the engineering and maritime professions, demonstrating accountability, integrity, and a commitment to continuous professional development and lifelong learning.				✓	Lifelong Learning & Adaptability
11	Evaluate and implement sustainable engineering practices and emerging green technologies to minimize the environmental footprint of marine and industrial operations.			✓		Communication Competence
12	Exhibit the flexibility and interdisciplinary mindset required to transfer marine engineering knowledge and skills to diverse sectors, contributing effectively to innovation and technological advancement beyond the maritime industry.			✓		Global Vision & Societal Impact

***0:** No Contribution **1:** Little Contribution **2:** Partial Contribution **3:** Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution						
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**
PO1	3	3	2	2	3	2
PO2	2	3	3	2	2	3
PO3	2	2	3	3	2	3
PO4	1	2	2	2	3	3
PO5	1	2	3	3	2	3
PO6	2	3	3	2	2	3
PO7	1	1	2	2	2	2
PO8	1	2	2	2	1	2
PO9	1	1	1	2	2	2
PO10	2	2	3	3	2	3
PO11	1	2	2	2	2	3
PO12	1	1	2	2	2	3

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Knowledge & Understanding	Lectures, Multimedia Presentations, Conceptual Discussions	Written Exams, Quizzes, Short Answer Questions
CLO2 – Application of Knowledge	Tutorials, Problem-Solving Sessions, Laboratory Exercises	Homework Assignments, Practical Problem Sets, Lab Reports
CLO3 – Analytical & Technical Skills	Analytical Exercises, Diagram Drawing Workshops, Simulations	Problem-Solving Exams, Assignments, Graphical/Analytical Reports
CLO4 – Evaluation & Critical Thinking	Scenario-Based Learning, Case Studies, Group Discussions	Case Study Reports, Project Work, Oral Presentations
CLO5 – Communication & Interpretation	Technical Writing Workshops, Diagram & Report Preparation, Team Exercises	Project Reports, Presentations, Documentation Assessment
CLO6 – Problem-Solving & Decision-Making	Problem-Based Learning, Applied Engineering Tasks, Design Exercises	Practical Problem-Solving Exercises, Design Reports, Capstone/Project Evaluation

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**3**	**45**
Midterm Exam	**1**	**3**	**3**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**3**	**3**
Preparation for Final Exam	**1**	**10**	**10**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Case Studies / Critical Thinking	-	-	-
Project Writing	**2**	**5**	**10**
Group Work	-	-	-
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory / Practical Applications	-	-	-
Assignment(s)/Homework/Class Works	**4**	**5**	**20**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**116**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	4	20
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	2	10
Quiz	-	-
Midterms/Oral Exams	1	30
Final/Oral Exams	1	40
Total	**10**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Operations and Maintenance of Main and Auxiliary Machinery I							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MED201	II	Fall	3	3	2	2	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				20	30	30	20
Course Venue and Time				Wednesday 09.30-12.20			
Instructor information				**Chf. Eng. Volkan Varışlı** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4095 volkan.varisli@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course provides an in-depth study of the operation, maintenance, and safety of main and auxiliary machinery onboard ships. Students will gain comprehensive knowledge of shipboard maintenance practices, the operational principles of large-bore diesel engines, and their auxiliary systems. The course emphasizes both theoretical and practical aspects of marine engineering, including combustion engine operations, propulsive system mechanics, and machinery performance evaluation. The course also covers key aspects of shipboard safety, maintenance planning, and documentation. Students will learn the principles of preventive and corrective maintenance, including fault analysis, troubleshooting, and the use of electronic Planned Maintenance Systems (PMS). Practical applications include operation and maintenance of fuel, lubrication, cooling, and compressed air systems, as well as boiler operation and auxiliary machinery handling. Hands-on training and case studies provide students with experience in monitoring engine parameters, maintaining operational logs, evaluating system performance, and implementing safety procedures during engine room watch-keeping. Additionally, the course addresses emergency procedures, decision-making in critical situations, and the effective management of maintenance activities to ensure the reliability and safety of ship machinery. The course structure includes theoretical lectures, laboratory applications, group projects, assignments, mid-term and final examinations to equip students with both academic knowledge and practical skills essential for a career in marine engineering.
Course Aims and Objectives	**Course Aims** The course aims to provide students with comprehensive knowledge and practical skills required for the safe and efficient operation and maintenance of main and auxiliary machinery onboard ships. It focuses on developing students' technical understanding of marine diesel engines, propulsive systems, auxiliary machinery, and associated operational and safety procedures. **Course Objectives** By the end of this course, students will be able to: • Understand the principles of shipboard maintenance, machinery operations, and engine room safety culture. • Demonstrate operational knowledge of main engines, auxiliary systems, and propulsive machinery. • Apply preventive and corrective maintenance techniques to ensure reliability and performance of ship machinery. • Analyze machinery faults, evaluate potential risks, and implement appropriate corrective actions. • Utilize documentation and record-keeping systems for maintenance planning and performance monitoring. • Develop decision-making and problem-solving skills in engine room operations, including emergency situations. • Integrate theoretical knowledge with practical applications through laboratory exercises, case studies, and group projects.

Course Learning Outcomes	**CLO1:** Apply technical knowledge of marine diesel engines and auxiliary machinery to shipboard operational procedures. **CLO2:** Demonstrate safe operational practices in engine rooms and machinery spaces in accordance with international safety standards and regulations. **CLO3:** Perform routine and preventive maintenance on main engines, auxiliary systems, and propulsion equipment following established procedures. **CLO4:** Identify, diagnose, and rectify machinery faults, evaluating their potential impact on overall ship operations. **CLO5:** Utilize Planned Maintenance Systems (PMS) and related record-keeping tools to plan, document, and manage maintenance activities effectively. **CLO6:** Analyze operational performance data and engine parameters to support decision-making and optimize machinery performance.

Content of the Course

Week	*Subject*
1	Shipboard Maintenance and ship safety, approach of marine engineering methods
2	Internal Combustion Engine maintenance and repair activities. Understanding of Large-bored engines & engines auxiliary systems
3	Combustion engine operations and measurement culture with records of investigational facts
4	Propulsive requirements, propeller types, shaft, mid-bearings, reduction gears, stern-tube and shaft sealing systems
5	Operation and maintenance of propulsive systems, major failures, possible results of faults
6	Diesel engine operations and maintenance and records of quantitative elements
7	Diesel engines fuel system, fuel pumps, Injectors and cyl.head part's, drive mechanism maintenance
8	Mid-Term Exam Application (Case Study - Failure analysis and act of avoidance)
9	Engine Auxiliary system operations and maintenance: Separators, pumps and heat exchangers, in relation with Lub oil, fresh water and seawater systems with their treatment methods.
10	Compressed air system Operation of pressurized air systems and distribution. Air compressor operation and maintenance.
11	Boilers safety and brief operational activities of boiler, maintenance of boilers and boiler water.
12	Planned maintenance concept: Literature root of maintenance, control of electronic planned maintenance systems (PMS) and reporting in these systems.
13	Performance control and evaluations. Watch-keeping in engine room rules and duties, emergency acts and decision-making theory Engine logbook and engine temperature, pressure & all values reporting and control evaluations.
14	Maneuverings faults, testing systems, main and emerg. marine eng. applications
15	Final exam Application (Case-study - Maintenance perspective and requirements)

Methods and Techniques Used in the Course

Lectures and Theoretical Instruction

- Presentation of fundamental concepts of marine engines, auxiliary systems, and propulsive equipment.
- Explanation of operational procedures, safety regulations, and maintenance principles.

Laboratory and Workshop Applications

- Hands-on practice with diesel engines, auxiliary machinery, pumps, boilers, and compressed air systems.
- Measurement and monitoring of operational parameters (temperature, pressure, flow rates).
- Exercises in fault identification, troubleshooting, and minor repairs.

Case Studies and Practical Scenarios

- Analysis of real-world machinery failures and preventive maintenance approaches.
- Critical thinking exercises for decision-making in emergency operations.
- Application of maintenance strategies and corrective actions.

Group Work and Collaborative Projects

- Team-based assignments to simulate engine room operations, maintenance planning, and monitoring.
- Cooperative problem-solving and discussion of operational best practices.

Assignments and Technical Reports

- Individual and group assignments to reinforce theoretical knowledge.
- Documentation and reporting of maintenance activities, engine logbooks, and operational data.

Simulation and Engine Room Monitoring

- Use of engine room simulators (if available) to practice watchkeeping, system monitoring, and fault response.
- Visualization of real-time operational and auxiliary system behaviors.

Mid-term and Final Evaluations

- Assessments through written exams, practical evaluations, and project presentations.
- Application of knowledge to both theoretical and operational problem-solving.

Sample Questions

Theoretical Questions:

- Explain the main differences between trunk piston engines and crosshead diesel engines.
- Describe the principles of internal combustion and the function of pre-combustion and combustion chambers in marine diesel engines.
- What are the main types of propellers used on ships, and how do they influence engine operation and efficiency?
- Explain the purpose and operational principles of the ship's compressed air system.
- Discuss the key elements of engine room watchkeeping and the decision-making process during machinery emergencies.
- Outline the procedure for performing a planned maintenance inspection on a marine diesel engine.
- Describe the function and maintenance requirements of heat exchangers, separators, and pumps in auxiliary systems.

Practical / Application Questions:

- Given a scenario of abnormal temperature rise in a main engine cylinder, outline the steps to diagnose and rectify the issue.
- Demonstrate, with a diagram, the flow of lubricating oil through a diesel engine and identify potential points of failure.
- Analyze a case study where a fuel injector failure led to partial engine shutdown. Suggest preventive measures for future operations.
- Perform a risk assessment for hot-work operations in the engine room, highlighting key safety precautions.
- Given engine logbook data, calculate the engine efficiency and propose corrective actions if deviations are observed.

Materials Used in the Course

Textbooks and Reference Books:

- **"Marine Engineering"** – Roy L. Harrington, McGraw-Hill
- **"Shipboard Machinery"** – A. H. S. Twigg, Butterworth-Heinemann
- **"Marine Auxiliary Machinery"** – H.D. McGeorge, Elsevier
- **"Marine Diesel Engines: Maintenance, Troubleshooting and Repair"** – Nigel Calder
- **"Ship Knowledge: Marine Engineering"** – Jon J. Van der Walt

Standards and Regulations:

- **IMO Conventions and Annexes** (SOLAS, MARPOL, STCW)
- **Classification Society Rules** (Lloyd's Register, DNV, ABS, Bureau Veritas)
- **ISM Code – International Safety Management Code**

Course Materials & Supplementary Resources:

- Engine manuals from major marine diesel engine manufacturers (MAN, Wärtsilä, Caterpillar)
- Engine room workshop guidelines and safety manuals
- Marine engineering simulation software (e.g., Wärtsilä Engine Simulator, MAN Diesel Simulator)
- Engine logbooks, PMS documentation, and operational checklists
- Case study materials for maintenance, troubleshooting, and failure analysis

Laboratory / Workshop Equipment:

- Diesel engine models (cutaway or small-scale demonstrators)
- Auxiliary machinery (pumps, compressors, heat exchangers)
- Measurement instruments: Vernier calipers, micrometers, pressure and temperature gauges
- Tools for maintenance practice: wrenches, torque tools, alignment devices
- Safety equipment for engine room and workshop training

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of marine engineering principles, systems, and machinery operations, and effectively apply this knowledge to ensure safe, efficient, and sustainable vessel performance in compliance with IMO and STCW standards.				✓	Technical Knowledge & Applied Sciences
2	Apply advanced engineering design principles to develop, adapt, and optimize mechanical, electrical, and control systems onboard ships and in shore-based industrial contexts, integrating safety, cost-efficiency, and environmental considerations.				✓	Analytical & Computational Skills
3	Perform engineering watchkeeping duties and operational management with professional responsibility, situational awareness, and adherence to international maritime conventions and best practices.				✓	Sustainable Design & Safe Operating
4	Identify, formulate, and analyze complex engineering problems using appropriate theoretical, computational, and experimental techniques to derive sound, data-driven solutions in marine and related engineering domains.			✓		Research & Experimentation
5	Integrate principles of safety culture, risk assessment, and environmental protection into all engineering practices, promoting sustainable operations aligned with IMO conventions such as MARPOL and SOLAS.			✓		Innovation & Digital Competence
6	Employ advanced digital tools, diagnostic systems, and automation technologies for monitoring, control, and performance assessment of marine and industrial systems, in line with the requirements of the evolving maritime digitalization era.				✓	Regulatory Frameworks & Safety
7	Demonstrate competence in planning, executing, and managing engineering projects, including resource allocation, budgeting, and maintenance planning, while ensuring quality, safety, and compliance with regulatory frameworks.				✓	Teamwork & Leadership
8	Function effectively as a leader and member of multidisciplinary and multicultural teams, fostering collaboration, ethical conduct, and efficient communication in dynamic and often high-stress maritime environments.				✓	Project Management & Entrepreneurship
9	Communicate effectively in both written and oral forms with clarity, professionalism, and technical precision in English and other relevant languages within maritime and industrial contexts.			✓		Ethics & Professionalism
10	Adhere to the ethical and professional standards of the engineering and maritime professions, demonstrating accountability, integrity, and a commitment to continuous professional development and lifelong learning.				✓	Lifelong Learning & Adaptability
11	Evaluate and implement sustainable engineering practices and emerging green technologies to minimize the environmental footprint of marine and industrial operations.			✓		Communication Competence
12	Exhibit the flexibility and interdisciplinary mindset required to transfer marine engineering knowledge and skills to diverse sectors, contributing effectively to innovation and technological advancement beyond the maritime industry.			✓		Global Vision & Societal Impact

