University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Marine Communication							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
COM201	II	Fall	3	4	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			Friday / 09:30 – 13:20				
Instructor information			**Cpt. Orhan Kamil Babaoğlu** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4040 orhankamil.babaoglu@kyrenia.edu.tr www.kyrenia.edu.tr				

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

Referans: SM-01   *Publication: 01/09/2025*   *Revision: 01/09/2025*   *Renewal: 01/09/2025*

Course Description	This course provides students with a comprehensive understanding of maritime communication systems, methods, and international regulations. It covers both traditional and modern means of communication at sea, including visual signaling with Morse code and the International Code of Signals, as well as radio telephony and radiotelex communication. Special emphasis is placed on the Global Maritime Distress and Safety System (GMDSS), emergency communication procedures, and the use of standardized Maritime English for safety and distress messages. Through theoretical instruction and practical exercises, students gain the necessary competence to send, receive, and interpret visual and radio signals, handle emergency and search-and-rescue communications, and apply international standards to ensure safety at sea.
Course Aims and Objectives	The primary aim of this course is to equip students with the theoretical knowledge and practical skills necessary for effective and reliable maritime communication. It seeks to develop competence in the use of visual and radio communication systems, familiarize students with international regulations and standards, and enhance their ability to manage emergency and safety-related communications at sea. • Understand the principles, functions, and importance of maritime communication systems. • Gain proficiency in visual signaling methods, including Morse code and the International Code of Signals. • Apply correct procedures for radiotelephony and radiotelex communication between ships and coastal stations. • Demonstrate familiarity with the Global Maritime Distress and Safety System (GMDSS) and its operational requirements. • Acquire competence in using standardized Maritime English for distress, safety, and urgency messages. • Recognize and correctly apply international conventions and codes governing communication at sea. • Develop the ability to respond effectively to emergency and search-and-rescue (SAR) communication scenarios.

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Course Learning Outcomes	**LO1:** Explain the principles and importance of maritime communication within the framework of international conventions and regulations.
	LO2: Demonstrate proficiency in transmitting and receiving information using visual signaling methods, including Morse code and the International Code of Signals
	LO3: Apply correct procedures for radiotelephony and radiotelex communication in both routine and emergency situations
	LO4: Operate and monitor communication equipment in accordance with the requirements of the Global Maritime Distress and Safety System (GMDSS)
	LO5: Use Standard Maritime Communication Phrases (SMCP) and Maritime English effectively in distress, urgency, and safety messages.
	LO6: Identify and interpret internationally recognized communication codes and symbols for safe ship operations.
	LO7: Perform emergency communication tasks related to search and rescue (SAR) operations, distress calls, and safety alerts.
	LO8: Evaluate and troubleshoot common problems related to communication systems and propose appropriate corrective measures.
	LO9: Integrate communication practices with safety management and operational procedures on board ships.

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Content of the Course

Week	Subject
1	**Introduction to Maritime Communication** Scope, importance, and international framework
2	**Visual Signaling in Maritime Communication** Concepts and applications
3	**Visual Signaling in Maritime Communication** Concepts and applications
4	**Distress Signals** SOS in accordance with COLREG 72 Annex IV
5	**International Code of Signals** Structure, purpose, and applications
6	**Single-Letter Signals in the International Code of Signals** Visual signaling practices
7	**Radio Communication in Shipping** Radiotelephone and radiotelex operations
8	**Ship-to-Ship and Ship-to-Shore Communication** Procedures, protocols, and safety aspects
9	**Maintenance and Testing of Communication Equipment** Operational checks and reliability standards
10	**Practical Applications of the International Code of Signals** Communication exercises
11	**Global Maritime Distress and Safety System (GMDSS)** Concept, structure, and implementation
12	**Emergency Communication and Distress Alerts** Sending and responding to distress calls
13	**Relay of Distress Communications** Transmission of received calls to other stations
14	**Search and Rescue Communication** IAMSAR guidelines and coordination practices
15	**Maritime English for Emergency and Safety Messages** Standardized vocabulary, message formats, and final practice

Methods and Techniques used in the Course

Lectures and Presentations: Theoretical foundations of maritime communication, international conventions, and regulatory frameworks are delivered through instructor-led sessions.

Classroom Discussions: Interactive discussions are encouraged to enhance understanding of maritime safety communication practices.

Practical Training and Simulations: Students practice Morse signaling, radiotelephony, radiotelex, and GMDSS operations through simulated exercises.

Laboratory and Equipment-Based Learning: Use of communication equipment such as VHF radios, Aldis lamps, and GMDSS consoles for hands-on training.

Case Studies and Problem-Solving Exercises: Real-life maritime incidents and communication failures are analyzed to improve decision-making and response skills.

Role-Playing and Drills: Students perform emergency communication tasks, including distress, urgency, and safety messages, using Standard Maritime Communication Phrases (SMCP).

Collaborative Group Work: Small group exercises to encourage teamwork in communication scenarios, especially for search and rescue coordination.

Assignments and Projects: Written and practical assignments designed to assess knowledge of international signal codes, communication procedures, and operational practices.

Assessment Through Quizzes and Exams: Regular evaluation of theoretical knowledge and applied skills.

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Sample Questions

Part A – Theoretical Questions

- Define the Global Maritime Distress and Safety System (GMDSS) and explain its importance for maritime safety.

- What are the basic principles of Morse code communication? Provide examples of distress signals.

- Explain the difference between radiotelephony and radiotelex communication in maritime operations.

- Discuss the role of the International Code of Signals (ICS) in maritime communication.

- What are the main types of emergency messages transmitted in maritime communication, and when are they used?

Part B – Practical/Applied Questions

- Translate the following distress message into proper Standard Marine Communication Phrases (SMCP):

  - *"We are sinking, need immediate assistance, position 35° 40' N – 27° 15' E."*

- Using the International Code of Signals, explain what the single-letter signals **"A"**, **"N"**, and **"O"** indicate.

- Write down the Morse code equivalent of the distress signal **SOS** and demonstrate how it would be transmitted with an Aldis lamp.

- A ship receives a MAYDAY call but cannot provide assistance directly. Describe the proper communication procedure.

- Explain how communication procedures differ between **distress**, **urgency**, and **safety** messages.

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Materials Used in the Course

Textbooks and References

- Lees,G., Williams, W.G., Handbook for Marine Radio Communication, 6th Ed. Informa Law from Routledge, London.

- International Maritime Organization (IMO) publications related to communication procedures.

- *International Code of Signals (ICS)*.

- *IAMSAR Manual, Vol. III* (International Aeronautical and Maritime Search and Rescue Manual).

- *GMDSS Handbook* and related IMO model course materials.

- COLREG 1972, Annex IV – Distress Signals.

- Standard Marine Communication Phrases (SMCP) by IMO.

Supplementary Readings

- Academic articles and case studies on maritime communication, safety, and emergency response.

- National maritime communication regulations and guidelines.

Practical Training Materials

- Morse code charts and signaling guides.

- Aldis lamp and visual signaling equipment.

- GMDSS simulators and communication software.

- VHF, MF/HF radios, NAVTEX, INMARSAT terminals.

Multimedia Resources

- Training videos on distress and safety communication procedures.

- Audio recordings for practicing Standard Marine Communication Phrases.

- Interactive e-learning modules on maritime radio communication.

Classroom Materials

- Lecture notes, handouts, and PowerPoint presentations prepared by the instructor.

- Sample communication logs and report forms for practice.

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

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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

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	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10
Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO1	1	1	1	1	1	1	1	1	1	NA
PO2	1	1	1	1	1	1	1	1	1	NA
PO3	1	1	1	1	1	1	1	1	1	NA
PO4	1	1	1	1	1	1	1	1	1	NA
PO5	2	2	2	2	2	2	2	2	2	NA
PO6	2	2	2	2	2	2	2	2	2	NA
PO7	1	1	1	1	1	1	1	1	1	NA
PO8	1	1	1	1	1	1	1	1	1	NA
PO9	1	1	1	1	1	1	1	1	1	NA
PO10	3	3	2	2	3	3	3	2	2	NA
PO11	2	2	2	2	2	2	2	2	2	NA
PO12	1	1	1	1	1	1	1	1	1	NA

Course Learning Outcomes/ Evaluation Method		
Course Learning Outcomes (CLOs)	**Teaching Method**	**Assessment Method**
LO1	Lecture, Question-Answer	Midterm Exam, Final Exam
LO2	Lecture, Group Discussion, Homework	Homework, In-Class Exercises, Midterm Exam
LO3	Lecture, Hands-on Practice, simulator sessions	Quizzes, Midterm Exam, Final Exam
LO4	Lecture, simulator, Hands-on Practice	Assignments, Midterm Exam, Final Exam
LO5	Lecture, simulator Sessions, In-Class Exercises	Quizzes, Midterm Exam, Final Exam
LO6	Lecture, In-Class Exercises	Midterm Exam, Final Exam
LO7	Hands-on Practice, simulator sessions	Assignments, role-play
LO8	Hands-on Practice, simulator sessions	Assignments
LO9	Hands-on Practice, simulator sessions	Assignments, role-play

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**4**	**60**
Midterm Exam	**1**	**3**	**3**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**3**	**3**
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**	**1**	**15**
Quiz(es)	**2**	**1**	**2**
Preparation for Quiz(es)	**-**	**-**	**-**
Laboratory	**15**	**1**	**15**
Assignment(s)/Homework/Class Works	**2**	**1**	**2**
Micro-Teaching Sessions	**-**	**-**	**-**
Lesson Planning	**-**	**-**	**-**
Materials Adaptation	**-**	**-**	**-**
Material Development	**1**	**1**	**1**
Draft Preparation	**-**	**-**	**-**
Drawing	**-**	**-**	**-**
Essay Writing	**-**	**-**	**-**
Tutorial(s)	**-**	**-**	**-**
Portfolio Preparation	**1**	**1**	**1**
Portfolio Presentation	**-**	**-**	**-**
Total Workload			**142**
ECTS Credit			**4**

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Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Chartering and Shipbroking I							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
CSB201	II	Fall	3	6	3	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			Monday / 08:30 – 11:20				
Instructor information			**Hüseyin Meray** Faculty of Maritime Studies Wednesday / 09:00 – 12:00 +90 (392) 650 26 00 / 4040 huseyin.meray@kyrenia.edu.tr www.kyrenia.edu.tr				

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Referans: SM-01   *Publication: 01/09/2025*   *Revision: 01/09/2025*   *Renewal: 01/09/2025*

Course Description	This course provides an in-depth understanding of maritime commercial operations, ship chartering, and freight contracts. It covers various types of charters, including voyage, time, and bareboat charters, and examines the legal and operational aspects of charter negotiations. The course introduces students to freight markets, international trade terms, and the roles of shipping agents and brokers. Students will gain practical knowledge in handling shipping documentation, including bills of lading, letters of credit, manifests, and ship logbooks. Additionally, the course emphasizes the use of Maritime English for effective communication in commercial shipping and contract management, equipping students with the skills to operate efficiently in international maritime business environments.
Course Aims and Objectives	The aim of this course is to provide students with a comprehensive understanding of maritime commercial operations, ship chartering processes, and freight contract management. It seeks to equip students with the theoretical knowledge and practical skills necessary to operate effectively in international shipping markets, understand the legal and commercial framework of charter parties, and manage ship-related documentation proficiently. • Explain the structure and functioning of maritime markets and shipping services, including liner and tramp operations. • Distinguish between different types of charter parties, including voyage, time, and bareboat charters, and understand their contractual elements. • Analyze the negotiation processes for charter contracts, including offers, counter offers, and contractual obligations. • Identify and interpret key shipping documents, such as bills of lading, letters of credit, manifests, and ship logbooks. • Apply Maritime English in commercial shipping contexts for effective communication with agents, brokers, and other maritime stakeholders. • Understand international trade terms (INCOTERMS) and their implications for chartering and cargo operations.

