University of Kyrenia

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Cargo Handling and Stability II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
CRG402	IV	Spring	3	5	2	2	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				20	-	40	40
Course Venue and Time				Tuesday / 10:30 – 15:20			
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			

Course Description	This course provides students with a comprehensive understanding of ship structure, stability, and cargo operations in line with international maritime standards and conventions. The course begins with fundamental knowledge of ship construction materials, welding methods, structural components, and corrosion prevention techniques, followed by ship surveys and inspection procedures. It then covers the principles of ship stability, including intact and damage stability, dry-docking stability, and the impact of flooding on trim and stability. Students will explore international maritime regulations and codes (SOLAS, MARPOL, IMO, IMDG, IMSBC, ISGOTT, CSS Code) that govern ship stability, cargo handling, and safe transportation of goods. The course emphasizes planning and execution of safe cargo stowage, the impact of cargo operations on stability, stress and load calculations, and the use of modern data-based equipment. Special focus is given to cargo handling practices for bulk carriers, tankers, and dangerous goods in compliance with international safety standards. Through theoretical instruction, case studies, practical exercises, projects, and simulation-based applications, students will gain the ability to analyze stability issues, evaluate cargo operations, and apply corrective measures to ensure the safety and efficiency of shipboard operations.
Course Aims and Objectives	The primary aim of this course is to provide students with the theoretical knowledge and practical competencies required for understanding ship structure, stability, cargo handling, and international safety regulations. The course is designed to equip students with the ability to plan, execute, and monitor safe cargo operations while ensuring compliance with international maritime conventions and codes. • Introduce the fundamentals of ship construction, structural components, and corrosion prevention methods. • Provide knowledge of survey procedures, inspection techniques, and maintenance requirements for ships. • Develop understanding of ship stability principles, including initial, static, dynamic, and damage stability. • Analyze the effects of cargo operations, improper stowage, and flooding on ship trim and stability. • Apply international conventions and codes such as SOLAS, MARPOL, IMDG, IMSBC, CSS, and ISGOTT to cargo handling and stability management. • Teach stress calculations (shearing forces, bending moments, torsional stresses) and the use of stability assessment equipment. • Train students in safe stowage, securing, and supervision of cargoes during voyages. • Examine tanker and bulk carrier operations, limitations, and safety measures for dangerous cargo handling. • Encourage problem-solving through case studies, group work, and practical applications related to cargo handling and stability.

	• Enable students to develop decision-making skills for operational safety and regulatory compliance in real maritime environments.
Course Learning Outcomes	**CLO1:** Explain the fundamental principles of ship construction, materials, welding methods, and corrosion prevention techniques. **CLO2:** Identify and describe different types of ship surveys and inspections, including dry-docking, hull, machinery, and propeller shaft surveys. **CLO3:** Analyze initial, static, dynamic, and damage stability conditions of ships, including the impact of flooding and corrective measures. **CLO4:** Apply IMO regulations, international conventions, and codes (SOLAS, MARPOL, IMDG, IMSBC, CSS, ISGOTT) related to ship stability and cargo operations. **CLO5:** Perform cargo planning and safe stowage by evaluating loading conditions, trim, draft, and stability factors. **CLO6:** Calculate shear forces, bending moments, torsional stresses, and freeboard requirements using vector diagrams and Automatic Data-Based (ADB) equipment. **CLO7:** Evaluate the effects of cargo operations on ship stability through case studies of improper stowage and operational failures. **CLO8:** Demonstrate practical skills in handling, securing, and supervising different cargo types, including timber deck cargo and bulk cargoes. **CLO9:** Assess tanker operations, tank cleaning procedures, pollution prevention methods, and handling dangerous goods in compliance with international codes. **CLO10:** Critically examine operational and structural limitations of bulk carriers, propose measures to avoid damage from incorrect loading, fatigue, and corrosion, and develop decision-making skills for safe, efficient, and regulation-compliant ship operations.