***0:** No Contribution **1:** Little Contribution **2:** Partial Contribution **3:** Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution						
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**
PO1	1	2	2	2	3	2
PO2	2	3	3	3	3	3
PO3	1	2	2	2	2	2
PO4	1	2	2	2	2	2
PO5	3	1	1	1	1	2
PO6	1	1	1	1	1	2
PO7	1	1	1	1	1	2
PO8	1	1	1	1	1	2
PO9	1	1	1	1	1	1
PO10	0	2	2	2	2	3
PO11	2	1	1	1	1	2
PO12	3	1	1	1	1	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lecture, Question-Answer, Discussion, Productional application,	Application, Quiz, Midterm Exam, Final Exam
CLO2	Lecture, Problem-Solving Sessions, Group Discussion, Production	Assignments, In-Class Application, Term Project, Midterm Exam
CLO3	Lecture, Problem-Solving, Hands-on Practice, Brainstorming, Production	Project, Assignments, Quizzes, Midterm Exam, Final Exam
CLO4	Lecture, Demonstration, Hands-on Practice	Productional applicationi Assignments, Midterm Exam, Final Exam
CLO5	Lecture, Practice Sessions, In-Class Activities	Application, Assignments, Quizzes, Midterm Exam, Final Exam
CLO6	Lecture, Question-Answer, Discussion, Brain Storming	Midterm Exam, Final Exam

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	-	-	-
Lectures	**15**	**4**	**60**
Midterm Exam	**1**	**2**	**2**
Preparation for Midterm Exam	**1**	**6**	**6**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**6**	**6**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Case Studies / Critical Thinking	-	-	-
Project Writing	-	-	-
Group Work	**2**	**4**	**8**
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory / Practical Applications	**2**	**4**	**8**
Assignment(s)/Homework/Class Works	**4**	**4**	**16**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**108**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	2	10
Field Work	2	10
Special Course Internship (Work Placement)	-	-
Homework/Assignments	4	20
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	30
Final/Oral Exams	1	30
Total	**10**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Ship Management							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MMD208	III	Spring	4	4	3	2	0
Course type: Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Wednesday / 13:30 – 16:20			
Instructor information				**Assist. Prof. Dr. Pınar Sharghi** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4120 pinar.sharghi@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	*Ship Management* provides a comprehensive study of the organizational, operational, technical, and commercial aspects of managing ships and shipping companies. The course covers the historical development of ship management, the external environment affecting shipping companies, and the internal processes and organizational structures required for effective operation. Students will learn about departmentalization, human resources management, crew management, technical management, operational and commercial management, and the implementation of the ISM Code. The course also examines ship management contracts, including BIMCO Shipman 98, and the outsourcing of ship management functions. Through case studies, practical examples, and industry-based exercises, students will acquire the knowledge and skills required to manage ships and shipping operations efficiently, ensuring regulatory compliance, operational effectiveness, and commercial success.
Course Aims and Objectives	The primary aim of *Ship Management* is to provide students with a thorough understanding of the organizational, operational, technical, and commercial aspects of managing ships and shipping companies. The course emphasizes both theoretical knowledge and practical skills to prepare students for professional roles in ship management. • Introduce the concept and role of shipping companies in the maritime industry. • Examine the historical development and evolution of ship management practices. • Analyze the external environment affecting shipping companies, including economic, regulatory, and technological factors. • Explain the processes and organizational structures of shipping companies. • Explore contextual factors that influence organizational design and departmentalization. • Develop understanding of human resources management in shipping, including recruitment, training, and welfare of crew and shore staff. • Explain technical management practices, including maintenance, safety, and compliance with the ISM Code. • Study crew management, including certification, scheduling, and welfare management. • Examine operational and commercial management functions, including voyage planning, cargo operations, chartering, and cost control. • Understand ship management contracts, including BIMCO Shipman 98, and the outsourcing of ship management functions.

Course Learning Outcomes	**LO1.** Explain the role and functions of shipping companies in the global maritime industry. **LO2.** Describe the historical development and evolution of ship management practices. **LO3.** Analyze the external environment affecting shipping companies, including economic, regulatory, and technological factors. **LO4.** Explain the internal processes and organizational structure of a shipping company. **LO5.** Evaluate contextual factors influencing organizational design and departmentalization. **LO6.** Apply principles of human resources management in shipping, including recruitment, training, and crew welfare. **LO7.** Manage technical aspects of ship management, including maintenance, safety, and compliance with the ISM Code. **LO8.** Plan and implement crew management strategies, including certification, scheduling, and welfare considerations. **LO9.** Apply operational and commercial management practices, including voyage planning, cargo operations, and chartering. **LO10.** Understand ship management contracts (BIMCO Shipman 98) and the outsourcing of ship management functions.

Content of the Course

Week	*Subject*
1	**Introduction to Shipping Companies** • Definition and role of a shipping company • Functions and significance in global maritime operations
2	**Historical Development of Ship Management** • Evolution of ship management practices • Key milestones and technological developments affecting management
3	**External Environment of Shipping Companies** • Market dynamics, competition, and regulatory environment • Economic, political, and technological factors influencing ship management
4	**The Process of a Shipping Company** • Core processes: operations, commercial, technical, and crew management • Integration of processes to achieve organizational goals
5	**Organization of a Shipping Company** • Structure of shipping companies: centralized vs decentralized • Management levels and reporting lines
6	**Contextual Factors of Organizational Structure** • Factors affecting organizational design: size, fleet type, geography • Flexibility and adaptability in organizational structure
7	**Departmentalization in Shipping Companies** • Operational, technical, commercial, and administrative departments • Roles, responsibilities, and inter-department coordination
8	**Human Resources Management in Shipping Companies** • Recruitment, training, and retention of crew and shore staff • Performance management, labor regulations, and welfare considerations
9	**Technical Management of Ships** • Maintenance, safety, and compliance with international regulations • ISM Code implementation and quality management systems
10	**Crew Management** • Crew recruitment, certification, training, and scheduling

	• Crewing policies and welfare management
11	**Operational Management** • Voyage planning, cargo operations, and fleet optimization • Coordination between ship and shore operations
12	**Commercial Management** • Chartering, freight negotiations, and commercial strategies • Revenue optimization and cost control
13	**Ship Management Contracts** • BIMCO Shipman 98 contract overview • Rights, responsibilities, and liabilities of ship managers and owners
14	**Outsourcing of Ship Management** • Reasons for outsourcing technical, crew, or operational management • Selection of third-party ship management companies • Risk management and performance monitoring
15	**Course Review and Final Exam** • Comprehensive review of all topics • Discussion of case studies and practical ship management scenarios • **FINAL EXAM**

Methods and Techniques used in the Course

Lectures and Theoretical Instruction

- Presentation of core concepts such as shipping company functions, organizational structures, and management processes.
- Use of slides, diagrams, and visual aids to illustrate ship management operations.

Case Studies and Scenario Analysis

- Real-world examples of shipping company operations, departmental coordination, and decision-making processes.
- Analysis of technical, operational, and commercial management challenges.

Practical Exercises

- Application of human resources management principles in shipping.
- Exercises on voyage planning, cargo operations, and fleet management.

Class Discussions and Interactive Sessions

- Discussions on organizational design, outsourcing, and risk management in ship management.
- Problem-solving exercises and group discussions of operational and commercial scenarios.

Industry Reports and Reference Materials

- Analysis of shipping market reports, BIMCO contracts, and ISM Code implementation guidelines.
- Review of regulatory frameworks and maritime conventions affecting ship management.

Group Projects and Presentations

- Collaborative projects simulating ship management decisions and organizational operations.
- Presentation of solutions and discussion of best practices in shipping company management.

Simulation-Based Learning (if available)

- Digital platforms to simulate crew scheduling, technical maintenance planning, and operational management.

Assignments and Independent Study

- Weekly exercises and reading assignments to reinforce lecture content.
- Research on technical, operational, and commercial aspects of ship management.

Sample Questions

- **Define a shipping company** and explain its key functions in global maritime operations.
- **Discuss the historical development of ship management.**
  How have technological and regulatory changes influenced modern ship management practices?
- **Explain the external environment of a shipping company.**
  Identify economic, political, and technological factors that impact operations.
- **Describe the core processes of a shipping company.**
  How do operational, commercial, technical, and crew management processes integrate?
- **Compare centralized and decentralized organizational structures** in shipping companies. What are the advantages and disadvantages of each?
- **Explain the concept of departmentalization** in shipping companies. Describe the main departments and their responsibilities.
- **Discuss human resources management in shipping companies.** Include recruitment, training, certification, and welfare of crew and shore staff.
- **Explain technical management practices** including maintenance, safety, and ISM Code compliance.
- **Describe the operational and commercial management functions** of a shipping company. Include voyage planning, cargo operations, chartering, and cost control.
- **Outline the main provisions of BIMCO Shipman 98 contracts.** Discuss the rights and responsibilities of ship managers and owners.
- **Explain the reasons and challenges for outsourcing ship management functions.**

Materials Used in the Course

Primary Textbooks

- **Stopford, Martin** – *Maritime Economics*, 2nd Edition, Routledge, 2009.
- **Branch, Alan E.** – *Elements of Shipping*, 9th Edition, Routledge, 2021.
- **BIMCO** – *Shipman 98: Ship Management Contract*, BIMCO Publications, 1998.

Recommended References

- **Grammenos, Costas (Ed.)** – *The Handbook of Maritime Economics and Business*, 2nd Edition, Routledge, 2010.
- **Stopford, Martin** – *Maritime Logistics: A Guide to Contemporary Shipping and Port Management*, Routledge, 2020.
- **IMO Publications** – ISM Code and related guidelines for ship safety and management compliance.
- **Clarksons Research Reports**

Supplementary Learning Materials

- **Case Studies**
- **Practical Exercises**
- **Industry Reports and Guidelines**
- **Academic Journals**

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate fundamental knowledge of maritime business, shipping operations, port management, and international logistics.				✓	Maritime Business & Operations
2	Apply principles of management, economics, and finance to ship operations, chartering, brokerage, and maritime organizational decision-making.				✓	Maritime Economics & Management
3	Understand and interpret international maritime law, conventions, and trade regulations including SOLAS, MARPOL, UNCLOS, and INCOTERMS.				✓	Maritime Law & Policy
4	Plan and manage port and terminal operations efficiently, considering cargo handling systems, port logistics, and intermodal transport networks.				✓	Port & Terminal Operations Management
5	Employ digital tools and data-driven approaches in ship management, fleet performance monitoring, and maritime logistics systems.				✓	Digital Maritime Operations
6	Integrate sustainability, environmental protection, and decarbonization principles into maritime and logistics operations in line with IMO GHG strategy.			✓		Sustainability & Green Shipping
7	Demonstrate competence in maritime risk assessment, safety management systems (ISM Code), and crisis response in ship and shore-based contexts.			✓		Safety & Risk Management
8	Exhibit leadership, teamwork, and communication skills necessary for multicultural and interdisciplinary maritime organizations.				✓	Leadership & Intercultural Communication
9	Apply marketing, logistics, and supply chain strategies to global shipping and maritime transport sectors.				✓	Global Logistics & Supply Chain Management
10	Prepare and analyze charter parties, bills of lading, and other shipping documents while managing cargo claims and marine insurance issues.				✓	Maritime Documentation & Insurance
11	Utilize effective business English and Maritime English for negotiation, correspondence, and documentation within international maritime contexts.			✓		Maritime Communication & Professional English
12	Demonstrate ethical awareness, corporate responsibility, and adherence to international professional standards in maritime and logistics management.			✓		Ethics & Corporate Responsibility
13	Develop research skills and analytical thinking to identify, evaluate, and solve complex problems in maritime transport and logistics systems.			✓		Analytical Thinking & Research Skills
14	Adapt to innovations such as digitalization, automation, and smart shipping technologies through continuous professional development.				✓	Innovation & Lifelong Learning
15	Apply entrepreneurship and strategic management principles to establish or develop maritime-related enterprises in a competitive global environment.			✓		Entrepreneurship & Strategic Management