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	• Demonstrate knowledge of legal, operational, and safety responsibilities in ship hiring and cargo handling contracts.
Course Learning Outcomes	**LO1.** Explain global shipping markets, chartering types, and basic structures of maritime commercial operations.
	LO2. Analyze the contractual elements, responsibilities, and commercial implications of voyage, time, and bareboat charters.
	LO3. Interpret chartering terminology, freight concepts, and market dynamics.
	LO4. Apply the offer–counter offer mechanism and negotiation techniques used in chartering.
	LO5. Identify and classify main shipping documents (Bill of Lading, Letter of Credit, Mate's Receipt, etc.) and explain their functions.
	LO6. Evaluate the roles, duties, and responsibilities of agents and brokers within chartering processes.
	LO7. Prepare voyage-related documentation (SOF, Time Sheets, Manifests, etc.) and relate them to operational procedures.
	LO8. Interpret INCOTERMS and international trade terminology in relation to charter parties and freight contracts.
	LO9. Explain the role of international maritime organizations (IMO, ILO, BIMCO, etc.) in commercial shipping operations.
	LO10. Use English terminology, professional correspondence, and logbook entries accurately in commercial maritime operations.

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Content of the Course

Week	Subject
1	**Introduction to Maritime Commercial Operations** Overview of shipping markets, liner services, tramp operations, and freight concepts.
2	**Freight and Chartering Markets** Freight rates, market dynamics, and types of charters.
3	**Voyage Charter Elements** Key components, clauses, and operational considerations.
4	**Time Charter Elements** Contract terms, responsibilities, and performance obligations.
5	**Bareboat Charter Elements** Structure, rights, and obligations of parties.
6	**Charter Negotiations** Offer and counter-offer strategies, negotiation techniques, and related abbreviations.
7	**Bills of Lading and Letters of Credit** Documentation, relationships with charter parties, and indemnity letters.
8	**Agents and Brokerage** Types of agents, freight brokers, and their roles in ship hiring.
9	**Pre-shipment Documentation** Preparation letters, Statement of Facts (SOF), Time Sheets, Mate's Receipts, Manifests, and Loading Orders.
10	**International Trade Terms** INCOTERMS, common shipping abbreviations, and standard terminology.
11	**Appropriate Flag States and Freight Conferences** Regulatory compliance, flag selection, and conference structures.
12	**International Maritime Organizations** Structure, purpose, and role in commercial shipping operations.
13	**Maritime English for Commercial Operations** Key vocabulary and terminology for chartering, freight, and shipping operations.
14	**Ship Documentation in English** Onboard documentation, port documents, cargo documents, and reporting procedures.
15	**Ship Logbooks and Maritime Correspondence** Ship journals, operational records, protests, record-keeping, and official correspondence in English.

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Methods and Techniques used in the Course

Lectures: Systematic delivery of theoretical concepts on maritime commercial operations, charter parties, and freight contracts.

Case Studies: Analysis of real-world scenarios related to ship hiring, charter negotiations, and contractual disputes to develop problem-solving skills.

Group Discussions and Workshops: Collaborative sessions to explore negotiation techniques, risk management, and practical applications of maritime law and contracts.

Document Analysis: Practical exercises in interpreting and preparing key shipping documents such as bills of lading, charters, manifests, and letters of credit.

Maritime English Exercises: Focused practice in professional communication, correspondence, and terminology used in ship hiring and commercial operations.

Simulations: Role-playing and scenario-based exercises simulating charter negotiations, cargo operations, and dispute resolution.

Assignments and Reports: Individual and group assignments analyzing contract clauses, international trade terms, and case study findings.

Guest Lectures / Industry Insights: Sessions by maritime professionals to provide practical perspectives on ship operations and commercial practices.

Sample Questions

- Explain the key differences between **voyage charter**, **time charter**, and **bareboat charter** contracts, including the responsibilities of each party.

- Discuss the main elements of a **charter party** and their legal significance in international shipping.

- Describe the process of **negotiating freight rates** and the role of **charter brokers** in maritime commerce.

- What are the essential **documents** required for cargo operations, and how do they affect the rights and responsibilities of the shipowner and charterer?

- Define the term **Statement of Facts (SOF)** and explain its importance in calculating laytime and demurrage.

- How are **INCOTERMS** applied in maritime trade, and what impact do they have on risk and cost allocation between the parties?

- Explain the legal and practical aspects of **claims arising from cargo damage** or delays during transportation.

- Discuss the importance of **maritime English** in ensuring accurate communication in ship operations and contract management.

- Analyze a hypothetical **charter dispute case** and propose a resolution strategy based on international maritime law.

- Identify the responsibilities of a ship's master under a **time charter contract** and explain how they differ from those under a **voyage charter**.

Materials Used in the Course

Textbooks and Reference Books:

- Standard textbooks on maritime commercial law, chartering, and freight contracts.

- Guides on INCOTERMS, Bills of Lading, and Maritime English.

International Conventions and Guidelines:

- Relevant IMO guidelines, SOLAS, MARPOL, and STCW references.

- Sample charter parties and freight contracts.

Ship Documentation:

- Bills of Lading, Cargo Manifests, Time Sheets, Statement of Facts.

- Ship's Logbook, Protest Letters, and other official vessel records.

Online Resources and Databases:

- Shipping industry reports, legal case studies, and commercial dispute resolutions.

- Digital platforms for maritime trade and chartering information.

Software Tools:

- Simulation tools for charter negotiations and cargo operations.

- Document management and drafting software for maritime correspondence.

Supplementary Materials:

- Handouts, presentations, and practical exercises for contract interpretation and negotiation.

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

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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									

	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 global shipping markets, chartering types, and basic structures of maritime commercial operations.	Lecture, Case Study	Midterm, Final Exam
LO2 Analyze the contractual elements, responsibilities, and commercial implications of voyage, time, and bareboat charters.	Lecture, Charter Party Analysis	Midterm, Final Exam
LO3 Interpret chartering terminology, freight concepts, and market dynamics.	Lecture, Market Report Review	Quiz, Final Exam
LO4 Apply the offer–counter offer mechanism and negotiation techniques used in chartering.	Role-play Negotiations, Group Work	Assignment, Participation
LO5 Identify and classify main shipping documents (Bill of Lading, Letter of Credit, Mate's Receipt, etc.) and explain their functions.	Document Analysis, Lecture	Midterm, Assignment
LO6 Evaluate the roles, duties, and responsibilities of agents and brokers within chartering processes.	Lecture, Case Study	Final Exam
LO7 Prepare voyage-related documentation (SOF, Time Sheets, Manifests, etc.) and relate them to operational procedures.	Practical Document Preparation	Assignment, Quiz
LO8 Interpret INCOTERMS and international trade terminology in relation to charter parties and freight contracts.	Lecture, Scenario-Based Exercises	Quiz, Final Exam
LO9 Explain the role of international maritime organizations (IMO, ILO, BIMCO, etc.) in commercial shipping operations.	Lecture, Regulatory Review	Midterm, Final Exam
LO10 Use English terminology, professional correspondence, and logbook entries accurately in commercial maritime operations.	Terminology Workshops, Writing Exercises	Assignment, Final Exam

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

Referans: SM-01   *Publication: 01/09/2025*   *Revision: 01/09/2025*   *Renewal: 01/09/2025*

ECTS / Workload Table			
Activities	Number	Duration (Hours)	Total Workload
Preparation for lectures	15	3	45
Lectures	15	3	45
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	2	5	10
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			149
ECTS Credit			6

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	2	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	40
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: Global Maritime Distress and Safety System I							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
GMS201	II	Fall	3	5	1	4	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			Friday / 09:30 – 13:20				
Instructor information			**Cpt. Orhan Kamil Babaoğlu** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4040 orhankamil.babaoglu@kyrenia.edu.tr www.kyrenia.edu.tr				

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

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Course Description	This course provides students with a comprehensive understanding of maritime communication systems, emphasizing safety and emergency procedures at sea. It introduces the International Code of Signals (ICS), Standard Marine Communication Phrases (SMCP), radiotelephony, and radiotelegraphy for ship-to-ship, ship-to-shore, and onboard communication. Students will develop the ability to send and receive distress, urgency, and safety messages in accordance with international regulations, including SOLAS and IMO conventions. The course also covers the Global Maritime Distress and Safety System (GMDSS), focusing on equipment usage, operational procedures, and coordination with search and rescue (SAR) authorities. Through practical exercises, simulations, and role-playing scenarios, students gain hands-on experience in emergency communication, message relay, and coordination across multi-national crews. The course integrates theoretical knowledge and applies skills to ensure that students are prepared for effective and standardized communication in routine operations and emergency situations at sea.
Course Aims and Objectives	The course aims to equip students with the theoretical knowledge and practical skills necessary for effective maritime communication in both routine and emergency situations. It emphasizes the use of international communication standards, emergency protocols, and the GMDSS to ensure the safety of vessels, crew, and cargo. - Understand and apply the International Code of Signals (ICS) and Standard Marine Communication Phrases (SMCP) for ship-to-ship, ship-to-shore, and onboard communication. - Conduct voice and telegraph radio communications according to international maritime standards. - Demonstrate the ability to send and receive distress, urgency, and safety messages accurately and efficiently. - Operate GMDSS equipment and understand the procedures for emergency communication and search and rescue coordination. - Apply communication protocols to manage multi-national crews and ensure effective onboard coordination.

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Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
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	• Comprehend the principles of maritime communication regulations as defined by SOLAS and IMO. • Prepare for and respond to maritime emergencies using standardized communication techniques.
Course Learning Outcomes	**LO1:** Demonstrate proficiency in visual signaling, including sending and receiving messages using Morse code and Aldis lamp. **LO2:** Apply correct procedures for radiotelephony and radio telex communication in ship-to-ship and ship-to-shore operations. **LO3:** Perform maintenance checks and functional tests on maritime communication equipment in compliance with international standards. **LO4:** Utilize the International Code of Signals effectively for routine, safety, and emergency communication. **LO5:** Explain the structure, purpose, and operation of the Global Maritime Distress and Safety System (GMDSS). **LO6:** Accurately transmit and respond to distress, urgency, and safety messages in accordance with IMO and SOLAS requirements. **LO7:** Apply the IMO Standard Marine Communication Phrases (SMCP) to ensure clear and standardized communication in English. **LO8:** Interpret and apply relevant IMO conventions, codes, and amendments related to maritime distress and safety communication.

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Content of the Course

Week	Subject
1	**Course Introduction and Overview** • Introduction to the course objectives and structure • Importance of maritime communication for safety and operations • Overview of international regulations and conventions (IMO, SOLAS)
2	**Course Introduction and Overview** • Introduction to the course objectives and structure • Importance of maritime communication for safety and operations • Overview of international regulations and conventions (IMO, SOLAS)
3	**Ship-to-Ship, Ship-to-Shore, and Onboard English Communication** • Basic communication phrases and standard terminology • Communicating with multi-national crew onboard • Practical role-play exercises for bridge communication
4	**Vessel Traffic Services (VTS) Communication** • Introduction to VTS and its operational importance • English phrases and procedures for VTS communication • Case studies of ship-to-VTS communications
5	**IMO Standard Marine Communication Phrases (SMCP)** • Introduction to SMCP: structure and purpose • Applying SMCP in routine and emergency situations • Exercises on standardized bridge communication
6	**Types of Emergency Situations** • Overview of maritime emergency types: fire, collision, grounding, man overboard • Terminology used for reporting emergencies in English • Practical drills: emergency scenario simulations
7	**Sending and Receiving Emergency and Safety Messages** • Structure of emergency messages (Mayday, Pan-Pan, Securité) • Correct procedures for message transmission and acknowledgment • Role-playing exercises for emergency message handling
8	**Voice Communication by Radio** • Fundamentals of radiotelephony and radiotelegraphy • Ship-to-ship and ship-to-shore communication via radio • Equipment handling, maintenance, and routine checks
9	**Mid-Term Exam and Review** • Written and oral assessment on maritime English, ICS, and SMCP • Feedback and clarification of challenging topics
10	**Global Maritime Distress and Safety System (GMDSS) Overview** • Introduction to GMDSS: purpose, structure, and equipment

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	• Classes of GMDSS ships and shore stations • Practical demonstration of GMDSS components
11	**Emergency Communication: Distress and Safety Procedures** • Sending distress alerts and receiving assistance calls • Coordination with rescue authorities • Exercises: simulated distress message transmission
12	**Search and Rescue (SAR) Communication** • Overview of search and rescue operations • Communication with SAR units using IAMSAR guidelines • Reporting and relaying information to other stations
13	**Advanced Emergency Communication** • Handling multiple emergencies simultaneously • Relaying received emergency messages to other vessels or shore stations • Use of English in critical decision-making scenarios
14	**Integrated Practical Exercises** • Combining ICS, SMCP, radiotelephony, and GMDSS in simulated scenarios • Role-play exercises for shipboard and ship-to-shore communications • Troubleshooting and problem-solving in emergency communication
15	**Final Assessment and Practical Evaluation** • Oral and written final exam on maritime communication and GMDSS procedures • Practical exercises: emergency simulations, message transmission, and coordination • Feedback and course wrap-up

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Methods and Techniques used in the Course

Lectures and Presentations: Delivery of theoretical knowledge on GMDSS principles, communication procedures, and international regulations.

Practical Training and Simulations: Hands-on exercises with Morse signaling, radiotelephony, and GMDSS equipment using simulator-based training.

Case Studies and Problem-Solving: Analysis of real-life maritime communication incidents to enhance decision-making skills in emergency situations.

Role-Playing and Scenario-Based Learning: Simulated distress, urgency, and safety communication exercises to practice IMO Standard Marine Communication Phrases (SMCP).

Group Discussions and Collaborative Learning: Peer-to-peer interaction for exchanging ideas on communication strategies and operational challenges.

Demonstrations: Instructor-led demonstrations on equipment maintenance, reporting systems, and vessel traffic service (VTS) communication.

Independent Study and Assignments: Research and practice tasks to reinforce learning and promote self-directed competence.

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Sample Questions

Part A – Theoretical Questions

- Explain the main functions of the Global Maritime Distress and Safety System (GMDSS) and its importance in maritime safety.

- Describe the procedures for making a distress call using radiotelephony.

- What are the differences between urgency and safety messages under the GMDSS framework?

- Define the role of the International Code of Signals (ICS) in maritime communication. Provide examples of its application.

- Discuss the importance of maintaining communication equipment on board and outline the responsibilities of the officer in charge.

Part B – Practical/Applied Questions

- Using Morse code (light signals), transmit the distress signal "SOS" and interpret a received response.

- Simulate a radiotelephone call between two ships reporting a collision in restricted visibility.

- Demonstrate the correct procedure for relaying a distress call received from another vessel.

- Using IMO Standard Marine Communication Phrases (SMCP), construct a dialogue for requesting tug assistance upon port approach.

- Explain the reporting requirements to Vessel Traffic Services (VTS) when entering a designated area.

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Materials Used in the Course

Textbooks and Reference Materials

- Lees,G., Williams, W.G., Handbook for Marine Radio Communication, 6th Ed.

- International Maritime Organization (IMO) publications:

    o *SOLAS Convention (Safety of Life at Sea)*

    o *GMDSS Handbook*

    o *IAMSAR Manual (International Aeronautical and Maritime Search and Rescue)*

    o *International Code of Signals (ICS)*

- *IMO Standard Marine Communication Phrases (SMCP)*

- GMDSS training manuals and course notes prepared by the instructor.

Communication Equipment and Training Tools

- VHF, MF/HF, and Inmarsat simulators for practical communication exercises.

- NAVTEX and EPIRB training sets.

- DSC (Digital Selective Calling) equipment and software simulators.

- Aldis lamp or equivalent light-signaling devices for Morse code practice.

Multimedia and Digital Resources

- Interactive simulation software for distress and safety communication scenarios.

- IMO e-learning modules and digital charts.

- Audio-visual materials (demonstration videos, recorded communication samples).

Supplementary Materials

- Instructor-prepared handouts, case studies, and scenario-based exercises.

- Access to maritime communication logs and sample reports.

- Port State and Flag State guidelines on distress and safety communication.

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

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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					

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Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
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	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10
Program Outcomes /Course Learning Outcomes Matrix Level of Contribution:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO1	1	1	1	1	0	0	1	1	1	0
PO2	3	3	3	3	2	2	3	3	3	2
PO3	2	2	2	1	1	1	2	2	2	1
PO4	0	0	0	0	0	0	0	0	0	2
PO5	2	1	2	2	0	0	1	2	1	2
PO6	1	1	1	1	0	0	1	1	1	1
PO7	1	1	1	1	0	0	1	1	1	0
PO8	1	0	0	0	0	0	1	1	1	1
PO9	1	0	1	1	0	0	1	1	1	2
PO10	1	0	1	1	0	0	1	2	2	1
PO11	1	1	1	1	0	0	1	1	1	0
PO12	3	3	3	3	2	2	3	3	3	2

Course Learning Outcomes/ Evaluation Method		
Course Learning Outcomes (CLOs)	**Teaching Method**	**Assessment Method**
LO1	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO2	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO3	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO4	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO5	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO6	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO7	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO8	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO9	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
LO10	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment

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ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**5**	**75**
Midterm Exam	**1**	**5**	**5**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**5**	**5**
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**	**2**	**30**
Quiz(es)	**2**	**3**	**6**
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	**2**	**3**	**6**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	**1**	**2**	**2**
Portfolio Presentation	-	-	-
Total Workload			**164**
ECTS Credit			**5**

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Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	1	10
Laboratory	-	-
Application	2	80
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	-	-
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	1	10
Midterms/Oral Exams	-	-
Final/Oral Exams	-	-
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.		

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University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Introduction to Marine Electronics							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MEL201	II	Fall	3	3	2	2	0
Course type: 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				

University of Kyrenia
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+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

Referans: SM-02   *Publication: 01/09/2025*   *Revision: 01/09/2025*   *Renewal: 01/09/2025*

Course Description	This course provides students with the fundamental principles of marine electronics and their practical applications in shipboard systems. It introduces the basic electronic components, circuit theory, and analytical methods required to understand and maintain marine electronic equipment. Key subjects include the characteristics and functions of electronic circuit components, Ohm's law, and the analysis of simple and complex circuits. The course further covers semiconductor theory, diodes, transistors, feedback, amplification, and oscillation principles essential for marine automation and communication systems. Students will learn about modulation techniques, electromagnetic wave propagation, noise reduction, and the integration of electronic circuits with high-voltage marine equipment. Emphasis is placed on safety standards, inspection methods, measurement tools, and troubleshooting procedures. In addition, the course explores shipboard electronics such as radar systems, Doppler logs, antennas, communication equipment, alarm systems, detection systems, and automation technologies. The course combines theoretical knowledge with hands-on practice through laboratory exercises, group projects, and simulations aimed at developing diagnostic and maintenance skills for marine electronic systems. By the end of the course, students will have a foundational understanding of marine electronics and be prepared for advanced studies in maritime automation and navigation technologies.
Course Aims and Objectives	**Course Aims:** • To provide students with a fundamental understanding of electronic theory and components used in marine applications. • To introduce the principles of electronic circuit analysis and their application to shipboard systems. • To develop students' knowledge of safety standards, troubleshooting methods, and maintenance practices for marine electronic equipment. • To prepare students for further studies and professional applications involving marine automation, communication, and navigation electronics. **Course Objectives:** By the end of the course, students are expected to: • Understand the basic electrical and electronic concepts including Ohm's law, circuit analysis, and the function of common electronic components. • Explain the principles of semiconductors, diodes, transistors, amplification, feedback, and oscillation in electronic systems. • Analyze and interpret circuit diagrams and recognize components and their literature symbols. • Gain knowledge of electromagnetic waves, modulation principles, and signal noise reduction techniques relevant to marine environments. • Understand safety regulations, inspection and maintenance requirements, and diagnostic tools used in marine electronics. • Describe the working principles and operational requirements of shipboard electronic systems such as radars, antennas, alarm and detection systems. • Develop hands-on skills through applications, simulations, and case studies for troubleshooting and maintaining marine electronic devices.

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Course Learning Outcomes	**LO1 – Understand Electrical & Electronic Fundamentals** Explain the basic principles of electricity and electronics, including Ohm's law, basic circuit analysis, and the operational principles of key electronic components such as resistors, capacitors, diodes, transistors, and amplifiers. **LO2 – Interpret and Analyze Electronic Circuits** Analyze, draw, and interpret marine electronic circuit diagrams using correct symbols and standards, and apply semiconductor theory, feedback, oscillation, modulation, and signal transmission concepts. **LO3 – Evaluate Electromagnetic & Signal Integrity Issues** Assess electromagnetic interference (EMI) problems in marine electronic systems and propose suitable noise reduction and signal integrity solutions. **LO4 – Apply Safety, Maintenance & Troubleshooting Procedures** Apply marine electronic safety regulations, conduct inspections, perform maintenance, and diagnose faults in shipboard electronic systems using standard troubleshooting techniques. **LO5 – Understand Shipboard Electronic Equipment Operation** Explain and evaluate the operation of essential marine electronic equipment, including radar, antennas, communication systems, alarms, sensors, and detection systems. **LO6 – Demonstrate Practical & Team-Based Problem-Solving Skills** Perform hands-on troubleshooting and diagnostics on simulated or real marine electronic systems, and collaborate effectively in teams to solve practical marine electronics case studies.