***0:** No Contribution **1:** Little Contribution **2:** Partial Contribution **3:** Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
	LO1	**LO2**	**LO3**	**LO4**	**LO5**	**LO6**	**LO7**	**LO8**	**LO9**	**L10**
PO1	3	3	2	2	2	1	3	2	2	2
PO2	3	3	3	2	2	1	2	1	2	1
PO3	2	3	1	3	3	2	1	3	1	1
PO4	2	2	1	2	3	3	2	2	2	2
PO5	1	2	2	1	1	2	2	2	3	3
PO6	1	2	1	2	1	1	2	3	2	2
PO7	1	1	1	1	1	3	2	2	3	3
PO8	1	1	3	1	1	1	2	1	2	1
PO9	1	1	2	1	1	1	1	1	2	2
PO10	2	2	1	2	3	3	2	2	2	2
PO11	1	2	2	1	1	2	2	2	3	3
PO12	1	2	1	2	1	1	2	3	2	2
PO13	3	3	3	2	2	1	2	1	2	1
PO14	2	3	1	3	3	2	1	3	2	2
PO15	1	2	1	2	2	3	2	2	3	3

Course Learning Outcomes/ Evaluation Method		
Course Learning Outcomes (CLOs)	**Teaching Method**	**Assessment Method**
LO1. Explain the role and functions of shipping companies in global maritime operations.	Lectures, Case Studies	Quizzes, Midterm Exam
LO2. Describe the historical development and evolution of ship management practices.	Lectures, Discussions	Assignments, Quizzes
LO3. Analyze the external environment affecting shipping companies, including economic, regulatory, and technological factors.	Lectures, Case Studies	Case Study Analysis, Midterm Exam
LO4. Explain the internal processes and organizational structure of a shipping company.	Lectures, Visual Aids	Assignments, Quizzes
LO5. Evaluate contextual factors influencing organizational design and departmentalization.	Lectures, Group Discussions	Assignments, Participation
LO6. Apply principles of human resources management in shipping, including recruitment, training, and crew welfare.	Lectures, Practical Exercises	Assignments, Group Project
LO7. Manage technical aspects of ship management, including maintenance, safety, and ISM Code compliance.	Lectures, Case Studies, Simulations	Assignments, Practical Exercises
LO8. Plan and implement crew management strategies, including certification, scheduling, and welfare considerations.	Practical Exercises, Discussions	Assignments, Case Study Reports
LO9. Apply operational and commercial management practices, including voyage planning, cargo operations, and chartering.	Lectures, Problem-Solving Exercises	Assignments, Midterm Exam
LO10. Understand ship management contracts (BIMCO Shipman 98) and the outsourcing of ship management functions.	Lectures, Case Studies	Quizzes, Final Exam

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	-	-	-
Lectures	**15**	**3**	**45**
Midterm Exam	**1**	**2**	**2**
Preparation for Midterm Exam	**1**	**15**	**15**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**15**	**15**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	**15**	**2**	**30**
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	**1**	**15**	**15**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**124**
ECTS Credit			**4**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	15	10
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	1	10
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	30
Final/Oral Exams	1	50
Total	**4**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Physics for Mariners II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MPH102	I	Spring	4	4	3	0	2
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				50	30	-	20
Course Venue and Time				Wednesday 12.30-16.20			
Instructor information				**Assist. Prof. Dr. Engin Ata** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4060 engin.ata@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course builds upon foundational physics concepts and emphasizes their applications in maritime and navigational contexts. Students will explore advanced topics in electricity, magnetism, and optics, integrating theoretical understanding with practical examples relevant to shipboard systems and marine technology. The course begins with a review of electric fields, flux, and potential, introducing capacitance and dielectric materials, followed by the analysis of current, resistance, and DC circuits. Students will learn to design and evaluate simple electrical circuits and understand the behavior of components under various conditions. The second part of the course covers magnetic fields, the sources and effects of magnetism, Faraday's law, and inductance, extending to AC circuits and the principles of electromagnetic waves. Applications of these principles in marine navigation, communication, and energy systems will be emphasized. In the latter part of the course, students will study the principles of ray optics, image formation, wave optics, diffraction, and polarization, providing insights into optical systems used onboard ships and in maritime instrumentation. Finally, the course introduces basic concepts of relativity to develop an appreciation of modern physical principles and their implications for high-precision measurements. Laboratory sessions, exercises, and case studies will reinforce theoretical knowledge, develop problem-solving skills, and illustrate real-world maritime applications. Assessment includes a combination of midterm exams, laboratory work, and a final exam.
Course Aims and Objectives	**Course Aims:** The aim of this course is to provide students with an in-depth understanding of advanced physics concepts, particularly in electricity, magnetism, and optics, with a focus on their practical applications in maritime environments. The course seeks to strengthen analytical thinking, problem-solving, and the ability to apply physical principles to shipboard systems, navigation, and marine technology. **Course Objectives:** By the end of the course, students should be able to: • Understand and apply concepts of electric fields, potential, capacitance, and dielectric materials in marine systems. • Analyze current, resistance, and DC circuits, and understand the practical implications for shipboard electrical systems. • Explain magnetic fields, Faraday's law, inductance, and AC circuits, and apply these principles to maritime instrumentation and electrical machinery.

	• Understand the properties and behavior of electromagnetic waves and their applications in communication and navigation systems. • Apply principles of ray optics, wave optics, diffraction, and polarization to optical devices used in maritime operations. • Recognize the relevance of relativistic concepts to high-precision measurements and advanced navigational systems. • Develop problem-solving skills by integrating theory with laboratory experiments and practical maritime applications.
Course Learning Outcomes	**CLO1 – Electric Fields and Potential:** Explain and apply the principles of electric fields, electric flux, and electric potential in marine electrical systems. **CLO2 – Capacitors and Dielectrics:** Analyze capacitors, dielectrics, and their applications in shipboard electrical circuits. **CLO3 – DC Circuits and Ohm's Law:** Solve problems related to current, resistance, and direct current (DC) circuits in maritime electrical equipment. **CLO4 – Magnetic Fields and Induction:** Interpret and apply Faraday's law, magnetic fields, and inductance to practical maritime scenarios. **CLO5 – AC Circuits and Electromagnetic Waves:** Analyze alternating current (AC) circuits and electromagnetic waves relevant to shipboard communication and navigation systems. **CLO6 – Optics – Ray and Wave Principles:** Apply ray optics and wave optics principles to shipboard optical instruments and measurements. **CLO7 – Diffraction, Interference, and Polarization:** Understand and interpret diffraction, interference, and polarization effects in maritime applications. **CLO8 – Special Relativity Concepts:** Explain basic concepts of special relativity and their relevance to precision measurements and instrumentation at sea. **CLO9 – Laboratory Skills and Experimental Analysis:** Conduct laboratory experiments safely, record data accurately, and correlate experimental results with theoretical predictions. **CLO10 – Integrated Problem Solving:** Integrate theoretical knowledge with practical maritime applications to solve real-world engineering and operational problems onboard ships.

Content of the Course

Week	*Subject*
1	Introduction, Electric field, flux and potential
2	Capacitance and dielectrics
3	Current and resistance
4	DC circuits
5	Midterm Exam
6	Magnetic fields, sources of magnetic fields
7	Faraday's law and Inductance
8	AC circuits
9	Electromagnetic waves
10	Midterm Exam
11	Principles of ray optics and image formation
12	Wave optics
13	Diffraction patterns and Polarization
14	Relativity
15	Final Exam

Methods and Techniques used in the Course

Lectures:

- Structured classroom lectures covering fundamental physics concepts and maritime applications.
- Use of diagrams, animations, and simulations to visualize electric, magnetic, and optical phenomena.

Laboratory Applications:

- Hands-on experiments to measure voltage, current, magnetic fields, and wave properties.
- Verification of theoretical concepts through practical work with shipboard-relevant equipment.

Problem-Based Learning (PBL):

- Solving applied physics problems related to ship systems, navigation, and communication.
- Emphasis on calculations for circuits, fields, and optics.

Case Studies:

- Real-life maritime scenarios for AC/DC circuits, electromagnetic waves, and optical systems.
- Analysis of practical engineering challenges on ships.

Group Work:

- Collaborative exercises in laboratory and problem-solving sessions.
- Application of theoretical knowledge to team-based projects.

Simulation Tools and Software:

- Use of simulation software for electrical circuits, wave propagation, and optics.
- Visualization of electromagnetic and optical behaviors.

Quizzes and In-Class Exercises:

- Regular short quizzes to reinforce understanding.
- In-class problem-solving to engage students actively.

Homework and Assignments:

- Individual exercises reinforcing lecture and lab material.
- Numerical problems, derivations, and conceptual questions.

Midterm and Final Examinations:

- Combination of theoretical questions and problem-solving exercises.
- Application of concepts to realistic maritime scenarios.

Sample Questions

Electric Fields and Capacitance

- Calculate the electric field at a point 2 m from a point charge of 5 μC.
- A parallel-plate capacitor has a plate area of 0.5 m² and a separation of 2 mm. Find its capacitance in vacuum.
- Explain how dielectrics improve the performance of shipboard capacitors.

Current, Resistance, and DC Circuits

- Determine the total resistance of a series-parallel network with resistors: 5 Ω, 10 Ω, 15 Ω.
- A shipboard DC circuit draws 10 A at 24 V. Calculate the power consumed.
- Discuss precautions for preventing short circuits in maritime electrical systems.

Magnetic Fields and Induction

- Calculate the magnetic force on a 2 m long wire carrying 5 A current in a 0.3 T magnetic field.
- A coil with 50 turns experiences a change in flux of 0.02 Wb in 0.1 s. Find the induced EMF.
- Explain the significance of Faraday's Law for shipboard generators.

AC Circuits and Electromagnetic Waves

- For an AC circuit with R = 10 Ω, L = 0.05 H, and C = 100 μF at 50 Hz, calculate the impedance.
- Discuss the importance of electromagnetic wave propagation for ship communication.
- Sketch the waveform of a sinusoidal AC voltage and indicate peak, RMS, and frequency.

Ray and Wave Optics

- Determine the image location for a concave mirror with focal length 20 cm when an object is 30 cm away.
- Explain constructive and destructive interference using the double-slit experiment.
- Describe how polarization can improve navigational instruments on ships.

Diffraction, Polarization, and Relativity

- A diffraction grating has 5000 lines/cm. Calculate the angle for the first-order maximum of light with λ = 600 nm.
- Explain the effect of relativistic time dilation on satellite-based navigation systems.
- Describe a scenario on a ship where diffraction or polarization phenomena may be observed.

Materials Used in the Course

Textbooks & Reference Books

- Serway, R.A. & Jewett, J.W., *Physics for Scientists and Engineers*, 10th Edition, Cengage.
- Halliday, D., Resnick, R., & Walker, J., *Fundamentals of Physics*, 11th Edition, Wiley.
- Tipler, P.A., & Mosca, G., *Physics for Scientists and Engineers*, 6th Edition, W.H. Freeman.
- Kinsler, L.E., Frey, A.R., Coppens, A.B., & Sanders, J.V., *Fundamentals of Acoustics*, 4th Edition.

Lecture Notes & Online Resources

- Instructor-prepared lecture slides and notes
- MIT OpenCourseWare: Electricity & Magnetism, Waves, Optics
- Interactive simulations (PhET Physics Simulations) for electric circuits, magnetic fields, wave interference, and diffraction

Laboratory Materials & Equipment

- Power supply units (DC and AC)
- Multimeters and ammeters
- Resistors, capacitors, inductors
- Helmholtz coils and magnetic field sensors
- Optical bench, lenses, mirrors, and diffraction gratings
- Oscilloscope and function generators
- Laser and light sources for wave optics experiments
- Polarizers and prisms for polarization studies

Software & Tools

- MATLAB or Python for numerical simulations of circuits and wave phenomena
- Circuit simulators (e.g., LTSpice, TINA-TI)
- Spreadsheet software for data collection, plotting, and analysis

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	2	2	3	2	2	2	2	2
PO2	1	1	2	2	1	2	2	2	3	2
PO3	2	2	2	1	2	2	3	3	2	2
PO4	1	1	1	1	2	3	3	1	1	2
PO5	3	1	3	2	2	2	2	2	3	2
PO6	2	2	2	2	3	2	3	2	2	2
PO7	1	1	1	1	1	1	1	1	1	1
PO8	1	1	1	1	0	1	1	1	1	1
PO9	1	1	1	1	1	1	1	1	0	1
PO10	1	1	2	3	3	2	1	1	1	3
PO11	1	1	1	1	1	1	1	1	1	2
PO12	1	1	1	1	1	1	1	1	1	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Electric Fields and Potential	Lecture, Multimedia Presentation, Guided Exercises	Quizzes, Midterm Exam, Assignments
CLO2 – Capacitors and Dielectrics	Lecture, Problem-Solving Exercises, Lab Demonstration	Lab Reports, Quizzes, Assignments
CLO3 – DC Circuits and Ohm's Law	Lecture, Tutorials, Hands-on Circuit Practice	Lab Reports, Practical Exams, Quizzes
CLO4 – Magnetic Fields and Induction	Lecture, Case Studies, Lab Experiments	Lab Reports, Midterm Exam, Assignments
CLO5 – AC Circuits and Electromagnetic Waves	Lecture, Simulation, Problem-Solving Exercises	Lab Reports, Practical Exams, Assignments
CLO6 – Optics – Ray and Wave Principles	Lecture, Demonstration, Hands-on Experiments	Lab Reports, Quizzes, Practical Exercises
CLO7 – Diffraction, Interference, Polarization	Lecture, Guided Experiments, Simulations	Lab Reports, Assignments, Quizzes
CLO8 – Special Relativity Concepts	Lecture, Case Studies, Problem-Solving	Quizzes, Assignments, Midterm Exam
CLO9 – Laboratory Skills and Experimental Analysis	Hands-on Lab, Data Recording, Safety Training	Lab Reports, Observations, Practical Exams
CLO10 – Integrated Problem Solving	Scenario-Based Exercises, Projects, Group Work	Project Reports, Practical Exams, Assignments