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Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

Referans: SM-02   *Publication: 01/09/2025*   *Revision: 01/09/2025*   *Renewal: 01/09/2025*

Content of the Course

Week	Subject
1	General aspects of Electronical Characteristics of Circuit board Components
2	Reminder tutorial of Ohm law and simple circuits analysis
3	Circuit line systems and circuit diagrams, understanding of the components with their symbols and literature denominations
4	Semi-conductor theory, diots, types and diot circuit
5	Transistors & amplification, amplificators and functions in the circuit
6	Feed-back theory and amplified feed-back components
7	Ossilation theory and ossilators,
8	Mid-term Application (Theoretical fault-finding)
9	Modulation and integrity with automational control elements
10	Electromagnetic waves and spread, noise and reduction in signalization
11	Integration of electronical circuit components with high voltage equipment
12	Fundamental safety regulations, electronical safety requirements, mechanisms and maintenance. Electronical inspection system, measurements and determination tools
13	Shipboard Electronics I: Radars, doppler logs, antennas and communication equipment
14	Shipboard Electronics: Alarm systems, detection systems and automation
15	Final Exam Application (Acting for troubleshooting)

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Methods and Techniques Used in the Course

Lectures and Interactive Discussions:

Theoretical knowledge is delivered through interactive lectures supported by multimedia presentations, encouraging student participation and critical thinking.

Laboratory / Practical Applications:

Hands-on practice with electronic components, circuit building, and troubleshooting exercises are carried out in lab or simulator environments.

Minimum 4 application sessions are conducted throughout the semester.

Case Studies and Problem-Solving Sessions:

Analysis of real-world marine electronics failures and fault scenarios; students develop solutions and present findings.

Group Work and Collaborative Projects:

Students work in teams (*minimum 2 group assignments*) to analyze, design, and troubleshoot circuit diagrams and shipboard electronic systems.

Homework and Research Assignments:

Students complete *at least 2 individual homework assignments* on topics such as circuit analysis, safety procedures, and shipboard electronics.

Mid-term and Final Examinations:

Exams include both theoretical and application-based questions, testing understanding of electronics principles, shipboard equipment, and troubleshooting methods.

Use of Demonstration Tools and Simulations:

Electronic simulation software, circuit boards, and shipboard equipment models are used to reinforce theoretical knowledge with practical demonstrations.

Self-Evaluation and Feedback Sessions:

Briefing and debriefing activities to improve self-assessment and peer learning.

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Sample Questions

Mid-term Exam Sample Questions

- **Explain Ohm's Law** and calculate the current passing through a 24 V circuit with a 12 Ω resistor.
- **Draw and label** the main components of a simple DC circuit and explain their functions.
- **Identify and describe** three types of diodes and their typical applications in marine electronics.
- A transistor circuit has a given input and output. **Explain how amplification is achieved** and sketch a simple transistor amplifier circuit.
- **Describe the concept of feedback in electronic circuits.** Provide one example of positive feedback and its effect on the system.

Application / Practical Sample Questions

- **Fault-finding:** Given a faulty circuit diagram, identify potential failure points and suggest troubleshooting steps.
- Using provided circuit symbols, **construct and label** a schematic for a power supply including a diode rectifier and an amplifier stage.
- **Explain and demonstrate** how oscillators generate signals, including the role of feedback components.
- **Case Study:** The radar antenna shows intermittent signal loss. Suggest probable causes related to electronic components and propose inspection methods.

Final Exam Sample Questions

- **Explain modulation** and how it integrates with automation control systems onboard.
- **Discuss electromagnetic interference (EMI):** What are its sources in marine environments and how can it be minimized?
- **Describe the safety measures** required when working with high-voltage shipboard electronic systems.
- **Differentiate** between analog and digital signals and their relevance to marine communication equipment.
- **Describe the working principles** of one shipboard electronic system (e.g., radar or Doppler log) and its integration into navigation operations.

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Materials Used in the Course

Textbooks and References

- K. R. Fowler, *Marine Electronics Handbook*, latest edition.

- A. P. Anderson, *Basic Electronics for Engineers and Technicians*.

- Manufacturer manuals and technical documentation for marine electronic devices (e.g., radar, Doppler log, automation systems).

- IMO and SOLAS regulations related to electronic and automation systems on ships.

Lecture Materials

- Instructor-prepared lecture notes and multimedia presentations.

- Circuit diagrams and schematic libraries (digital and printed).

- Safety procedure manuals and guidelines for handling electronic equipment.

Laboratory / Practical Tools

- Breadboards, resistors, capacitors, diodes, and transistors for hands-on circuit design.

- Oscilloscopes, multimeters, and signal generators for testing and diagnostics.

- Marine electronics training kits for radar and communication systems simulations.

- Fault simulation boards for troubleshooting exercises.

Software and Simulation Tools

- Electronic circuit design and analysis software (e.g., Multisim, Proteus, or equivalent).

- Marine electronics simulator software for radar, alarms, and automation system demonstrations.

- Digital libraries and virtual labs for remote practice.

Supplementary Materials

- Safety manuals for electrical and electronic maintenance operations.

- IMO conventions: MARPOL, SOLAS, and ISM Code excerpts related to electronic equipment and safety.

- Case studies and example logs from real shipboard electronics incidents.

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

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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						

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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**
PO1	2	2	2	3	3	2
PO2	2	3	3	3	3	3
PO3	1	2	2	2	2	2
PO4	1	2	2	2	2	2
PO5	2	2	3	2	3	3
PO6	1	2	2	3	3	2
PO7	1	1	1	2	2	2
PO8	1	1	2	2	2	2
PO9	1	1	1	1	2	2
PO10	1	2	2	3	3	3
PO11	1	1	1	2	2	2
PO12	2	1	1	2	2	2

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lectures, interactive presentations, guided problem-solving	Midterm exam, quizzes
CLO2	Lectures, component demonstrations, circuit modeling sessions	Midterm exam, quizzes, homework
CLO3	Board work, circuit-drawing exercises, laboratory simulations	Quizzes, lab reports, midterm
CLO4	Lectures, multimedia demonstrations, case-based discussions	Midterm exam, final exam
CLO5	Problem-solving sessions, lab simulations, group analysis	Quizzes, lab reports, final exam
CLO6	Practical lab work, group activities, case studies	Lab reports, project work, 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	**4**	**4**	**16**
Assignment(s)/Homework/Class Works	**2**	**4**	**8**
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	4	20
Field Work	2	10
Special Course Internship (Work Placement)	-	-
Homework/Assignments	2	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	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.		

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University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Maritime English I							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MEN201	II	Fall	3	4	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 09.30-12.20

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

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
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Referans: SM-01   *Publication: 01/09/2025*   *Revision: 01/09/2025*   *Renewal: 01/09/2025*

Course Description	The *Maritime English* course is designed to develop students' ability to understand, use, and communicate effectively in English within the context of maritime operations. The course provides comprehensive instruction on the specialized vocabulary, expressions, and communication techniques used at sea and in ports, in compliance with the **IMO Standard Marine Communication Phrases (SMCP)** and international maritime conventions. Students will gain a solid command of English terminology related to ship structure, navigation, meteorology, cargo operations, safety, and emergency procedures. Emphasis is placed on both oral and written communication, including radio communication, ship documentation, and correspondence used in ship management, maintenance, and operations. Through interactive lessons, simulations, and practical exercises, students will enhance their listening, speaking, reading, and writing skills necessary for safe, efficient, and professional communication in multinational maritime environments. The course also introduces essential maritime legal, technical, and administrative English to prepare students for real-world maritime communication challenges.
Course Aims and Objectives	The primary aim of this course is to equip students with the linguistic competence and professional communication skills required for effective and safe operations in the maritime industry. The course seeks to familiarize students with international maritime terminology, documents, and communication practices in accordance with **IMO (International Maritime Organization)** standards. • To develop students' understanding and practical use of **maritime terminology** and expressions used on board ships and within port operations. • To enable students to **communicate accurately and efficiently** in English during daily operations, cargo handling, and navigation activities. • To improve students' ability to use **IMO Standard Marine Communication Phrases (SMCP)** in real-time communication and emergency situations. • To provide students with the necessary English skills to **understand, interpret, and complete** ship documentation and correspondence.

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Referans: SM-01   *Publication: 01/09/2025*   *Revision: 01/09/2025*   *Renewal: 01/09/2025*

	• To enhance proficiency in **oral, written, and radio communication** used between ships, coastal stations, and maritime authorities. • To develop awareness of **safety procedures, emergency messages, and distress communications** in English. • To prepare students to work confidently and professionally in **multinational maritime environments**, promoting effective teamwork and intercultural communication.
Course Learning Outcomes	**CLO1:** Identify and use key maritime terminology related to ships, machinery, cargo operations, and navigation. **CLO2:** Communicate effectively in English during shipboard operations, including bridge, engine room, and port communications. **CLO3:** Interpret and apply IMO Standard Marine Communication Phrases (SMCP) in both routine and emergency maritime situations. **CLO4:** Understand and explain the structure, function, and classification of ships using appropriate technical maritime English. **CLO5:** Read, comprehend, and complete maritime documents such as logbooks, cargo records, reports, and inspection forms. **CLO6:** Apply English terminology related to marine safety, firefighting, meteorology, and environmental protection. **CLO7:** Demonstrate proficiency in written and oral maritime communication used in correspondence, reporting, and ship-to-shore messaging. **CLO8:** Recognize and use English terminology associated with maritime law, international regulations, and administrative procedures. **CLO9:** Respond appropriately to emergency, distress, and safety-critical situations using standardized maritime English communication formats. **CLO10:** Collaborate and communicate effectively in multinational maritime environments with crew members from diverse linguistic and cultural backgrounds.

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Content of the Course

Week	Subject
1	**Introduction to Maritime English and Ship Classification** • Definition of a ship and its general characteristics • Classification of ships based on function and design • Basic ship measurements and tonnage concepts • General maritime terminology
2	**Ship Parts and Equipment Terminology** • Structural parts of the ship: hull, deck, superstructure, compartments • Cargo gear, hatches, pipelines, tanks • Anchoring equipment, mooring commands, and bridge terminology • Crew structure, duties, and shipboard organization
3	**Maritime Safety and Fire-Fighting Terminology** • Safety equipment and lifeboats • Fire-fighting equipment and safety procedures • English terminology used in drills and emergency training • Understanding SOLAS (Safety of Life at Sea) vocabulary
4	**Nautical Charts and Publications** • Basic map and chart terminology • Navigational publications: Notices to Mariners, corrections, and chart updates • English expressions used in voyage planning and chart reading
5	**Meteorology in Maritime English** • Meteorological terms and abbreviations used in weather reports • Recording weather and sea conditions in the ship's logbook • Understanding and interpreting weather forecasts
6	**Maritime Commerce and Shipping Business English** • Maritime trade and shipping operations terminology • Charter party agreements, INCOTERMS, and documentation • Time Sheets, Statements of Facts, and laytime calculation terminology
7	**Technical Management Terminology** • Classification societies and ship classification status • Survey schedules and maintenance planning • Ship documentation, certification, and compliance with regulations • Technical communication related to repairs and maintenance
8	**Midterm Examination and Review Session** • Written and oral assessment of terminology, ship systems, and communication practices
9	**Maritime Law and Administration English**

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	• National and international maritime organizations (IMO, ILO, SOLAS, MARPOL) • Basic maritime law concepts: collision, salvage, and general average • Insurance terminology and port state control inspections
10	**Ship Documents and Cargo Documentation** • Ship certificates, port clearance documents, and cargo documentation • Bill of Lading, Cargo Manifest, Mate's Receipt • Understanding and completing maritime forms in English
11	**Maritime Records and Correspondence** • Ship's logbook entries, engine room log, cargo operations record • Formal and informal maritime correspondence • Writing protest letters and official communications
12	**Maintenance and Repair Terminology** • Maintenance planning and record-keeping • Dry-docking procedures and technical documentation • Fault reporting, damage assessment, and repair correspondence
13	**Survey and Inspection English** • Types of surveys: class, flag state, and port state inspections • Checklists, reporting procedures, and communication with surveyors • English expressions used during inspections and safety audits
14	**Communication and Emergency English** • IMO Standard Marine Communication Phrases (SMCP) • VHF communication between ship, shore, and VTS • Emergency and distress message formats • Multinational crew communication and bridge resource management
15	**Medical and Safety Communication English** • Medical terms for body parts, diseases, and first aid • Communicating medical emergencies at sea • Using medical sections of the International Code of Signals and the International Medical Guide for Ships • Final review and preparation for the final exam

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Methods and Techniques used in the Course

Lectures and Interactive Discussions – Theoretical knowledge of maritime terminology, communication structures, and operational language is delivered through instructor-led sessions and class discussions.

Audio-Visual Learning – Use of multimedia tools such as maritime communication videos, ship operation recordings, and simulated distress calls to improve listening and comprehension skills.

Simulation and Role-Playing Exercises – Students participate in simulated shipboard and port communication scenarios (e.g., VHF radio exchanges, distress calls, cargo operation dialogues) to practice real-life communication.

Reading and Writing Exercises – Focused on technical manuals, maritime reports, log entries, and standard marine communication documents to enhance reading comprehension and technical writing proficiency.

Case Studies and Problem-Based Learning – Analysis of real maritime incidents and reports to develop critical thinking and communication strategies under operational and emergency conditions.

Group Work and Oral Presentations – Students collaborate on group assignments and deliver presentations related to ship operations, safety procedures, and maritime regulations.

Listening and Pronunciation Practice – Exercises emphasizing correct pronunciation, stress, and intonation of maritime English to ensure clarity in radio and onboard communication.

Vocabulary and Terminology Workshops – Intensive practice on specific maritime vocabulary including navigation, engineering, cargo handling, meteorology, and safety.

Use of IMO Standard Marine Communication Phrases (SMCP) – Regular drills and exercises to ensure familiarity and fluency in standardized maritime communication.

Assessment and Feedback Sessions – Continuous formative assessment through quizzes, oral evaluations, and peer feedback to monitor and improve students' performance throughout the semester.

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Sample Questions

- Define the term **"Gross Tonnage"** and explain its significance in ship classification.
- What is the difference between **bulk carriers** and **container ships**?
- What are the main duties of the **Chief Engineer** and **Chief Officer** on board?
- Translate into English: "Gemi, fırtınalı havada demirlemede sorun yaşadı."
- List three **firefighting appliances** found on a ship.
- What are the differences between **lifeboats** and **life rafts**?
- Explain the meaning of **IMO Number** and its purpose.
- What does **VTS** stand for, and what is its role in maritime safety?
- Write three examples of **bridge communication commands** used during maneuvering.
- What is the function of the **bilge system** on board a vessel?
- Complete the sentence: "The _____ is responsible for the maintenance of the main engine."
- Define **"Class Society"** and give two examples.
- What kind of information can be found in the **Ship's Logbook**?
- What is the English term for "Deniz Haritası"?
- Translate the following phrase: "Prepare the vessel for dry docking."
- What are **INCOTERMS**, and why are they important in maritime trade?
- Explain briefly what **"Port State Control"** means.
- Fill in the blanks: "In case of fire on board, the crew must report to the _____ station immediately."

- Define **GMDSS** and list its main components.
- What are the primary types of **emergency messages** transmitted in maritime communication?
- What is the correct English phrase for sending a distress call according to **SMCP**?
- Explain the purpose of **IAMSAR Manual**.
- What is the difference between **Distress**, **Urgency**, and **Safety** messages?
- Fill in the blanks: "Mayday" is used for _____ situations, while "Pan-Pan" is used for _____ situations.
- What are the essential steps for **radio communication during an emergency**?
- What kind of information must be included in a **medical emergency report**?
- Define **Plagiarism** in the context of logbook or report writing.
- What are the safety measures during **fuel transfer operations**?
- Explain the function of the **emergency generator**.
- What is the importance of **standardized maritime terminology** in multi-national crews?
- Give examples of **communication breakdowns** that could lead to accidents.
- Briefly explain how **cultural and linguistic diversity** affects communication on ships.

Materials Used in the Course

Primary Textbooks

- *English for Maritime Studies* – Tony Grice, Cambridge University Press.

- *Maritime English: A Textbook for Seafarers* – Pritchard, Oxford Maritime Series.

- *SMCP (Standard Marine Communication Phrases)* – International Maritime Organization (IMO).

Supplementary Materials

- *Maritime English Handbook* – Peter Trenkner.

- *English for the Maritime Industry* – Virginia Evans & Jenny Dooley.

- *Nautical Dictionary and Glossary of Maritime Terms* – Capt. H. Black.

 International Conventions and Official Documents

- *SOLAS (Safety of Life at Sea Convention)*

- *MARPOL (International Convention for the Prevention of Pollution from Ships)*

- *STCW (Standards of Training, Certification and Watchkeeping for Seafarers)*

- *COLREG (International Regulations for Preventing Collisions at Sea)*

Multimedia and Digital Resources

- IMO e-learning platform and digital SMCP simulator.

- Authentic **VHF radio communication recordings** and **ship bridge videos**.

- Interactive maritime terminology exercises (online platforms such as *MarTEL* and *Seagull LMS*).

Instructor-Prepared Materials

- Lecture slides and vocabulary lists for each week.

- Sample logbook pages, ship documents, and charter party examples.

- Case studies based on real maritime incidents and communications.

Practical Tools and Equipment

- VHF communication simulator.

- Ship plans, drawings, and technical manuals.

- Training charts, nautical publications, and meteorological reports.

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

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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	2	3	3
PO2	2	3	3	2	3	3	3	2	3	3
PO3	2	2	3	3	2	2	3	3	3	3
PO4	1	2	2	2	2	2	2	2	2	2
PO5	3	3	3	3	3	3	3	2	3	3
PO6	1	2	2	1	2	2	2	2	2	2
PO7	1	1	1	1	1	1	1	1	2	3
PO8	1	1	1	1	1	1	1	1	1	1
PO9	1	1	1	1	2	1	2	2	2	2
PO10	1	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	1

Course Learning Outcomes/ Evaluation Method

CLO	Teaching Method	Assessment Method
CLO1 – Key Maritime Terminology	Lecture, Multimedia Presentation, Vocabulary Exercises	Quizzes, Assignments, Participation
CLO2 – Effective Shipboard Communication	Role-Playing, Simulation, Group Activities	Observation, Oral Presentations, Practical Exercises
CLO3 – IMO SMCP Usage	Lecture, Scenario-Based Simulation, Case Studies	Assignments, Practical Exams, Quizzes
CLO4 – Ship Structure & Classification	Lecture, Diagrams, Technical Demonstrations	Quizzes, Written Exams, Assignments
CLO5 – Maritime Documentation	Lecture, Hands-on Document Practice, Tutorials	Assignments, Practical Exams, Quizzes
CLO6 – Marine Safety & Environmental Terms	Lecture, Case Studies, Practical Drills	Quizzes, Lab Reports, Practical Exercises
CLO7 – Written & Oral Communication	Workshops, Writing Exercises, Presentations	Written Reports, Oral Exams, Assignments
CLO8 – Maritime Law & Administrative Terminology	Lecture, Discussion, Case Studies	Quizzes, Written Exams, Assignments
CLO9 – Emergency & Distress Communication	Simulation, Role-Playing, Scenario-Based Learning	Practical Exams, Observation, Assignments
CLO10 – Multinational Crew Communication	Group Projects, Collaborative Activities, Simulation	Project Reports, Peer Evaluation, Observation

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

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ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	15	1	15
Lectures	15	3	45
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)	-	-	-
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	10	10
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**111**
ECTS Credit			**4**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	1	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.		

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University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Maritime Meteorology							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MET201	II	Fall	2	6	1	2	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			Monday / 09:30 – 11:20				
Instructor information			**Doç. Dr. Serkan Sancak** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4060 serkan.sancak@kyrenia.edu.tr www.kyrenia.edu.tr				

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

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Course Description	This course provides students with a comprehensive understanding of meteorological concepts and their direct applications to maritime operations. It covers the structure and dynamics of the atmosphere, pressure and wind systems, cloud formation, precipitation, visibility, and weather forecasting. Emphasis is placed on the use of meteorological instruments onboard ships, interpretation of meteorological data, and the integration of weather information into safe navigation and voyage planning.
Course Aims and Objectives	• To introduce the fundamental principles of meteorology relevant to maritime operations. • To develop knowledge and skills in the use of meteorological instruments onboard ships. • To provide understanding of atmospheric structures, weather systems, and their effects on navigation. • To enable students to interpret, record, and report meteorological observations accurately. • To equip students with the ability to analyze and apply weather forecasts for safe and efficient voyage planning.
Course Learning Outcomes	**CLO1:** Identify and operate the key meteorological instruments used onboard ships accurately. **CLO2:** Explain the structure, composition, and fundamental physical characteristics of the atmosphere. **CLO3:** Interpret atmospheric pressure patterns, wind systems, cloud formations, precipitation, and visibility phenomena relevant to maritime navigation. **CLO4:** Understand and analyze pressure systems, including low-pressure areas, anticyclones, and associated weather patterns. **CLO5:** Utilize maritime weather services and effectively integrate weather forecasts into navigational decision-making. **CLO6:** Record, interpret, and report shipboard meteorological observations following international standards and protocols. **CLO7:** Apply meteorological knowledge to assess navigational safety and support voyage planning. **CLO8:** Analyze meteorological data to predict and respond to changing sea and weather conditions.

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	CLO9: Demonstrate the ability to communicate weather-related information clearly to crew and officers for operational purposes. **CLO10:** Integrate theoretical and practical meteorology skills to make informed decisions in real-world maritime scenarios.

Content of the Course

Week	Subject
1	**Meteorological Instruments on Board Ships** • Introduction to meteorological observation tools used in maritime navigation. • Barometers, thermometers, hygrometers, anemometers, and their principles of operation. • Practical usage and calibration for accurate weather data collection. **English Maritime Terminology (**Meteorology in English**)** • Terms used in meteorological reports • Recording weather and sea conditions in the logbook
2	**Atmosphere: Structure and Physical Properties** • Composition of the atmosphere. • Vertical layers (troposphere, stratosphere, etc.) and their characteristics. • Thermal and dynamic processes affecting weather phenomena.
3	**Atmospheric Pressure** • Definition and measurement of air pressure. • Isobars and pressure distribution on weather charts. • Relation between pressure and weather changes.
4	**Wind Systems** • Formation and dynamics of wind. • Beaufort scale and practical wind estimation at sea. • Relation between pressure gradients and wind velocity/direction.
5	**Clouds and Precipitation** • Classification of clouds and their significance in weather forecasting. • Mechanisms of precipitation: rain, snow, hail, drizzle. • Observation techniques and reporting.
6	**Visibility at Sea** • Factors affecting visibility (fog, haze, precipitation, dust, etc.). • International definitions of visibility ranges for navigation. • Techniques for estimating and reporting visibility conditions.
7	**Winds and Pressure Systems over Oceans** • General circulation of the atmosphere over oceans. • Trade winds, westerlies, doldrums, and monsoon systems. • Their impact on maritime navigation and voyage planning.
8	**Structure of Low-Pressure Systems** • Cyclones: tropical and extratropical. • Structure, life cycle, and hazards for ships. • Identification on synoptic charts.
9	**Anticyclones and Other Pressure Systems** • High-pressure systems and their influence on maritime weather.