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**2**	**30**
Lectures	**15**	**4**	**60**
Midterm Exam	**1**	**2**	**2**
Preparation for Midterm Exam	**1**	**6**	**6**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**6**	**6**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Case Studies / Critical Thinking	-	-	-
Project Writing	-	-	-
Group Work	**1**	**4**	**4**
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory / Practical Applications	**2**	**4**	**8**
Assignment(s)/Homework/Class Works	**4**	**4**	**16**
Preparation for laboratory sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
In-class discussions / Q&A sessions	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**134**
ECTS Credit			**4**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	2	10
Application	-	-
Field Work	1	10
Special Course Internship (Work Placement)	-	-
Homework/Assignments	4	20
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	30
Final/Oral Exams	1	30
Total	**9**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Calculus II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MTH102	I	Spring	4	6	4	0	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				50	-	-	50
Course Venue and Time				Wednesday 12.30-16.20			
Instructor information				**Assist. Prof. Dr. Engin Ata** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4060 engin.ata@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course provides an in-depth study of advanced mathematical concepts building upon Calculus I. Topics include geometry, area and volume calculations, trigonometry, complex numbers, measurement and uncertainty, vectors, conic sections, and the use of mathematical tables. Emphasis is placed on practical applications in engineering, physics, navigation, and problem-solving. Students will develop analytical skills and the ability to apply mathematical methods to real-world problems, preparing them for further studies in mathematics, science, and engineering disciplines.
Course Aims and Objectives	The course aims to deepen students' understanding of mathematical concepts introduced in Calculus I, providing them with the tools and techniques to solve complex problems in mathematics, physics, engineering, and related disciplines. It emphasizes the practical application of advanced calculus, analytical thinking, and problem-solving skills. • Apply geometric principles to calculate areas, volumes, and other spatial properties. • Solve problems using trigonometry, including spherical trigonometry. • Work confidently with complex numbers in mathematical and applied contexts. • Understand measurement techniques and evaluate uncertainties in calculations. • Utilize vectors in solving multidimensional problems. • Analyze and solve problems involving conic sections such as ellipses and hyperbolas. • Use mathematical tables effectively for computation and problem-solving. • Develop logical reasoning and analytical skills for advanced mathematical applications.
Course Learning Outcomes	**CLO1 – Areas and Volumes:** Calculate areas and volumes using advanced geometric techniques and integration methods. **CLO2 – Trigonometry and Spherical Trigonometry:** Solve trigonometric and spherical trigonometry problems relevant to practical engineering and scientific applications. **CLO3 – Complex Numbers:** Perform operations with complex numbers and apply them to mathematical and engineering problems. **CLO4 – Measurement and Uncertainty:** Apply principles of measurement and quantify uncertainties in real-world calculations. **CLO5 – Vector Analysis:** Utilize vectors to analyze and solve problems in two- and three-dimensional spaces. **CLO6 – Conic Sections:** Analyze and work with conic sections, including ellipses, hyperbolas, and parabolas, in applied contexts. **CLO7 – Mathematical Tables and Functions:** Interpret and use mathematical tables for logarithmic, trigonometric, and other functions in problem-solving. **CLO8 – Logical Reasoning and Critical Thinking:** Demonstrate logical reasoning and critical thinking in solving advanced calculus and applied mathematics problems.

	CLO9 – Integration of Mathematical Knowledge: Integrate knowledge from different mathematical areas to model, analyze, and solve applied engineering and scientific problems. **CLO10 – Applied Problem Solving:** Apply mathematical tools and techniques to develop solutions for real-world engineering, technological, and scientific challenges.

Content of the Course

Week	*Subject*
1	**Geometry Review and Basics** • Fundamental concepts of geometry • Points, lines, planes, and angles • Distance, midpoint, and section formulas
2	**Area and Volume Calculations** • Calculation of areas of plane figures • Volume of solids: prisms, cylinders, cones, spheres • Applications in physical problems
3	**Trigonometry I** • Trigonometric functions and identities • Solving basic triangles • Applications in calculus
4	**Trigonometry II and Spherical Trigonometry** • Law of sines and law of cosines • Spherical triangles and their properties • Applications in navigation and astronomy
5	**Complex Numbers I** • Definition and representation of complex numbers • Algebraic operations: addition, subtraction, multiplication, division • Polar form of complex numbers
6	**Complex Numbers II** • Powers and roots of complex numbers • De Moivre's theorem • Applications in engineering and physics
7	**Measurement and Units** • Systems of measurement • Conversion between units • Dimensional analysis
8	**Measurement Uncertainty** • Sources of measurement errors • Absolute and relative uncertainties • Propagation of errors in calculations
9	**Mathematical Tables and Tools** • Use of mathematical tables for logarithms, trigonometry, and exponentials • Applications in solving real-world problems • Approximations and rounding
10	**Vectors I** • Definition and basic operations: addition, subtraction, scalar multiplication

	• Dot product and cross product • Geometric interpretation
11	**Vectors II** • Applications of vectors in geometry and physics • Lines and planes in vector form • Vector calculus fundamentals
12	**Conic Sections: Ellipses** • Standard equations of ellipses • Properties and foci • Applications in physics and engineering
13	**Conic Sections: Hyperbolas** • Standard equations of hyperbolas • Properties and asymptotes • Applications in navigation and orbits
14	**Applications of Calculus in Geometry** • Using calculus to compute areas and volumes • Surface area and arc length • Optimization problems in geometry
15	**Review and Integration of Topics** • Summary of all topics • Problem-solving sessions • Preparation for final exams

Methods and Techniques used in the Course

Lectures – Structured presentations to introduce and explain theoretical concepts and problem-solving techniques.

Interactive Problem-Solving Sessions – Step-by-step guidance on exercises, focusing on practical application of formulas and methods.

Group Discussions and Peer Learning – Collaborative learning to enhance understanding of complex topics such as vectors, conic sections, and spherical trigonometry.

Mathematical Software Tools – Use of calculators, MATLAB, or similar software to perform complex computations and visualize functions.

Worked Examples and Case Studies – Realistic problems from physics, engineering, and navigation to connect theory with practice.

Homework Assignments – Regular exercises to reinforce concepts and develop problem-solving skills.

Quizzes and Formative Assessments – Short assessments to track comprehension and provide feedback for improvement.

Demonstrations – Step-by-step demonstrations of geometric constructions, vector operations, and use of mathematical tables.

Sample Questions

Geometry & Measurement

- Calculate the area of a triangle given its vertices in 3D space.
- Determine the volume of a solid obtained by rotating a given function around the x-axis.

Trigonometry & Spherical Trigonometry

- Solve for missing sides and angles of a right-angled triangle using trigonometric identities.
- Given three points on a sphere, compute the spherical triangle area.

Complex Numbers

- Simplify $(3+4i)^2$ and represent the result in polar form.
- Solve $z^2+1=0$ for complex solutions.

Vectors

- Find the magnitude and direction of the resultant vector given $\vec{A}=2\hat{i}+3\hat{j}$ and $\vec{B}=-\hat{i}+4\hat{j}$.
- Calculate the dot product and cross product of two vectors.

Ellipse & Hyperbola

- Determine the foci of the ellipse $\frac{x^2}{9}+\frac{y^2}{4}=1$.
- Find the vertices and asymptotes of the hyperbola $\frac{x^2}{16}-\frac{y^2}{9}=1$.

Error & Uncertainty in Measurement

- A measurement of 5.2 m ± 0.1 m is recorded. Calculate the relative and percentage uncertainty.

Use of Mathematical Tables

- Using a logarithmic table, evaluate $\log 5.67$.
- Solve $\sin 45^\circ$ and $\tan 30^\circ$ using trigonometric tables.

Materials Used in the Course

Textbooks & Reference Books

- Calculus textbooks covering geometry, trigonometry, complex numbers, vectors, and conic sections.
- Mathematical tables for logarithms, trigonometric functions, and other reference tables.
- Manuals on measurement, error analysis, and spherical trigonometry.

Software & Tools

- Graphing calculators for visualizing functions, vectors, and conic sections.
- Computer algebra systems (e.g., MATLAB, Mathematica, or GeoGebra) for calculations and modeling.

Supplementary Materials

- Lecture notes and handouts provided by the instructor.
- Problem sets and solution manuals for practice.
- Online resources and interactive modules for geometry, vectors, and trigonometry.

Practical Tools

- Rulers, compasses, and protractors for geometric constructions.
- Measuring instruments for practical exercises in error analysis.
- Visual aids such as charts and 3D models to illustrate complex numbers, vectors, and conic sections.

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	2	2	3	2	2	2	2	2
PO2	1	1	2	2	1	2	2	2	3	2
PO3	2	2	2	1	2	2	3	3	2	2
PO4	1	1	1	1	2	3	3	1	1	2
PO5	3	1	3	2	2	2	2	2	3	2
PO6	2	2	2	2	3	2	3	2	2	2
PO7	1	1	1	1	1	1	1	1	1	1
PO8	1	1	1	1	0	1	1	1	1	1
PO9	1	1	1	1	1	1	1	1	0	1
PO10	1	1	2	3	3	2	1	1	1	3
PO11	1	1	1	1	1	1	1	1	1	2
PO12	1	1	1	1	1	1	1	1	1	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Areas and Volumes	Lecture, Problem-Solving Exercises, Tutorials	Quizzes, Assignments, Midterm Exam
CLO2 – Trigonometry and Spherical Trigonometry	Lecture, Guided Exercises, Hands-on Practice	Quizzes, Assignments, Practical Exercises
CLO3 – Complex Numbers	Lecture, Tutorials, Problem-Solving	Quizzes, Assignments, Midterm Exam
CLO4 – Measurement and Uncertainty	Lecture, Demonstrations, Hands-on Calculations	Lab Reports, Quizzes, Assignments
CLO5 – Vector Analysis	Lecture, Tutorials, Problem-Solving Sessions	Quizzes, Assignments, Midterm Exam
CLO6 – Conic Sections	Lecture, Guided Exercises, Case Studies	Quizzes, Assignments, Practical Problems
CLO7 – Mathematical Tables and Functions	Lecture, Tutorials, Exercises	Quizzes, Assignments, Midterm Exam
CLO8 – Logical Reasoning and Critical Thinking	Problem-Solving Sessions, Case Studies, Group Work	Assignments, Quizzes, Midterm Exam
CLO9 – Integration of Mathematical Knowledge	Lecture, Integrated Exercises, Projects	Project Work, Assignments, Practical Exams
CLO10 – Applied Problem Solving	Scenario-Based Exercises, Group Projects, Case Studies	Project Work, Assignments, Practical Exams

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**2**	**30**
Lectures	**15**	**4**	**60**
Midterm Exam	**1**	**2**	**2**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**10**	**10**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Case Studies / Critical Thinking	-	-	-
Project Writing	-	-	-
Group Work	**1**	**10**	**10**
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory / Practical Applications	**2**	**10**	**20**
Assignment(s)/Homework/Class Works	**4**	**10**	**40**
Preparation for laboratory sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
In-class discussions / Q&A sessions	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**184**
ECTS Credit			**6**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	2	10
Application	-	-
Field Work	1	10
Special Course Internship (Work Placement)	-	-
Homework/Assignments	4	20
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	30
Final/Oral Exams	1	30
Total	**9**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Navigation II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
NAV102	I	Spring	3	3	2	2	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				60	-	-	40
Course Venue and Time				Wednesday 14.30-17.20			
Instructor information				**Cpt. Caner Özbilgiç** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4040 caner.ozbilgic@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	Navigation II expands on the principles learned in Navigation I, covering advanced coastal and open-sea navigation techniques. Topics include aids to navigation, lighthouses, buoys, depth measurement, speed and dead reckoning, tidal and current calculations, and voyage planning. Students will also learn to integrate electronic and traditional navigation methods, apply tidal corrections, and plan safe voyages under varying environmental conditions.
Course Aims and Objectives	**Aims:** • To provide students with advanced knowledge and practical skills in coastal and open-sea navigation. • To develop students' ability to integrate traditional and electronic navigation methods for safe and efficient voyage planning. • To enhance understanding of tidal, current, and environmental effects on navigation and their application in real-life maritime operations. • To prepare students to make informed decisions on bridge resource management and navigation safety. **Objectives:** • To familiarize students with aids to navigation, lighthouses, buoyage systems, and radio navigation tools. • To teach depth measurement techniques using manual and electronic methods. • To train students in speed measurement, dead reckoning (DR) navigation, and correction of courses for currents and tides. • To develop the ability to interpret tidal tables, current charts, and tidal atlases for voyage planning. • To integrate navigation knowledge into practical chart work, simulation exercises, and case studies.
Course Learning Outcomes	**CLO1 – Navigation Aids:** Identify, understand, and effectively utilize various aids to navigation, including lighthouses, buoys, and radio aids. **CLO2 – Depth Measurement:** Measure water depths accurately using both manual and electronic sounding techniques. **CLO3 – Dead Reckoning Navigation:** Perform dead reckoning navigation, calculating positions while accounting for speed, course, and drift corrections. **CLO4 – Tides and Currents:** Apply tidal and current data to plan, adjust, and optimize voyages for safe and efficient navigation. **CLO5 – Integrated Navigation Techniques:** Integrate traditional and electronic navigation methods in practical exercises to enhance positional accuracy. **CLO6 – Chart and Publication Interpretation:** Interpret nautical charts, publications, and simulation outputs to support comprehensive voyage planning. **CLO7 – Communication in Bridge Team:** Communicate navigation plans, decisions, and situational awareness effectively within a bridge team. **CLO8 – Problem Solving in Navigation:** Analyze and solve navigation problems in complex coastal and open-sea environments using theoretical and practical methods.