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	• Fronts and frontal weather (warm front, cold front, occluded front). • Other systems: troughs, ridges, and convergence zones.
10	**Marine Meteorological Services** • Weather information services for mariners (NAVTEX, SafetyNET, VHF broadcasts). • Role of WMO (World Meteorological Organization) in maritime safety. • Use of weather charts and forecasts during navigation.
11	**Recording and Reporting Weather Observations** • Standard methods of recording shipboard weather observations. • Coding and transmission procedures (SHIP reports, SYNOP codes). • Importance of accurate data for global forecasting.
12	**Weather Forecasting Principles** • Basic techniques of meteorological forecasting. • Interpretation of synoptic charts and weather maps. • Practical forecasting methods for mariners.
13	**Applied Marine Meteorology** • Case studies of meteorological phenomena affecting ship navigation. • Decision-making based on meteorological data. • Voyage planning under varying weather conditions.
14	**Review and Integration** • General revision of all topics. • Practical exercises on weather chart analysis, observation reporting, and forecasting.
15	Final Exam

Methods and Techniques used in the Course

- Lectures and classroom discussions

- Demonstrations of meteorological instruments

- Case studies and problem-solving exercises

- Analysis of weather charts and bulletins

- Group assignments and presentations

- Simulation-based applications (where available)

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Sample Questions

- Define atmospheric pressure and explain how it is measured on board a ship.

- List three meteorological instruments commonly used on ships and briefly describe their functions.

- What are the main differences between cyclones (low-pressure systems) and anticyclones (high-pressure systems)?

- Explain the term "visibility" in maritime meteorology and identify at least two factors that reduce visibility at sea.

- State the types of clouds associated with heavy rainfall and thunderstorms.

- Which of the following instruments is used to measure wind speed and direction?
  a) Barometer
  b) Anemometer
  c) Hygrometer
  d) Thermometer

- Which global wind system is most significant for ocean navigation near the equator?
  a) Westerlies
  b) Trade Winds
  c) Polar Easterlies
  d) Monsoon Winds

- A barometer reading suddenly drops from 1012 hPa to 996 hPa within a few hours.
  - What type of weather system is approaching?
  - What precautions should a ship's officer take in navigation?

- A vessel sailing in the North Atlantic receives a weather chart showing an approaching low-pressure system with closely spaced isobars.
  - Explain the expected wind conditions.
  - Discuss how this might affect route planning and ship operations.

- Prepare a short weather observation log entry, including pressure, temperature, wind, visibility, and cloud cover, for a hypothetical voyage scenario.

- Discuss the importance of accurate meteorological observations in ensuring maritime safety.

- Explain how international weather services (e.g., NAVTEX, EGC, and meteorological bulletins) assist shipmasters in voyage planning.

- Evaluate the role of weather forecasting in preventing maritime accidents and improving operational efficiency.

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Materials Used in the Course

Textbooks:

- Bowditch, N. The American Practical Navigator.

- Houghton, J. The Physics of Atmospheres.

- Admiralty Manual of Navigation (Meteorology Sections).

Supplementary Materials:

- IMO Model Course 7.03 (Officer in Charge of a Navigational Watch).

- Meteorological charts and weather bulletins (NAVTEX, EGC, etc.).

- Shipboard meteorological instruments and logbooks.

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

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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					

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PO	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8	CLO9	CLO10
Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO1	3	3	3	2	3	2	3	2	2	3
PO2	2	2	2	2	3	3	2	2	2	2
PO3	2	2	3	3	3	3	3	3	2	3
PO4	1	2	2	2	2	2	2	2	2	2
PO5	3	3	3	3	3	3	3	3	3	3
PO6	2	2	2	2	2	2	3	2	2	3
PO7	1	1	2	1	2	2	2	2	1	2
PO8	1	1	1	1	1	1	1	1	1	1
PO9	1	1	1	1	2	1	1	1	1	2
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 – Meteorological Instruments	Lecture, Demonstration, Hands-on Practice	Quizzes, Lab Reports, Practical Exams
CLO2 – Atmospheric Structure	Lecture, Multimedia Presentation, Case Studies	Quizzes, Assignments, Midterm Exam
CLO3 – Weather Phenomena Interpretation	Lecture, Group Discussions, Simulations	Quizzes, Assignments, Practical Exercises
CLO4 – Pressure Systems Analysis	Lecture, Case Studies, Simulation Exercises	Assignments, Midterm Exam, Practical Exams
CLO5 – Maritime Weather Services	Lecture, Tutorial, Simulation Exercises	Assignments, Quizzes, Practical Exercises
CLO6 – Meteorological Observations	Hands-on Practice, Lab Exercises, Demonstration	Lab Reports, Observation Checklists, Practical Exams
CLO7 – Navigational Safety Application	Scenario-Based Exercises, Group Work	Practical Exams, Project Reports, Assignments
CLO8 – Data Analysis & Prediction	Problem-Based Learning, Simulation, Case Studies	Assignments, Practical Exercises, Midterm Exam
CLO9 – Communication of Weather Information	Role-Playing, Group Exercises, Multimedia Presentation	Observation, Assignments, Quizzes
CLO10 – Integrated Meteorology Skills	Simulation, Scenario-Based Learning, Group Projects	Project Reports, Practical Exams, Assignments

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ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**3**	**45**
Lectures	**15**	**1**	**15**
Midterm Exam	**1**	**2**	**2**
Preparation for Midterm Exam	**1**	**8**	**8**
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**	**4**	**20**
Individual Reading / Research	**10**	**2**	**20**
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**137**
ECTS Credit			**6**

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.		

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University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Maritime Safety III							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
SAF201	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**	
			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				

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
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Course Description	This course offers comprehensive training in shipboard security, emergency management, and fire prevention for maritime professionals. It focuses on the role and responsibilities of the Ship Security Officer (SSO) and the Ship Security Plan (SSP) under international regulations, including the SOLAS, STCW, and ISPS Code. Students will gain knowledge of maritime security policies, risk assessment techniques, threat identification, vulnerability management, and firefighting organization and management. Additionally, this course provides comprehensive training in firefighting organization on ships, as well as search and rescue procedures for assisting vessels and people in distress. The course will be conducted in accordance with the IMO Model Courses 2.03, and 3.19, as well as the national regulation "Egitim Sinav Yonergesi 2025" of the Turkish Republic. Successful students will obtain mandatory STCW certificates of (1); Advanced Firefighting, (2); Ship Security Officer. Emphasis is placed on practical applications, including drills, simulations, and coordinated emergency procedures to ensure safe and effective shipboard operations. By integrating theoretical knowledge with practical exercises, the course prepares students to enhance firefighting and ship security organization, implement safety and security measures, respond effectively to onboard emergencies, and assist the vessels in distress in compliance with international maritime standards.
Course Aims and Objectives	The course aims to equip students with the knowledge, skills, and competencies necessary to ensure shipboard safety and security, advanced firefighting, and search-and-rescue capabilities. It emphasizes understanding maritime security policies, recognizing threats, managing risks, and effectively responding to emergencies, including fire and search-and-rescue operations. Students will also learn to operate and maintain onboard safety and security systems in accordance with international regulations. This combination of theoretical and practical training prepares students for real-world maritime safety and security challenges. • Understand the concept of maritime security. • Understand the duties and responsibilities of the Master, SSO, CSO, PFSO, as well as the content of the SSP and SSA. • Comprehend and identify potential security threats, vulnerabilities, and risks onboard a vessel, and implement suitable security measures to ensure effective security management.

	• Acquire and apply advanced competencies in firefighting and fire emergency management organizations.
	• Acquire knowledge and engage in the practice of operating, testing, and maintaining onboard firefighting and security equipment and systems.
	• Comprehend the significance of shipboard drills and simulations in preparing for emergencies.
	• Enhance overall situational awareness, communication, and coordination skills during maritime emergencies.
	• Comprehend and proficiently execute search and rescue protocols at sea.
Course Learning Outcomes	**LO1**: Demonstrate a comprehensive understanding of maritime security policies, regulations, and conventions (SOLAS, STCW, ISPS).
	LO2: Identify, evaluate, and mitigate security risks, threats, and vulnerabilities on board vessels.
	LO3: Implement and effectively monitor ship security plans and related procedures.
	LO4: Demonstrate advanced knowledge and skills in firefighting operations and organizations on board.
	LO5: Operate, test, and maintain shipboard fire and security equipment.
	LO6: Plan and execute training sessions, drills, and simulations to ensure ongoing compliance with safety and security protocols and prepare detailed reports and evaluations of safety and security incidents for regulatory and operational purposes.
	LO7: Demonstrate advanced skills in situational awareness, communication, coordination, and decision-making during complex maritime emergencies.
	LO8: Effectively respond to the distress alerts of other ships and conduct search and rescue operations for the survivors at sea.

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Content of the Course

Week	Subject
1	**Introduction to Maritime Security and Safety Policies** Terminology and related maritime English terms History of maritime criminal activities Current threats: piracy, armed robbery, terrorism, smuggling Ship and port operations overview Key definitions, terminology, and responsibilities of states under SOLAS Security organization: company, ship, and port facility responsibilities International regulations on maritime security
2	**Security Responsibilities** Terminology and related maritime English terms Purpose and structure of Ship Security Plans (SSP) Procedures for implementing SSP and reporting security incidents Maritime security levels and critical ship/port security measures Confidentiality and communication of security information Internal audits, inspections, and monitoring procedures
3	**Ship Security Plan Implementation and Oversight** Terminology and related maritime English terms Legal framework for Ship Security Officer (SSO) actions Role of the Master, SSO, Company Security Officer, Port Facility Security Officer Other personnel involved in maritime security
4	**Security Risk, Threat, and Vulnerability Assessment** Terminology and related maritime English terms Risk assessment methods and tools Security documentation and reporting Identification of potential threats, weapons, and hazardous materials Crowd management and coordination Handling sensitive information and security communications
5	**Onboard Security Inspections** Terminology and related maritime English terms Restricted area monitoring and control of access Monitoring of the deck and ship perimeter Security procedures for cargo handling and personnel movement Security measures and coordination in port and ship-to-ship operations
6	**Operation, Testing, and Calibration of Security Equipment** Terminology and related maritime English terms Security equipment types and operational limitations Alarm systems and onboard communication protocols Testing, calibration, and maintenance of security systems Security exercises, drills, training per IMO guidelines, and their evaluations Methods to improve security awareness and onboard readiness
7	**Advanced Fire-Fighting – Principles** Terminology and related maritime English terms