	CLO9 – Professional and Ethical Responsibilities: Demonstrate awareness of professional, ethical, and safety responsibilities in maritime navigation. **CLO10 – Applied Navigation Integration:** Apply combined knowledge of navigation aids, instruments, charts, and environmental factors to real-world voyage planning and decision-making.

Content of the Course

Week	*Subject*
1	**Introduction and Basic Concepts** • Definition, history, and types of navigation • Elements of navigation and fundamental concepts • The Earth, coordinate system, latitude and longitude
2	**Electronic Navigation Aids** • Electronic Chart Display and Information System (ECDIS): functions and applications • Integration of electronic and paper-based navigation methods
3	**Navigational Tools and Publications** • Construction of the Mercator chart • Small area plotting sheets • Definition of meridian parts
4	**Distance and Direction** • Definition of distance and direction • Measuring and calculating distances on charts • Great circle arcs and rhumb lines
5	**Course and Bearings** • Types of courses (true, magnetic, compass) • Bearings: relative and true • Applying bearings to charts
6	**Compasses I** • Magnetic compass: reading, degree and point systems • Earth's magnetic field and ship-induced magnetism (P, Q, R forces) • Natural and artificial magnetic deviation
7	**Compasses II** • Structure, errors, and corrections of the magnetic compass • Gyrocompass: structure, operation, errors, and corrections • Determining compass error, application to course and bearings
8	**Midterm Exam** (Covers Weeks 1–7)
9	**Coastal Navigation and Position Fixing I** • Position lines and position circles (bearing and distance) • Transit lines and chart plotting • Basic methods of coastal navigation
10	**Coastal Navigation and Position Fixing II** • Fix, Running Fix, Estimated Position (EP), and Most Probable Position (MPP) • Double angle methods • Safe navigation without fix methods
11	**Aids to Navigation I** • Navigational aids at sea and on coasts • Identification and characteristics of lighthouses • Day and night visibility ranges of lights
12	**Aids to Navigation II** • Light and fog signal publications • Sector lights and their use • Buoyage systems: lateral, cardinal, and other buoys
13	**Radio Navigational Aids** • Radio navigation aids and their symbols • Use of radio aids in charts and publications • Introduction to modern electronic systems (e.g., ECDIS integration)
14	**Mathematical Navigation** • Plane sailing, traverse sailing

	• Latitude sailing and longitude sailing • Middle latitude sailing and Mercator sailing
15	**Mathematical Navigation** • Plane sailing, traverse sailing • Latitude sailing and longitude sailing • Middle latitude sailing and Mercator sailing

Methods and Techniques used in the Course

Lectures: Conceptual and theoretical explanations of navigation principles, tidal and current theory, and aids to navigation.

Interactive Discussions: Question-and-answer sessions, scenario-based discussions to reinforce understanding of navigation concepts.

Chart Work Exercises: Hands-on plotting, dead reckoning, tidal and current corrections, and voyage planning on nautical charts.

Simulation-Based Training: Use of radar, ECDIS, and bridge simulators to apply theoretical knowledge in realistic navigation scenarios.

Case Studies: Analysis of real-world navigation problems, including coastal, estuary, and open-sea passages.

Assignments and Homework: Practical problem-solving exercises, calculations for tides, currents, distances, and courses.

In-Class Demonstrations: Practical use of aids to navigation, sounding techniques, and speed measurement instruments.

Independent Study: Self-learning using nautical publications, tidal/current tables, and electronic navigation systems.

Sample Questions

- Explain the differences between lateral and cardinal buoys. Provide examples of situations where each would be used.
- Describe the characteristics of sector lights and explain how they assist in coastal navigation.
- Identify and interpret the symbols for radio navigation aids on a nautical chart.
- Describe the procedure for measuring water depth using a hand lead. How would you correct the sounding for a moving vessel?
- Explain the principles of electronic echo-sounders and discuss their advantages and limitations compared to manual soundings.
- A vessel records soundings along a route. Using these soundings, determine safe clearance over a submerged obstruction, applying necessary tidal corrections.
- A ship departs from a known position at 0900 with a course of 045° and a speed of 12 knots. After 3 hours, the ship experiences a current with a set of 030° and drift of 2 knots. Calculate the corrected position using DR.
- Explain the steps to determine speed using a log line and how environmental factors may affect measurements.
- Discuss common sources of error in DR navigation and how they can be minimized.
- Using a given tidal table, calculate the expected high and low water times and heights for a port. How would you plan a safe entry for a vessel considering tidal currents?
- Explain the differences between spring and neap tides and their impact on vessel navigation.
- Using a current triangle, determine the set and drift required to maintain a desired course over ground in the presence of tidal flow.
- Explain how to integrate ECDIS data with manual chart work to ensure safe navigation in a coastal area. Include how you would cross-check positions and correct for discrepancies.
- Describe the steps to use radar plotting to verify position during restricted visibility.
- Discuss how voyage planning incorporates environmental factors such as wind, waves, currents, and tides to ensure safety.
- A vessel must navigate through a narrow channel with strong tidal currents and multiple lateral buoys. Describe the planning process and precautions to safely transit the channel.
- Evaluate a scenario where the electronic navigation system fails. How would you continue safe navigation using traditional methods?
- Using tidal and current data, calculate the best departure time for a port to maximize under-keel clearance.

Materials Used in the Course

Textbooks and Reference Books:

- *Bowditch's American Practical Navigator*, 2023 Edition – National Geospatial-Intelligence Agency
- *Admiralty Sailing Directions (Pilot Books)* – UK Hydrographic Office
- *Tidal and Current Tables* – Relevant editions for the region of study
- *Bridge Team Navigation Manual* – IMO Publications
- *Electronic Navigation Systems: ECDIS and Radar Handbook* – Relevant authors and editions

Nautical Charts and Publications:

- Admiralty Charts – Coastal and oceanic charts for practical exercises
- Notices to Mariners – Updates for chart corrections
- Light Lists and List of Radio Signals – For identification of aids to navigation
- Tidal Atlases and Current Atlases – For current and tidal calculations

Equipment and Tools:

- Magnetic and Gyro Compasses
- Parallel Rulers, Dividers, and Protractors
- Echo-Sounders (Manual and Electronic)
- Speed Logs and Log Lines
- Hand Lead Lines and Sounding Equipment
- Navigational Calculators and Software (ECDIS Simulators, Voyage Planning Tools)

Digital Resources:

- Online nautical chart portals and navigation apps (e.g., Navionics, NOAA ENC Viewer)
- IMO e-learning modules and simulation tutorials
- Research papers and case studies on coastal and open-sea navigation

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	3	3	3	2	2	2	2	3
PO2	1	2	2	2	2	2	3	2	2	2
PO3	2	2	3	2	3	3	2	3	2	3
PO4	1	2	2	2	2	3	2	2	2	2
PO5	3	3	3	2	3	3	3	3	2	3
PO6	2	2	2	2	2	2	2	2	2	2
PO7	1	1	1	1	1	1	2	1	1	2
PO8	1	1	1	1	1	1	1	1	1	1
PO9	1	1	1	1	1	1	1	1	1	1
PO10	1	2	2	2	2	2	2	2	2	2
PO11	1	1	1	1	1	1	1	1	1	1
PO12	1	1	1	1	1	1	1	1	1	1

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Navigation Aids	Lecture, Demonstration, Multimedia Presentation	Quizzes, Assignments, Midterm Exam
CLO2 – Depth Measurement	Lecture, Hands-on Sounding Practice, Lab Exercises	Lab Reports, Quizzes, Practical Exams
CLO3 – Dead Reckoning Navigation	Lecture, Problem-Solving Sessions, Simulation Exercises	Assignments, Midterm Exam, Practical Exercises
CLO4 – Tides and Currents	Lecture, Case Studies, Simulation	Quizzes, Assignments, Midterm Exam
CLO5 – Integrated Navigation Techniques	Lecture, Practical Exercises, Bridge Simulations	Practical Exams, Lab Reports, Assignments
CLO6 – Chart and Publication Interpretation	Lecture, Tutorials, Simulation Exercises	Quizzes, Assignments, Practical Exams
CLO7 – Bridge Team Communication	Role-Playing, Group Exercises, Simulation	Observation, Assignments, Practical Exams
CLO8 – Navigation Problem Solving	Problem-Based Learning, Case Studies, Simulations	Assignments, Midterm Exam, Practical Exercises
CLO9 – Professional & Ethical Responsibilities	Lecture, Discussions, Case Studies	Quizzes, Assignments, Participation
CLO10 – Applied Navigation Integration	Scenario-Based Exercises, Simulation, Group Projects	Project Reports, Practical Exams, Assignments

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**4**	**60**
Midterm Exam	**1**	**2**	**2**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**10**	**10**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	**15**	**1**	**15**
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	**1**	**20**	**20**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**134**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	15	10
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	1	10
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	30
Final/Oral Exams	1	50
Total	**2**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Maritime Safety II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
SAF102	I	Spring	3	3	2	2	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				30	-	-	70
Course Venue and Time				Wednesday 14.30-17.20			
Instructor information				**Cpt. Çağrı Deliceırmak** Faculty of Maritime Studies Wednesday / 08:00 – 12:20 +90 (392) 650 26 00 / 4060 cagri.deliceirmak@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	The course will be conducted in accordance with the IMO Model Courses 1.19, 1.20, and 1.23, as well as the national regulation "Egitim Sinav Yonergesi 2025" of the Turkish Republic. Successful students will be eligible to obtain mandatory STCW certificates of (1); Personal Survival Techniques, (2); Fire Prevention and Fire Fighting, (3); Proficiency in Survival Crafts and Rescue Boats (Other than Fast Rescue Boats). The course contents include Mustering in emergencies onboard. The operation, maintenance, launching, and recovery of Survival Crafts and Rescue Boats. Evacuation procedures and survival techniques at sea. Dangers, life, and best practices in survival crafts. Preventing and fighting fires onboard. Firefighting methods, operations, and maintenance of the firefighting equipment.
Course Aims and Objectives	This course aims to train students with the essential knowledge, skills, and competencies required for maritime safety, emergency response, and safe working practices on board and in emergencies. The course provides a foundation for understanding personal survival techniques at sea, fire prevention and firefighting on board, and the operation of survival craft. • Demonstrate proficiency in the operation, maintenance, launching, and recovery of survival crafts and rescue boats aboard the vessel. • Identify potential hazards and implement preventive measures to ensure safety on board. • Demonstrate knowledge and proficiency in fire prevention and firefighting methods on ships. • Demonstrate knowledge and proficiency in muster and evacuation procedures during onboard emergencies. • Demonstrate knowledge and proficiency in personal survival techniques at sea.
Course Learning Outcomes	**LO1:** Proper utilization of survival craft and rescue boats on vessels, encompassing launching, recovery, and operational procedures. **LO2:** Assess potential hazards and implement preventive measures to ensure a safe environment on board. **LO3:** Proficiency in fire prevention and firefighting onboard, including the use and maintenance of firefighting equipment, alarms, and detection systems. **LO4:** Proficiency in mustering, response, and evacuation procedures during emergencies aboard the vessel. **LO5:** Proficiency and requisite skills in personal survival techniques at sea.

Content of the Course

Week	*Subject*
1	**Fire Prevention and Firefighting** Terminology and related maritime English terms. Description of fire. Ignition, spreading, and extinguishing of fire. Prevention and the most common reasons for fire onboard. Classification of fire and appropriate extinguishing agents.
2	**Fire Prevention and Firefighting** Terminology and related maritime English terms. Firefighting equipment and systems which used on board. Fixed and portable extinguishers. Fire main, hydrants, hoses, nozzles, and pumps.
3	**Fire Prevention and Firefighting** Terminology and related maritime English terms. Fireman outfit and Breathing Apparatus (SCBA). Detection systems Fire doors, escape routes, and procedures.
4	**Fire Prevention and Firefighting (Practical)** Practical Training Operation of Portable Fire Extinguishers Operation of Fire control systems, including fire pumps, hoses, and nozzles Operation of Fixed Fire Extinguishers (Detection and Sprinkler Systems)
5	**Fire Detection and Alarm Systems (Practical)** Operation of Fixed Fire Extinguishers (CO_2 System) Donning and use of Fireman's Outfit and BA Set Fire in enclosed spaces Rescue from enclosed spaces
6	**Survival Techniques at Sea** Terminology and related maritime English terms. Emergencies on board and survival methods Life Saving Appliances onboard, including survival crafts and personal life saving appliances Musters, training, and drills Launching - Recovery Operations and maintenance of Lifeboats
7	**Survival Techniques at Sea** Terminology and related maritime English terms. Use of life jackets Use of immersion suits Use of Thermal Protective Equipment Use of lifebuoys
8	**Survival Techniques at Sea** Terminology and related maritime English terms. Mustering and Abandoning Ship Procedures Survival techniques and dangers in survival crafts Survival techniques, dangers, and correct actions in the sea
9	**Survival Techniques at Sea (Practical)**

	Use of Personal Life Saving Appliances. Correct use of life jackets, immersion suits, and TPA Mustering and Abandoning Ship practice Jumping and swimming methods in the sea
10	**Survival Techniques at Sea (Practical)** Use of Personal Life Saving Appliances. Correct use of life jackets, immersion suits, and TPA Mustering and Abandoning Ship practice Jumping and swimming methods in the sea
11	**Proficiency in Survival Crafts and Rescue Boats** Terminology and related maritime English terms. Lifeboats, the types, structure, and specifications Lifeboat Equipment and purposes Launching and Recovery Appliances of Lifeboats Launching - Recovery Operations and maintenance of Lifeboats
12	**Proficiency in Survival Crafts and Rescue Boats** Terminology and related maritime English terms. Liferafts, the types, structure, and specifications Liferaft Equipment and purposes Launching Appliances of Liferafts Launching Operations and maintenance of Liferafts
13	**Proficiency in Survival Crafts and Rescue Boats** Terminology and related maritime English terms. Survival techniques in Lifeboats and Liferafts Use of pyrotechnics, EPIRB, and SART in survival craft. Importance of food and water in survival crafts Dangers in Survival Crafts Rescue operations in Survival Crafts
14	**Proficiency in Survival Crafts and Rescue Boats (Practical)** Abandoning Ship with Lifeboats Preparing Lifeboat for Launching Launching and Recovering of Lifeboats Starting the engine and operating the release mechanism Use of lifeboat equipment, including painter line, sea-anchor, and pyrotechnics
15	**Proficiency in Survival Crafts and Rescue Boats (Practical)** Abandoning Ship with Liferafts Preparing Lifeboat for Launching Launching and inflating Liferafts Boarding Liferaft Use of liferaft equipment, including painter line, sea-anchor, and pyrotechnics

Methods and Techniques used in the Course

Lectures and Interactive Discussions:

- Presentation of theoretical concepts related to maritime safety, first aid, and emergency procedures.
- Encouraging active participation and Q&A sessions to deepen understanding.

Practical Demonstrations and Simulations:

- Hands-on training for first aid, firefighting, lifesaving, and emergency response.
- Use of simulated accident scenarios, emergency drills, and onboard equipment demonstrations.

Case Studies and Problem-Solving Exercises:

- Analysis of real maritime incidents to understand causes, preventive measures, and response strategies.
- Group exercises to develop decision-making and critical thinking skills during emergencies.

Use of Multimedia and E-Learning Tools:

- Instructional videos, interactive e-learning modules, and digital resources to illustrate safety procedures and equipment use.

Teamwork and Role-Playing Activities:

- Role assignment in emergency scenarios to practice coordination, communication, and leadership under pressure.

Assessments and Feedback:

- Regular evaluation of practical skills, knowledge tests, and drills.
- Immediate feedback and reflection sessions to improve performance and understanding.

Integration with International Standards:

- Training aligned with IMO, STCW, and ISPS Code requirements for maritime safety and security.

Sample Questions

Fire Prevention and Fire Fighting

- What type of portable fire extinguishers are used on ships?
- What are the extinguishing methods of a fire?

Survival Techniques at Sea

- Which personal LSA are used to protect body-core temperature in sea?
- What type of personal life saving appliances are used onboard?

Proficiency in Survival Crafts:

- What type of lifeboats are used on cargo ships?
- What is HRU?
- What are the launching methods of liferafts?

Materials Used in the Course

Textbooks & Reference Books:

- Lecturer Notes, Related IMO Model Courses and STCW (Standards of Training, Certification, and Watchkeeping) manuals.
- SOLAS Consolidated Edition, LSA Code, FSS Code, PST Workbook, The Fire Fighting System Guidance, Fire Prevention and Fire Fighting
    - SOLAS Consolidated Edition
    - LSA Code
    - FSS Code
    - PST Workbook
    - The Fire Fighting System Guidance
    - Fire Prevention and Fire Fighting

Supplementary Resources

- Instructional videos demonstrate emergency response techniques, personal safety, and the use of protective equipment.
- Interactive simulations of onboard emergency scenarios, including collision, flooding, fire, and piracy attacks.
- Online resources from the International Maritime Organization (IMO) and maritime safety training platforms.
- Survival Crafts (Lifeboat and Liferaft) and Rescue Boats.
- Personal life-saving appliances (PPE) such as life jackets, lifebuoys, immersion Suits, and TPA.
- Firefighting equipment: portable extinguishers, fire hoses, fire nozzles, Fireman's Outfit and BA Set, fire blankets, fire detection and alarm systems, fixed CO2 System, and Foam Applicators.

All the above-listed books are available at UoK's Grand Library.

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.			✓		Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.			✓		Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.			✓		Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	3	3	3	x	x	x	x	x
PO2	3	3	3	3	3	x	x	x	x	x
PO3	3	3	3	3	3	x	x	x	x	x
PO4	2	2	2	2	2	x	x	x	x	x
PO5	3	3	3	3	3	x	x	x	x	x
PO6	3	3	3	3	3	x	x	x	x	x
PO7	3	3	3	3	3	x	x	x	x	x
PO8	2	2	2	2	2	x	x	x	x	x
PO9	1	2	1	1	1	x	x	x	x	x
PO10	3	3	3	3	3	x	x	x	x	x
PO11	3	3	3	3	3	x	x	x	x	x
PO12	3	3	3	3	3	x	x	x	x	x

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
LO1	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO2	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO3	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO4	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO5	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**3**	**45**
Midterm Exam	**1**	**1**	**1**
Preparation for Midterm Exam	**1**	**5**	**5**
Final Exam	**1**	**1**	**1**
Preparation for Final Exam	**1**	**5**	**5**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	**3**	**5**	**15**
In-class Discussion(s)	**15**	**1**	**15**
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	-	-	-
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**102**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	1	5
Laboratory	-	-
Application	3	45
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Assignment(s)/Homework/Class Works	-	-
Providing reliability and motivation for the individual's homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	20
Final/Oral Exams	1	30
Total	**6**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check the instructor's web page frequently for the course announcements. • The University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Seamanship II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
SEA102	I	Spring	3	3	2	2	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				30	-	-	70
Course Venue and Time				Wednesday 14.30-17.20			
Instructor information				**Cpt. Çağrı Deliceırmak** Faculty of Maritime Studies Wednesday / 09:00 – 12:00 +90 (392) 650 26 00 / 4060 cagri.deliceirmak@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course provides students with a comprehensive understanding of the fundamental principles, practices, and terminology of maritime operations. It covers marine ropes and ropework, anchoring and mooring operations, cargo handling operations, and ship steering. The course also emphasizes the maintenance and repair of ship structures, machinery, and safety equipment, as well as the correct application of maritime English terminology. Through a combination of theoretical instruction and practical examples, students will develop the knowledge and skills necessary to safely and effectively operate and manage vessels in a professional maritime environment.
Course Aims and Objectives	This course aims to equip students with a thorough understanding of seamanship principles, ship structure and equipment, and safe shipboard operations. The course combines theoretical knowledge with practical skills, preparing students to effectively manage routine operations, maintenance, and safety procedures on board various types of vessels. • Comprehend the classification, varieties, and specifications of marine ropes. • Understand and practice rope work, including knots, bends, and hitches. • Acquire practical knowledge in mooring, anchoring, steering, and ship handling operations. • Identify and elucidate the functions of shipboard equipment, including ropes, anchoring, mooring, cargo handling, steering, and engine operation systems. • Understand the instructions and commands related to mooring, anchoring, steering, cargo handling, and ship handling operations. • Acquire knowledge regarding maintenance and repair practices concerning ship structures, machinery, and safety equipment. • Acquire knowledge of standard maritime terminology employed in shipboard operations to facilitate effective communication onboard vessels. • Acquire a comprehensive understanding of safe working practices in maritime operations, including cargo handling, maneuvering, and maintenance procedures.
	LO1: Classify ropes according to type, function, and construction. **LO2**: Demonstrate proficiency in ropework, mooring, and anchoring operations, including the use of different types of ropes, knots, and mooring equipment.

Course Learning Outcomes	**LO3**: Demonstrate proficiency in using shipboard equipment and systems, including ropes, anchoring, mooring, cargo handling, steering, and engine systems. **LO4**: Demonstrate expertise in commands and procedures related to mooring, anchoring, steering, cargo handling, and ship handling operations. **LO5**: Prepare and execute shipboard maintenance plans, including decks, machinery, safety equipment, painting, and corrosion prevention works. **LO6**: Use and apply proper maritime terminology in shipboard operations. **LO7**: Demonstrate expertise and adhere to safe operational practices onboard, ensuring the well-being of the crew and the preservation of the vessel's integrity. **LO8**: Integrate theoretical knowledge and practical skills for problem-solving in ship operations and maintenance scenarios.

Content of the Course

Week	*Subject*
1	**Marine Ropes and Types** Terminology and related maritime English terms Definition, type, material, and purpose of ropes Construction of ropes Dimensions, safe working loads, and breaking strength of ropes
2	**Marine Ropes and Types** Terminology and related maritime English terms Natural Ropes: characteristics, specifications, and purposes Synthetic Ropes: characteristics, specifications, and purposes Steel Wire Ropes: characteristics, specifications, and purposes Dimensions, safe working loads, breaking strength, and safety factor of ropes
3	**Rope Work: Knots, Bends, and Hitches** Terminology and related maritime English terms The most common knots and bends used on shipping Hitches, synthetic and steel ropes Splicing and eye-making techniques
4	**Rope Work: Knots, Bends, and Hitches (Practical)** Terminology and related maritime English terms The most common knots and bends used on shipping Hitches, synthetic and steel ropes Splicing and eye-making techniques
5	**Mooring Ropes** Terminology and related maritime English terms Mooring ropes and names Mooring operations Mooring commands Safety factors and precautions in mooring operations
6	**Mooring Ropes (Practical)** Terminology and related maritime English terms Mooring ropes and names Mooring operations Mooring commands Safety factors and precautions in mooring operations
7	**Anchors and Chains** Terminology and related maritime English terms Types of anchors and their uses Anchor chain construction, strength, and handling Windlasses and anchoring equipment Commands and communication in anchoring operations
8	**Cargo Handling Equipment** Terminology and related maritime English terms Winches and derricks, parts and riggings Cranes (ship and shore-based) Slings, pallets, nets, and containers Pulleys, sheaves, blocks, tackles, and their rigging and lifting calculations Commands and communication in cargo operations
9	**Steering and Engine (Maneuvering) Commands**

	Terminology and related maritime English terms Steering commands Engine Commands Preparation for manoeuvring
10	**Maintenance and Repair (I)** Principles of planned maintenance Deck maintenance: daily, voyage, and annual tasks Corrosion causes and anti-corrosion methods
11	**Maintenance and Repair (II)** Surface preparation: chipping, scraping, sandblasting Painting materials and application techniques Storage and management of paint supplies
12	**Maintenance and Repair (III)** Maintenance of wood, aluminum, and rope materials Maintenance of mooring equipment, chains, and anchors Lubrication and care of moving equipment
13	**Maintenance and Repair (IV)** Tank maintenance: ballast, fresh water, cargo tanks Hatch covers, ladders, and gangways Welding, cutting, and hot work planning
14	**Maintenance of Deck Machinery and Safety Equipment** Maintenance of winches, windlasses, and cranes Lifesaving and firefighting equipment maintenance Cooperation between the deck and engine departments
15	**Review and Maritime English Terminology** English terminology for ship types, structures, and equipment Seamanship vocabulary and practical usage Course review and preparation for final assessment

Methods and Techniques used in the Course

Lectures & Theoretical Explanations – Instructor-led presentations supported by visual materials to explain ship structures, classifications, and maritime terminology.