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

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	Fire chemistry and classes of fire
	Fire prevention and firefighting equipment
	Organizational and tactical considerations in port and at sea
	Fire impact on vessel stability and corrective measures
8	**Advanced Fire-Fighting – Systems and Operations**
	Terminology and related maritime English terms
	Firefighting team organization and roles
	Fire detection, fixed and portable extinguishing systems
	Coordination, communication, and ventilation control
9	**Advanced Fire-Fighting – Systems and Operations**
	Terminology and related maritime English terms
	Firefighting team organization and roles
	Contingency Plans and Team Management
	Coordination, communication, and ventilation control
10	**Advanced Fire-Fighting – Systems and Operations**
	Terminology and related maritime English terms
	Firefighting involving fuel, chemical, and electrical systems
	Handling hazardous materials and storage safety
	Control of fuel and electrical systems
	Dangers caused by fire.
11	**Fire Incident Investigation and Reporting**
	Terminology and related maritime English terms
	Legal and classification society reporting requirements
	Fire event cause analysis
	Documentation and lessons learned
12	**Search and Rescue Operations**
	Terminology and related maritime English terms
	Assisting to a distressed ship, preparations, procedures, and legal aspects
	Surviving people from a distressed ship
	Emergency in port
13	**Search and Rescue Operations**
	Terminology and related maritime English terms
	IAMSAR
	Search and Rescue methods and techniques
	Coordination and communication in search and rescue operations
14	**Search and Rescue Operations**
	Terminology and related maritime English terms
	IAMSAR
	Search and Rescue methods and techniques
	Coordination and communication in search and rescue operations
15	**Review and Final Evaluation**
	Recap of maritime safety policies, risk assessment, and emergency procedures
	Practical assessment and scenario-based exercises
	Evaluation of student competence in shipboard safety and security operations

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Methods and Techniques used in the Course

Lectures and Interactive Discussions – Covering maritime security policies, safety regulations, and risk management principles.

Case Studies – Analysis of real-world maritime security incidents, accidents, and emergencies.

Practical Drills and Simulations – Hands-on training for firefighting, emergency response, collision, grounding, and man-overboard scenarios.

Workshops – Focused sessions on the operation, calibration, and maintenance of safety and security equipment.

Role-Playing Exercises – Simulating shipboard emergencies to develop communication, teamwork, and leadership skills.

Shipboard Security and Safety Plan Exercises – Developing, implementing, and auditing security plans in simulated environments.

Multimedia Resources – Use of instructional videos, manuals, and interactive modules to reinforce theoretical knowledge.

Group Projects – Collaborative exercises on risk assessment, emergency planning, and safety audits.

Quizzes and Written Assignments – Assessing comprehension of regulations, safety procedures, and maritime security practices.

Assessment of Competency in Equipment Use – Practical evaluation of students' abilities to operate firefighting and safety systems effectively.

Sample Questions

- Define the role and responsibilities of a Ship Security Officer (SSO) under international regulations.

- Explain the procedures for implementing and monitoring a Ship Security Plan (SSP).

- Describe methods to identify and assess potential security threats, including piracy and armed robbery.

- Outline the steps for fire detection, alarm, and firefighting on board, and the coordination required among crew members.

- Discuss the correct use and maintenance of shipboard security equipment and systems.

- Describe how to conduct regular security inspections and audits to ensure compliance with ISPS Code.

- Describe the organization and training requirements of firefighting teams on board a vessel.

- Explain the search and rescue methods and techniques in a distress alert.

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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, ISPS Code, LSA Code, FSS Code, The Fire Fighting System Guidance, Fire Prevention and Fire Fighting, IAMSAR Manual

- Related IMO Model Courses and STCW (Standards of Training, Certification, and Watchkeeping) manuals.

- Maritime Safety textbooks covering ISPS and ship security, fire prevention and firefighting, shipboard emergency procedures, including SOLAS, STCW, ISPS Code, LSA Code, and FSS Code

  - SOLAS Consolidated Edition
  - ISPS Code Guidelines
  - LSA Code
  - FSS Code
  - The Fire Fighting System Guidance
  - Fire Prevention and Fire Fighting
  - IAMSAR Manual

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.

- CCTV, Hand-held VHF, detectors, sensors, and locking systems.

- Firefighting equipment, CO2 system, Fireman's Outfit and BA Sets, Hoses, Nozzles, Detection Systems and Alarms

- Shipboard training manuals and emergency plans.

- Practical drill checklists for emergency response.

- Evaluation sheets for ship security and firefighting operations.

- Risk assessment templates for security threats and onboard hazards.

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

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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					

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

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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	1	20
Field Work (Class Work)	-	-
Special Course Internship (Work Placement)	-	-
Assignment(s)/Homework/Class Works	2	20
Providing reliability and motivation of 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.		

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University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Ship Handling							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
SHA201	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**	
		40		-	-	60	
Course Venue and Time		Friday / 09:30 – 12:20					
Instructor information		**Cpt. Mehmet Emin Debeş** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4060 mehmetemin.debes@kyrenia.edu.tr www.kyrenia.edu.tr					

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Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
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Course Description	This course introduces the fundamental principles and practices of ship maneuvering and handling under various operational and environmental conditions. Students will examine the factors affecting ship maneuverability, including environmental forces, propulsion systems, and hydrodynamic effects. Topics include the use of main engines, propellers, rudders, bow and stern thrusters, and mooring lines during berthing, unberthing, and anchoring operations. The course also covers turning circles, shallow water and narrow channel effects, tug assistance, and safe maneuvering practices. Emphasis is placed on applying theoretical knowledge to practical ship-handling scenarios to ensure safety, efficiency, and compliance with international maritime regulations.
Course Aims and Objectives	• Provide students with a comprehensive understanding of the factors influencing ship maneuverability. • Develop the ability to analyze and evaluate the effects of propulsion, rudders, thrusters, and environmental conditions on ship handling. • Equip students with practical knowledge for safe and effective ship operations, including berthing, unberthing, anchoring, and maneuvering in restricted waters. • Enhance decision-making and situational awareness skills to support safe navigation and ship control. • Prepare students to apply international rules and best practices in ship maneuvering and handling.
Course Learning Outcomes	**CLO1:** Explain the fundamental principles of ship maneuvering and the factors influencing vessel handling. **CLO2:** Identify and evaluate the advantages and limitations of various propulsion systems and steering devices in ship maneuvers. **CLO3:** Analyze the effects of environmental conditions such as shallow water, narrow channels, wind, and current on ship maneuverability. **CLO4:** Demonstrate knowledge of berthing, unberthing, mooring, and anchoring procedures and techniques. **CLO5:** Interpret and apply safe ship handling practices in accordance with international maritime safety regulations. **CLO6:** Assess the role of tug assistance, mooring lines, and other operational aids in effective ship maneuvering.

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
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CLO7: Apply theoretical ship-handling knowledge to practical or simulated scenarios, emphasizing safety and operational efficiency.

CLO8: Evaluate ship handling outcomes and identify potential improvements in maneuvering strategies.

CLO9: Integrate ship handling concepts with navigational planning to optimize voyage safety.

CLO10: Develop critical decision-making and problem-solving skills in complex ship maneuvering situations.

Content of the Course

Week	Subject
1	**Introduction to Ship Handling** Importance, objectives, safety considerations
2	**Factors affecting ship maneuvering** Environmental conditions & ship characteristics
3	**Propulsive Forces and Resistances** Air and water resistance in maneuvering
4	**Main engines** Effectiveness, advantages & disadvantages of different types in maneuvering
5	**Propellers** Fixed pitch, controllable pitch, right/left handed, twin-screw effects
6	**Rudder effects** Single-screw ships
7	**Rudder effects** Twin-screw ships
8	**Bow thrusters & stern thrusters** Working principles, combined use with rudder
9	**Mooring Lines in Maneuvering** During berthing, unberthing, and other line maneuvers
10	**Turning circle** Definition, tactical diameter, advance, transfer
11	**Shallow water effects** Squat phenomenon, bank effect, narrow channel navigation
12	**Anchoring methods** Safe anchoring, techniques of anchoring and securing a vessel
13	**Tug assistance** Methods of towline connection, tug operations in maneuvering
14	**Integrated maneuvering** Case studies combining propulsion, rudder, thrusters, lines, and tugs
15	**General review & Final preparation** Discussion of maneuvering scenarios, Q&A

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Methods and Techniques used in the Course

Lectures and Presentations: Theoretical knowledge supported by visual materials (slides, videos, diagrams).

Case Studies: Analysis of real-life maneuvering incidents and best practices.

Classroom Discussions: Interactive sessions to enhance critical thinking and problem-solving skills.

Demonstrations: Use of ship maneuvering models, charts, and simulation-based examples.

Problem-Solving Exercises: Assignments and scenario-based questions on ship maneuvering.

Simulation Practices (if available): Application of ship handling techniques in a controlled environment to improve situational awareness and decision-making.

Sample Questions

- Define the main environmental factors affecting ship maneuvering. Provide at least three examples.

- Explain the advantages and disadvantages of fixed-pitch and controllable-pitch propellers during maneuvering.

- What is the difference between rudder effects on single-screw and twin-screw ships? Give examples.

- Describe the squat effect in shallow waters. How does it influence ship handling?

- Explain the interaction effects when a ship is navigating in narrow channels (bank suction and cushion effects).

- Draw and explain the concept of a turning circle. What are advance, transfer, and tactical diameter?

- Discuss the role of tugboats in ship maneuvering. Mention at least two methods of tug assistance.

- What are the effects of bow thrusters and stern thrusters during berthing and unberthing operations?

- Describe the appropriate procedures and precautions for anchoring in confined waters.

- Case Study: A vessel with a single right-handed fixed-pitch propeller is attempting to berth starboard side to the quay under strong crosswinds from port.
  - What challenges will the ship face?
  - Which maneuvering techniques can be applied to ensure safe berthing?

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Materials Used in the Course

Textbooks and References

- Cockcroft, A. N., & Lameijer, J. N. F. *A Guide to the Collision Avoidance Rules*.

- Bertram, V. *Practical Ship Hydrodynamics*.

- Guldhammer, H., & Harvald, S. A. *Ship Resistance and Propulsion*.

- Bowditch, N. *The American Practical Navigator*.

- IMO Model Course 7.03 – *Officer in Charge of a Navigational Watch*.

International Conventions and Guidelines

- COLREG (International Regulations for Preventing Collisions at Sea).

- SOLAS Convention (Safety of Life at Sea).

- STCW Convention (Standards of Training, Certification and Watchkeeping).

Practical Tools

- Ship maneuvering simulators.

- Maneuvering booklets of various ship types.

- Nautical charts, tide tables, and pilot books.

Supplementary Materials

- Case studies on accidents/incidents related to ship handling.

- Port authority regulations and tug assistance guidelines.

- Videos and computer animations demonstrating ship maneuvers.