Classroom Discussions & Question–Answer Sessions – Interactive sessions to encourage critical thinking and clarification of concepts.

Case Studies & Problem-Solving Activities – Analysis of real-life seamanship scenarios and shipboard operations to enhance decision-making skills.

Practical Demonstrations – Use of ship models, diagrams, and multimedia tools to demonstrate structural elements, equipment, and seamanship practices.

Collaborative Learning – Group assignments and peer discussions to promote teamwork and communication using maritime terminology.

Simulation-Based Learning (where applicable) – Application of ship handling and navigation software, or bridge simulators, to reinforce theoretical knowledge.

Terminology Drills & Exercises – Practice of English maritime terms to improve professional language competence.

Assignments & Projects – Independent research tasks and written reports to develop analytical and academic writing skills.

Examinations & Quizzes – Assessment methods to measure theoretical understanding and practical application.

Sample Questions

- What are the three primary construction materials of ropes used on ships?
- What is the purpose of the spring line?
- Which of the following mooring lines are not floating?
- Describe the purpose and maintenance procedure for the ship's windlass and anchor system.
- What is the importance of surface preparation in painting?
- Explain the meaning of the following terms. Ease to port, Hard to Starboard, Heave up, anchor aweigh, cast off.

Materials Used in the Course

Textbooks and Reference Books

- Lecturer Notes, Related IMO Model Courses, and STCW (Standards of Training, Certification, and Watchkeeping) manuals.
- SOLAS Consolidated Edition, Introduction to Naval Architecture, Ship Construction, Seamanship Techniques: Shipboard and Marine Operations, The Annapolis Book of Seamanship.

Supplementary Resources

- Instructional videos demonstrate seamanship techniques and ship construction.
- Online resources from the International Maritime Organization (IMO) and maritime safety training platforms.
- Training ship

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.			✓		Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.			✓		Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.			✓		Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.				✓	Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.				✓	Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	3	3	3	3	3	3	x	x
PO2	3	3	3	3	2	3	3	3	x	x
PO3	3	3	3	3	3	3	3	3	x	x
PO4	3	3	3	3	2	3	3	3	x	x
PO5	2	2	3	2	3	2	2	2	x	x
PO6	3	3	3	3	3	3	3	3	x	x
PO7	3	3	3	3	3	3	3	3	x	x
PO8	2	2	2	2	3	2	2	2	x	x
PO9	1	2	2	2	2	2	1	1	x	x
PO10	3	3	3	3	3	3	3	3	x	x
PO11	2	2	2	2	3	2	2	2	x	x
PO12	3	3	3	3	3	3	3	3	x	x

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
LO1	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO2	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO3	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO4	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO5	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO6	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO7	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Practical Exam, Final Exam, Assignment
LO8	Lectures, Practical Applications, Case Studies, and Discussions	Practical Exam, Final Exam, Assignment

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**3**	**45**
Midterm Exam	**1**	**1**	**1**
Preparation for Midterm Exam	**1**	**5**	**5**
Final Exam	**1**	**1**	**1**
Preparation for Final Exam	**1**	**5**	**5**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	**15**	**1**	**15**
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	**2**	**5**	**10**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**97**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	1	10
Laboratory	-	-
Application	2	30
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Assignment(s)/Homework/Class Works	1	10
Providing reliability and motivation for the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	20
Final/Oral Exams	1	30
Total	**6**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check the instructor's web page frequently for the course announcements. • The University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Turkish II: Verbal Expression							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
TUR102	I	Spring	2	2	2	0	0
Course type: Compulsory Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Friday / 13:30 – 15:20			
Instructor information				**Aydoğan Erkan** Faculty of Maritime Studies Friday / 09:00 – 12:00 +90 (392) 650 26 00 / 4060 aydogan.erkan@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	*Turkish II: Verbal Expression* is designed to provide students with a comprehensive understanding of the fundamental aspects of written Turkish. The course focuses on the phonetic features of the language, word stress, word types, phrase and sentence structures, and the use of suffixes. Additionally, students will learn the purposes and rules of punctuation marks, as well as the spelling conventions of Turkish. Through practical examples and exercises, the course aims to develop students' ability to construct grammatically correct sentences and coherent texts, enhancing both their writing accuracy and clarity. This foundation prepares students for effective written communication in academic and everyday contexts.
Course Aims and Objectives	To develop students' understanding of the fundamental grammatical structure of the Turkish language. To enhance students' ability to write correctly using proper spelling, punctuation, and sentence structures. To provide students with a comprehensive understanding of Turkish phonetics, word formation, and morphological rules. To improve students' written communication skills in various contexts, emphasizing clarity and accuracy. • Recognize and apply the phonetic features of Turkish in written form. • Correctly use word stress patterns to convey meaning in writing. • Identify and appropriately use different word types (nouns, verbs, adjectives, adverbs, conjunctions, etc.) in sentences. • Construct phrases and sentences following the rules of Turkish syntax. • Apply suffixes correctly in nouns, verbs, and derivational forms. • Utilize punctuation marks effectively to structure written texts clearly. • Apply Turkish spelling rules consistently in written communication. • Analyze and correct common grammatical and orthographic errors in writing. • Compose coherent paragraphs that reflect proper grammar, vocabulary, and sentence structure.
Course Learning Outcomes	**CLO1 – Phonetics** Demonstrate understanding of Turkish phonetic features and apply them correctly in writing. **CLO2 – Word Stress** Identify and apply proper word stress patterns in written texts. **CLO3 – Word Types** Distinguish between different word types and use them accurately in sentences.

	CLO4 – Syntax Construct grammatically correct phrases and sentences following Turkish syntax rules. **CLO5 – Morphology** Apply nouns, verbs, and derivational suffixes appropriately in written communication. **CLO6 – Punctuation** Use punctuation marks effectively to enhance clarity and coherence in writing. **CLO7 – Spelling** Apply Turkish spelling rules accurately in all written exercises. **CLO8 – Error Correction** Recognize and correct common grammatical and orthographic errors in written Turkish. **CLO9 – Paragraph Composition** Compose clear and coherent paragraphs that reflect proper grammar, vocabulary, and sentence structure. **CLO10 – Integrated Writing Skills** Integrate phonetics, morphology, syntax, spelling, punctuation, and vocabulary to produce well-structured written texts.

Content of the Course

Week	*Subject*
1	**Introduction & Course Orientation** • Overview of the course objectives • Importance of written expression in Turkish • Introduction to basic phonetic features
2	**Phonetics and Pronunciation** • Turkish vowel and consonant sounds • Word stress patterns in Turkish • Common pronunciation rules
3	**Word Types in Turkish I** • Nouns, pronouns, adjectives, verbs, adverbs • Examples of usage in sentences • Basic exercises
4	**Word Types in Turkish II** • Conjunctions, prepositions, interjections, numerals • Role of each word type in sentence structure
5	**Phrase Structures I** • Definition of phrases in Turkish • Noun phrases and verb phrases • Examples and exercises
6	**Phrase Structures II** • Adjective phrases, adverbial phrases • Combining phrases for meaning • Practice exercises
7	**Sentence Types I** • Simple sentences • Compound sentences • Examples and sentence formation
8	**Sentence Types II** • Complex sentences • Subordinate clauses • Practice with sentence combination
9	**Suffixes I** • Noun suffixes: plural, possessive, case suffixes • Usage and examples
10	**Suffixes II** • Verb suffixes: tense, aspect, mood, person markers • Derivational suffixes • Exercises for application
11	**Punctuation Marks I** • Period, comma, colon, semicolon, question and exclamation marks • Rules and correct usage in sentences
12	**Punctuation Marks II** • Quotation marks, parentheses, hyphen, ellipsis, dash • Practical exercises in writing

13	**Spelling Rules I** • Common spelling rules in Turkish • Vowel harmony and consonant changes • Exercises with examples
14	**Spelling Rules II & Review** • Advanced spelling rules and exceptions • Review of phonetics, word types, suffixes, sentence and phrase structures • Writing practice
15	**Final Assessment & Writing Practice** • Composing short texts using learned rules • Peer review and instructor feedback • Final written assessment

Methods and Techniques used in the Course

Lectures and Explanations – Presenting grammatical rules, word structures, suffixes, and spelling conventions in Turkish with examples in English.

Text Analysis – Analyzing sample sentences and paragraphs to illustrate correct usage of words, suffixes, and punctuation.

Writing Exercises – Guided practice in composing sentences, paragraphs, and short texts using the learned grammar and spelling rules.

Drills and Repetition – Exercises focusing on phonetics, word stress, and suffix application to reinforce learning.

Error Correction and Feedback – Reviewing student writing, identifying errors, and providing corrective feedback.

Group Work and Peer Review – Collaborative exercises where students check each other's writing for grammar, spelling, and clarity.

Use of Visual Aids – Charts, tables, and diagrams to illustrate sentence structures, suffix usage, and punctuation rules.

Quizzes and Mini-Assessments – Regular short assessments to evaluate understanding of grammar, word formation, and writing skills.

Homework Assignments – Written tasks to reinforce classroom learning and develop independent writing skills.

Practical Application – Exercises in writing letters, notes, or short essays to simulate real-life written communication.

Sample Questions

Phonetics and Word Stress

- Identify the stressed syllable in the following words: *kitap, öğrenci, mutluluk.*
- Explain the phonetic difference between the letters "c" and "ç" in Turkish with examples.

Word Types (Parts of Speech)

- Classify the underlined words in the sentence: "Ali hızlı koşuyor ve mutlu görünüyor." (Noun, verb, adjective, etc.)
- Provide an example of a Turkish pronoun and use it in a sentence.

Suffixes

- Add the appropriate possessive suffix to the noun "ev" (house) to indicate "my house" and "our house."
- Transform the verb "gitmek" (to go) into its past tense using the correct suffix.

Phrase and Sentence Structures

- Identify the subject and predicate in the sentence: "Öğrenciler derse erken geldi."
- Rewrite the following sentence in negative form: "Ali kitabı okudu."

Sentence Types

- Convert the following declarative sentence into an interrogative sentence: "Sen bugün okula gidiyorsun."
- Provide an example of an imperative sentence in Turkish.

Punctuation and Spelling Rules

- Correct the punctuation in the following sentence: "Ali geldi ve Ayşe de geldi mi?"
- Identify the spelling mistake in the sentence: "Okulda öğrenciler çalışıyorlar."

Writing Skills / Short Composition

- Write 3–5 sentences introducing yourself, mentioning your family and hobbies.
- Write a short paragraph describing your favorite day of the week and why you like it.

Practical Application

- Fill in the blanks with the correct suffixes: "Kitap___ masada duruyor." (indicating possession)
- Rewrite the following informal text message in proper written Turkish, paying attention to spelling and punctuation.

Materials Used in the Course

Textbooks and Reference Books

- *Turkish Grammar for Foreigners* – A comprehensive guide to Turkish phonetics, grammar, and sentence structure.
- *Elementary Turkish: A Grammar and Workbook* – Provides examples and exercises for practice in word types, suffixes, and sentence formation.
- *Turkish: A Comprehensive Grammar* – Advanced reference for punctuation rules, spelling conventions, and written expression.

Workbooks and Exercises

- Course-specific exercise booklets focusing on phonetics, suffix usage, and sentence construction.
- Short composition and writing practice exercises designed for weekly assignments.

Digital Resources

- Online Turkish language platforms for interactive exercises in grammar, vocabulary, and punctuation.
- Audio recordings of native speakers for practicing pronunciation and stress patterns.

Supplementary Materials

- Handouts and notes provided by the instructor, covering key topics such as suffixes, sentence types, and punctuation rules.
- Visual aids for explaining phrase structures and word stress patterns.
- Sample texts for reading and writing practice, including letters, emails, and short essays.

Assessment Tools

- Quizzes, in-class exercises, and writing assignments to reinforce learning.
- Peer-review exercises for written compositions to encourage collaborative learning and feedback.

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

***0:** No Contribution
1: Little Contribution
2: Partial Contribution
3: Full Contribution

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	2	2	3	2	2	2	3	3
PO2	2	2	2	2	2	2	1	2	2	2
PO3	2	2	2	3	2	2	2	2	3	3
PO4	1	1	1	2	1	2	2	2	2	2
PO5	2	2	2	2	2	2	2	2	2	3
PO6	2	2	2	2	2	2	2	2	2	2
PO7	1	1	2	2	1	2	2	2	2	2
PO8	1	1	1	1	1	1	1	2	2	2
PO9	1	1	1	1	1	1	1	1	2	2
PO10	2	2	2	2	2	2	2	2	2	3
PO11	1	1	1	1	1	1	1	1	1	2
PO12	1	1	1	1	1	1	1	1	1	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lecture, Pronunciation Drills, Guided Writing Exercises	Quizzes, Written Exercises, Oral Assessments
CLO2	Lecture, Stress Pattern Exercises, Listening and Writing Practice	Quizzes, Written Exercises, Oral Presentations
CLO3	Lecture, Vocabulary and Grammar Exercises, Sentence Construction Activities	Assignments, Quizzes, Written Exams
CLO4	Lecture, Sentence Building Exercises, Syntax Workshops	Written Assignments, Exams, Peer Reviews
CLO5	Lecture, Morphology Exercises, Guided Writing	Homework, Quizzes, Written Exercises
CLO6	Lecture, Punctuation Practice, Editing Exercises	Quizzes, Writing Assignments, Peer Feedback
CLO7	Lecture, Spelling Drills, Dictation Exercises	Quizzes, Written Assignments, Exams
CLO8	Lecture, Error Identification and Correction Exercises	Assignments, Quizzes, Written Exercises
CLO9	Lecture, Paragraph Construction Workshops, Peer Review	Written Paragraph Assignments, Rubric-Based Assessment
CLO10	Lecture, Integrated Writing Practice, Project-Based Exercises	Writing Projects, Portfolios, Exams

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**2**	**30**
Midterm Exam	**1**	**3**	**3**
Preparation for Midterm Exam	**1**	**20**	**20**
Final Exam	**1**	**3**	**3**
Preparation for Final Exam	**1**	**20**	**20**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	-	-	-
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**91**
ECTS Credit			**2**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	-	-
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	40
Final/Oral Exams	1	60
Total	**2**	**100**

	Percentage	Course Grade	Coefficient
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Standards of Watchkeeping I							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
WAT102	II	Spring	4	3	4	0	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Wednesday 09.30-11.20			
Instructor information				**Cpt. Caner Özbilgiç** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4040 caner.ozbilgic@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course provides students with a comprehensive understanding of the principles and practices of safe watchkeeping in accordance with international maritime conventions and standards, particularly the STCW Convention. The course covers bridge organization, the duties and responsibilities of the Officer of the Watch (OOW), fitness for duty, and various types of watchkeeping including sea, port, anchor, and cargo operations. Students will also learn about voyage planning, watch handover procedures, system checks during navigation, and safe navigation in restricted waters. Emphasis is placed on the use of navigational equipment, compliance with COLREGs, and effective communication with Vessel Traffic Services (VTS) and Ship Reporting Systems.
Course Aims and Objectives	• To provide students with the fundamental knowledge and skills necessary for safe and effective watchkeeping at sea and in port. • To develop awareness of the responsibilities and duties of the Officer of the Watch (OOW) in compliance with international maritime regulations and standards. • To enhance students' ability to plan, organize, and execute different types of watches including sea, port, anchor, and cargo operations. • To familiarize students with bridge organization, navigational equipment, and voyage planning procedures for ensuring safe navigation. • To promote safe navigation practices in restricted waters, during pilotage, and under challenging conditions. • To improve communication skills and knowledge of reporting systems such as VTS and ship reporting procedures for operational safety.
Course Learning Outcomes	**CLO1 – Safe Watchkeeping Principles:** Explain the principles of safe watchkeeping in compliance with STCW and COLREG conventions. **CLO2 – Bridge Organization & Responsibilities:** Describe the organization of the bridge and the duties and responsibilities of officers during various types of watches. **CLO3 – Voyage Planning:** Demonstrate knowledge of voyage planning, required preparation documents, and procedures necessary for safe navigation. **CLO4 – Types of Watches:** Identify requirements and best practices for sea, port, anchor, and cargo watches. **CLO5 – Navigation in Restricted Waters:** Apply safe navigation techniques in restricted waters, coastal areas, and during pilotage operations. **CLO6 – Use of Navigational Aids:** Utilize navigational instruments, equipment, and electronic aids effectively to maintain a safe watch. **CLO7 – Reporting Practices:** Recognize the importance of vessel reporting systems (VTS, ship reporting schemes) and apply correct reporting practices. **CLO8 – Risk Analysis & Decision-Making:** Analyze and evaluate potential risks during watchkeeping to ensure maritime safety, environmental protection, and operational efficiency. **CLO9 – Professional Responsibility:** Demonstrate understanding of professional responsibility, duty fitness, and situational awareness during watch.

	CLO10 – Integrated Watchkeeping Competence: Combine theoretical knowledge, practical skills, and situational awareness to maintain an effective and safe watch in real operational scenarios.

Content of the Course

Week	*Subject*
1	**Introduction to Safe Watchkeeping** Principles, importance, and international framework (STCW Code)
2	**Introduction to Safe Watchkeeping** Principles, importance, and international framework (STCW Code)
3	**Fitness for Duty** Human factors, fatigue management, and maintaining operational readiness
4	**Types of Deck Watches** Sea watch, port watch, anchor watch, and gangway watch
5	**Voyage Planning** Passage planning, preparation of documents, and pre-departure requirements
6	**Watch Handover Procedures** Essential checks and communications during watch change
7	**Monitoring During Watch** System checks, operational controls, and navigation equipment
8	**Navigation in Restricted Conditions** Coastal and confined waters, pilotage techniques, and blind pilotage
9	**Port Arrival and Departure** Preparations, reporting requirements, and coordination
10	**Ship Reporting Systems** Principles of ship reporting, mandatory reporting schemes, and international regulations
11	**Vessel Traffic Services (VTS)** Procedures, communication protocols, and reporting requirements
12	**Bridge Resource Management (BRM) I** Principles, resource allocation, task prioritization
13	**Bridge Resource Management (BRM) II** Communication, assertiveness, leadership, situational awareness, teamwork
14	**Collision Regulations (COLREGs)** Rules for preventing collisions at sea, responsibilities between vessels
15	**Marine Environmental Protection** Watchkeeping responsibilities for pollution prevention, MARPOL compliance

Methods and Techniques used in the Course

Lectures and Presentations: Theoretical knowledge is delivered through interactive lectures supported by multimedia presentations.

Case Studies: Real-life maritime scenarios are analyzed to improve students' decision-making and problem-solving skills.

Classroom Discussions: Students are encouraged to share opinions and engage in discussions to deepen understanding of responsibilities during watch.

Practical Examples: Illustrations from bridge operations, voyage planning, and reporting systems are demonstrated.

Role-Playing & Simulation Practices: Watchkeeping duties are practiced through role-playing and simulator-based exercises (where available).

Question–Answer Sessions: Active engagement with students to ensure comprehension of STCW and COLREG requirements.

Self-Study and Assignments: Students are given assignments and encouraged to review watchkeeping cases individually.

Sample Questions

- Which of the following is NOT a responsibility of an officer of the watch (OOW) during bridge watchkeeping?

  a) Keeping a proper lookout

  b) Monitoring the vessel's position and course

  c) Performing cargo operations

  d) Complying with COLREGs
- According to STCW regulations, what is the minimum rest period for seafarers in any 24-hour period?

  a) 8 hours

  b) 10 hours

  c) 12 hours

  d) 14 hours
- Explain the importance of handing over procedures during watchkeeping.
- What are the key elements to be checked before taking over a navigational watch?
- Describe the responsibilities of the OOW while navigating in restricted waters.
- You are the OOW during a night passage in coastal waters. The radar shows a vessel crossing from starboard to port, and the lookout reports a light on the horizon. Describe the actions you would take in compliance with COLREGs.
- During anchor watch, you notice that the vessel is dragging anchor. Explain the steps you should follow immediately.

Materials Used in the Course

Textbooks & References

- International Maritime Organization (IMO), *STCW Convention and Code* (latest edition).
- International Maritime Organization (IMO), *COLREGs – International Regulations for Preventing Collisions at Sea*.
- Cockcroft, A.N. & Lameijer, J.N.F., *A Guide to the Collision Avoidance Rules*.
- Turpin, E., & McEwen, W.E., *Marine Engineering and Watchkeeping Handbook*.
- Appropriate publications from national and international maritime authorities.

Course Notes & Handouts

- Instructor-prepared lecture notes, slides, and summaries.
- Case studies and examples of watchkeeping incidents.
- Checklists for bridge, anchor, and port watchkeeping.

Digital & Simulation Resources

- Bridge simulator sessions for practicing safe watchkeeping.
- Radar and ARPA simulation exercises.
- ECDIS training modules (where available).

Supporting Materials

- Shipboard manuals and logbook samples.
- Watchkeeping schedules and duty rosters.
- Videos and interactive multimedia on safe navigation and watchkeeping practices.

All the above listed books are available at UoK's Grand Library

Program Outcomes Matrix

	Program Outcomes	*Level of Contribution				Targeted Competence Areas
		0	1	2	3	
1	Demonstrate comprehensive knowledge of navigation sciences, ship handling, cargo operations, and seamanship in accordance with STCW requirements.				✓	Technical & Navigational Expertise
2	Operate and manage shipboard systems, electronic navigation equipment (ECDIS, ARPA, GMDSS), and emerging smart technologies with precision and reliability.				✓	Digital Navigation & Operations
3	Apply maritime safety standards, emergency procedures, and risk assessment practices to ensure the safety of life at sea and environmental protection.				✓	Safety & Risk Management
4	Employ advanced meteorology, oceanography, and route planning methods to optimize voyages under changing environmental and economic conditions.				✓	Voyage Planning & Environmental Awareness
5	Demonstrate leadership, decision-making, and crisis management skills in multicultural and interdisciplinary maritime teams.				✓	Leadership & Decision-Making
6	Apply international maritime law, conventions, and flag state regulations in navigation, cargo management, and ship operations.			✓		Maritime Law & Compliance
7	Manage cargo operations (loading, stowage, securing, and discharge) with attention to safety, efficiency, and international trade standards.			✓		Cargo & Logistics Management
8	Integrate principles of sustainability and green shipping in ship operations, voyage optimization, and environmental protection measures.				✓	Sustainability & Environmental Stewardship
9	Utilize project management, business acumen, and managerial competencies for effective maritime transport operations and logistics planning.				✓	Project & Transport Management
10	Communicate effectively in maritime English, applying IMO SMCP (Standard Marine Communication Phrases) and professional reporting techniques.				✓	Maritime Communication
11	Commit to ethical conduct, professional responsibility, and respect for cultural diversity within the global maritime workforce.			✓		Ethics & Professionalism
12	Engage in lifelong learning, continuous professional development, and adaptation to technological innovations in the maritime transport sector.			✓		Lifelong Learning & Adaptability

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Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	3	3	3	3	3	3	3	3
PO2	2	2	3	2	3	3	2	3	3	3
PO3	3	3	3	3	3	3	3	3	3	3
PO4	2	2	3	2	3	3	2	3	3	3
PO5	3	3	3	3	3	3	3	3	3	3
PO6	2	2	2	2	3	3	2	3	3	3
PO7	1	1	1	1	1	1	1	2	2	2
PO8	1	1	2	1	2	2	1	2	2	2
PO9	1	1	2	1	2	2	1	2	2	2
PO10	2	2	3	2	3	3	2	3	3	3
PO11	1	1	2	1	2	2	1	2	2	2
PO12	1	1	2	1	2	2	1	2	2	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Safe Watchkeeping Principles	Lecture, Case Studies, Discussion	Quizzes, Assignments, Exams
CLO2 – Bridge Organization & Responsibilities	Lecture, Guided Practice, Simulation	Observation, Practical Exams, Assignments
CLO3 – Voyage Planning	Lecture, Hands-on Exercises, Simulation	Assignments, Practical Exams, Project Reports
CLO4 – Types of Watches	Lecture, Role-Playing, Practical Exercises	Observation, Quizzes, Practical Exams
CLO5 – Navigation in Restricted Waters	Simulator Training, Practical Exercises	Simulation Assessment, Practical Exams, Observation
CLO6 – Use of Navigational Aids	Demonstration, Hands-on Practice, Simulator	Observation, Practical Exams, Assignments
CLO7 – Reporting Practices	Lecture, Case Studies, Role-Playing	Quizzes, Assignments, Observation
CLO8 – Risk Analysis & Decision-Making	Scenario-Based Exercises, Simulation, Group Work	Practical Exams, Projects, Observation
CLO9 – Professional Responsibility	Lecture, Discussion, Reflection Exercises	Assignments, Oral Presentations, Observation
CLO10 – Integrated Watchkeeping Competence	Simulation, Hands-on Practice, Group Projects	Practical Exams, Project Reports, Observation

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**4**	**60**
Midterm Exam	**1**	**2**	**2**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**10**	**10**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	-	-	-
In-class Discussion(s)	**15**	**1**	**15**
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	**5**	**1**	**5**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**119**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	-	-
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	40
Final/Oral Exams	1	60
Total	**2**	**100**

	Percentage	**Course Grade**	**Coefficient**
Grading Policy	90-100	AA	4.0
	85-89	BA	3.5
	80-84	BB	3.0
	75-79	CB	2.5
	70-74	CC	2.0
	60-69	DC	1.5
	50-59	DD	1.0
	49 and below	FF	0.0
	Less than 70% attendance	NA	-
Course Requirements and Policies	• Alerted attendance at the lectures is essential! • Students are expected to check frequently the instructor's web page for the course announcements. • University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		