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

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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					

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

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Principles of Ship Maneuvering	Lecture, Multimedia Presentation, Demonstration	Quizzes, Assignments, Participation
CLO2 – Propulsion and Steering Devices	Lecture, Case Studies, Simulation	Quizzes, Midterm Exam, Assignments
CLO3 – Effects of Water Depth, Channels, Wind, and Current	Simulation Exercises, Practical Demonstration	Simulation Assessment, Assignments, Lab Reports
CLO4 – Berthing, Unberthing, Mooring, Anchoring Techniques	Hands-on Practice, Simulation, Role Play	Practical Exams, Observation, Assignments
CLO5 – Ship Handling Compliance and Safety	Lecture, Scenario-Based Learning	Quizzes, Case Study Analysis, Assignments
CLO6 – Tug Assistance and Mooring Lines	Simulation, Practical Exercises	Practical Exams, Lab Reports, Assignments
CLO7 – Application of Ship Handling Theory	Bridge Simulation, Case Studies	Practical Exams, Simulation Reports, Assignments
CLO8 – Emergency Maneuvers and Contingency Planning	Scenario-Based Exercises, Simulation	Practical Exams, Simulation Reports, Participation
CLO9 – Integrated Maneuvering Exercises	Bridge Simulation, Group Exercises	Practical Exams, Project Reports, Observation
CLO10 – Decision Making in Ship Handling	Scenario-Based Learning, Simulation	Case Study Reports, Practical Exams, Simulation Assessment

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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	3	3
Final Exam	1	1	1
Preparation for Final Exam	1	3	3
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	1	5	5
Group Work	1	5	5
In-class Discussion(s)	15	1	15
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	1	10	10
Individual Reading / Research	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			103
ECTS Credit			3

University of Kyrenia
Şehit Yahya Bakır Street, Karakum, Kyrenia, TRNC, Mersin 10 Turkey
+90 392 650 26 00   info@kyrenia.edu.tr – maritime@kyrenia.edu.tr

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Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	-	-
Field Work	1	10
Special Course Internship (Work Placement)	-	-
Homework/Assignments	1	10
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	1	10
Quiz	-	-
Midterms/Oral Exams	1	30
Final/Oral Exams	1	40
Total	**5**	**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.		

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University of Kyrenia

Maritime Vocational School

Marine Transportation and Management

Syllabus

Course name: Simulator I							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
SIM201	II	Fall	3	6	1	4	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 09.30-14.20			
Instructor information		**Cpt. Mehmet Emin Debeş** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4040 mehmetemin.debes@kyrenia.edu.tr www.kyrenia.edu.tr			

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Course Description	This course provides hands-on training in bridge simulation, focusing on the use of ARPA, ECDIS, and Bridge Team Management (BTM). Students will develop practical skills for target acquisition, radar plotting, situational awareness, and safe navigation under various operational conditions.
Course Aims and Objectives	• To understand the operational principles of ARPA, ECDIS, and BTM systems. • To develop practical skills in target acquisition, plotting, and monitoring on radar and electronic chart displays. • To integrate theoretical knowledge of navigation with bridge simulator exercises for safe and efficient ship handling. • To apply COLREG 1972 rules and other operational standards in simulated navigation scenarios.
Course Learning Outcomes	**CLO1:** Demonstrate proficiency in operating ARPA, ECDIS, and BTM systems for safe navigation. **CLO2:** Acquire, track, and accurately interpret target information for collision avoidance and situational awareness. **CLO3:** Identify, analyze, and correct errors and discrepancies in electronic navigation systems. **CLO4:** Apply COLREG rules effectively during practical simulation exercises and real-world navigation scenarios. **CLO5:** Manage bridge operations safely and efficiently using integrated electronic navigation systems. **CLO6:** Assess the limitations and risks associated with over-reliance on electronic navigation aids and implement mitigation strategies. **CLO7:** Integrate radar and ECDIS information to make informed navigational decisions in complex environments. **CLO8:** Demonstrate critical thinking and decision-making skills when interpreting navigation data under time constraints. **CLO9:** Communicate effectively with bridge team members using standard maritime communication protocols. **CLO10:** Apply knowledge of electronic navigation systems to plan, execute, and monitor safe voyages.

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Content of the Course

Week	Subject
1	Introduction: Description and importance of ARPA, ECDIS, and BTM
2	Acquisition of targets on ARPA, ECDIS, BTM
3	Tracking capabilities, limitations, and processing delays
4	Setting up ARPA, ECDIS, and BTM systems
5	Errors of interpretation in ARPA, ECDIS, BTM
6	Errors in displayed data on ARPA, ECDIS, BTM
7	Explanation of system operational tests
8	Risk of over-reliance on ARPA, ECDIS, BTM
9	Obtaining information from ARPA, ECDIS, BTM displays
10	Application of COLREG 1972 using ARPA, ECDIS, BTM
11	Further explanation of ARPA, ECDIS, BTM operations
12	Bridge Resource Management (BRM) concepts
13	Further explanation and practical exercises
14	Revision and integration with Electronic Aids to Navigation content
15	Final Exam / Practical evaluation

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Methods and Techniques used in the Course

Lectures

- Instructor-led presentations covering principles of electronic navigation, radar, ECDIS, and bridge management.

- Explanation of operational procedures, error sources, and system limitations.

Simulation Exercises

- Hands-on use of bridge simulators to practice target acquisition, tracking, and plotting.

- Realistic scenarios for collision avoidance, safe navigation, and voyage planning.

- Application of COLREG 1972 rules in simulated maritime environments.

Case Studies and Scenario Analysis

- Analysis of previous navigation incidents or hypothetical situations.

- Identification of human errors, system limitations, and risk mitigation strategies.

Practical Demonstrations

- Demonstrations of ARPA and ECDIS setup, configuration, and operation.

- Use of electronic chart data, sensor integration, and display interpretation.

Group Work / Collaborative Exercises

- Bridge Team Management exercises emphasizing coordination, communication, and decision-making in simulated bridge operations.

- Team-based problem solving for emergency scenarios or challenging navigation conditions.

Feedback and Debriefing Sessions

- Instructor-led review of simulation exercises to highlight correct procedures, errors, and best practices.

- Encouragement of critical thinking and self-assessment.

Revision and Integration

- Weekly discussions integrating theoretical principles with simulation exercises.

- Reinforcement of safe navigation practices and bridge resource management concepts.

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Sample Questions

Theory & Conceptual Understanding

- Explain the main principles and limitations of ARPA and ECDIS systems.

- Describe the potential risks of over-reliance on electronic navigation aids and how to mitigate them.

Practical Scenario-Based Questions

- Given a simulated ARPA display with multiple targets, determine the Closest Point of Approach (CPA) and Time to CPA (TCPA) for two approaching vessels.

- Using a bridge simulator scenario, apply COLREG 1972 rules to safely navigate in a congested traffic area.

Error Identification and Correction

- Identify and explain possible causes of errors in displayed data on ARPA or ECDIS.

- Describe the steps to verify and correct target data when discrepancies are observed between radar and ECDIS.

Bridge Team Management (BTM)

- Explain the importance of communication and role allocation in Bridge Team Management during high-traffic navigation.

- How would you coordinate with other team members to manage a simulated emergency, such as a sudden target crossing your path?

Integration of Systems

- Describe how information from ARPA, ECDIS, and GPS can be integrated for safe navigation during restricted visibility conditions.

- Explain the procedure for setting up and maintaining the ARPA and ECDIS displays according to manufacturer recommendations and operational standards

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Materials Used in the Course

Textbooks & Reference Books

- *Radar Navigation and Maneuvering Board Manual* – International Maritime Organization (IMO)

- *Electronic Navigation* – Thomas H. Malone

- *Bridge Team Management (BTM) and ECDIS Operations* – Nautical Institute

- *COLREG 1972: International Regulations for Preventing Collisions at Sea* – IMO

Electronic and Simulator Tools

- ARPA (Automatic Radar Plotting Aids) simulator systems

- ECDIS (Electronic Chart Display and Information Systems) simulator

- BTM simulation exercises for decision-making and communication practices

- GPS and other electronic positioning systems integrated in simulators

Charts, Manuals, and Publications

- Nautical charts (paper and electronic) for simulation exercises

- Radar and ECDIS operational manuals (manufacturer guidelines)

- Bridge procedures and navigation record templates

- IMO performance standards documents for ARPA and ECDIS

Software and Digital Resources

- Simulation software for radar and ECDIS training

- Scenario-based training modules for collision avoidance and route planning

- Data logging software for bridge team exercises

Supplementary Materials

- Case studies on navigation incidents and ARPA/ECDIS failures

- Training handouts on error identification, correction, and best practices

- Videos and animations illustrating safe navigation techniques and system integration

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

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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					

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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	2	2	2	2	3
PO2	2	3	2	3	2	2	2	3	3	2
PO3	2	2	3	2	3	3	2	2	2	3
PO4	1	2	2	2	2	2	1	2	2	2
PO5	3	3	3	2	3	3	3	2	3	3
PO6	2	2	2	2	2	2	2	2	2	2
PO7	1	1	1	1	1	1	1	1	1	1
PO8	1	1	1	1	1	1	1	1	1	1
PO9	1	1	1	1	1	1	1	1	1	1
PO10	1	1	1	2	2	2	1	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 – Proficiency in ARPA, ECDIS, and BTM	Lecture, Demonstration, Bridge Simulation	Quizzes, Lab Reports, Practical Simulation Exams
CLO2 – Acquire, track, and interpret target information	Hands-on Simulation, Problem-Solving Exercises	Practical Exercises, Simulation Performance, Assignments
CLO3 – Identify and correct errors in electronic navigation systems	Lecture, Case Studies, Simulation Exercises	Practical Tests, Assignments, Scenario-based Evaluation
CLO4 – Apply COLREG rules in practical exercises	Lecture, Simulation, Role-Playing	Simulation Performance, Midterm Exam, Assignments
CLO5 – Manage bridge operations safely using integrated navigation systems	Bridge Simulation, Scenario-based Exercises	Practical Exams, Observation, Assignments
CLO6 – Understand risks of over-reliance on electronic navigation aids	Lecture, Discussions, Case Studies	Quizzes, Assignments, Scenario Analysis
CLO7 – Integrate electronic navigation data for decision-making	Problem-Based Learning, Simulation	Practical Exams, Assignments, Group Projects
CLO8 – Evaluate navigation performance under simulated conditions	Simulation Exercises, Case Studies	Simulation Reports, Practical Performance, Assignments
CLO9 – Communicate navigation decisions effectively	Role-Playing, Group Exercises	Observation, Peer Assessment, Assignments
CLO10 – Apply theoretical knowledge to practical ship-handling scenarios	Scenario-Based Exercises, Bridge Simulation	Practical Exams, Project Reports, Simulation Assessment

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ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**5**	**75**
Midterm Exam	**1**	**5**	**5**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**5**	**5**
Preparation for Final Exam	**1**	**10**	**10**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	**15**	**1**	**15**
In-class Discussion(s)	**15**	**2**	**30**
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	**1**	**10**	**10**
Micro-Teaching Sessions	-	-	-
Lesson Planning	-	-	-
Materials Adaptation	**1**	**10**	**10**
Material Development	-	-	-
Draft Preparation	-	-	-
Drawing	-	-	-
Essay Writing	-	-	-
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**185**
ECTS Credit			**6**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	15	10
Laboratory	-	-
Application	1	30
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	30
Final/Oral Exams	1	30
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.		

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Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	15	10
Laboratory	15	10
Application	-	-
Field Work	-	-
Special Course Internship (Work Placement)	-	-
Homework/Assignments	2	10
Providing reliability and motivation of the individual homework completion and Submission	-	-
Presentation/Jury	1	10
Project	-	-
Quiz	2	10
Midterms/Oral Exams	1	20
Final/Oral Exams	1	30
Total	**7**	**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	-
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