Content of the Course

Week	*Subject*
1	**Introduction to Ship Structure** • Shipbuilding materials (steel, alloys, composites) • Welding: types, defects, and inspection methods • Structural components of ships: bulkheads, decks, stiffeners
2	**Ship Integrity and Corrosion Prevention** • Watertight and weather-tight doors and hatches • Corrosion mechanisms, galvanic corrosion • Corrosion prevention and protection methods (coatings, cathodic protection)
3	**Ship Surveys and Inspections** • Propeller shaft survey • Dry-docking survey procedures • Hull and machinery renewal surveys
4	**Fundamentals of Ship Stability I** • Initial transverse stability • Static stability curves • Factors affecting stability
5	**Fundamentals of Ship Stability II** • Loss of stability and corrective measures • Stability during dry-docking operations • Dynamic stability
6	**Stability of Damage and Flooding** • Damaged ship stability principles • IMO regulations on damage stability • Effects of flooding on trim and stability, corrective measures
7	**Regulations and International Conventions** • Theories related to trim and stability • IMO recommendations on ship stability • International conventions and codes: requirements and responsibilities
8	**Midterm Examination / Application** • Application-based exam on ship structure, stability, and surveys
9	**Cargo Planning and Safe Loading Practices** • International codes and standards for safe cargo handling (SOLAS, MARPOL, IMSBC, IMDG, CSS Code) • Planning and execution of safe stowage and carriage of cargoes • Evaluation of deficiencies in cargo spaces, hatch covers, and ballast tanks
10	**Cargo Operations and Stability Impact** • Effect of cargo loading and operations on draft, trim, and stability • Case studies of improper stowage and stability loss

11	**Stress and Stability Calculations** • Shearing forces, bending moments, torsional stresses • Load line rules and freeboard requirements • Vector diagrams for stress calculation • Use of Automatic Data-Based (ADB) equipment
12	**Cargo Handling and Securing Onboard** • Timber deck cargo • Cargo receiving, tallying, and delivery procedures • Cargo supervision during voyage • Maintenance of cargo-handling equipment and hatch covers
13	**Tanker Operations and Dangerous Cargo Handling** • Tanker types: oil, chemical, and liquefied gas carriers • ISGOTT contents and application • Tank cleaning and pollution prevention measures • International regulations for dangerous goods (IMDG Code, IMSBC Code, IMO Grain Code)
14	**Bulk Carrier Operations and Limitations** • Operational and structural limitations of bulk carriers • Documentation for loading, maintenance, and unloading • Methods to avoid structural damage from incorrect loading, fatigue, and corrosion • Communication requirements between ship and port personnel

15	**Final Examination / Application**
	• Case-based final assessment covering:
	  ○ Ship stability and damage stability
	  ○ Cargo planning and safe handling
	  ○ Tanker operations and bulk carrier limitations

Methods and Techniques used in the Course

Lectures and Presentations:

Delivery of fundamental concepts, regulations, and theoretical knowledge through instructor-led lectures supported by multimedia presentations.

Case Studies and Problem-Solving:

Real-life examples of ship accidents, cargo mishandling, and stability failures are analyzed to enhance critical thinking and decision-making skills.

Practical Applications / Laboratory Work:

Hands-on exercises on stability calculations, stress diagrams, and cargo planning using simulation software and ADB (Automatic Data-Based) equipment.

Group Work and Projects:

Students collaborate in small groups on projects such as cargo stowage planning, tanker operation case studies, and stability evaluations.

Assignments and Reports:

Individual and group assignments require students to prepare technical reports on surveys, cargo handling procedures, and stability assessments.

Interactive Discussions and Q&A Sessions:

Classroom discussions encourage students to interpret international codes and standards, and to apply them in operational contexts.

Midterm and Final Application-Based Examinations:

Assessments focus on both theoretical understanding and practical problem-solving skills related to ship stability and cargo handling.

Sample Questions

- Which of the following materials is most used in shipbuilding for hull structures?
  a) Aluminum
  b) Steel
  c) Bronze
  d) Composite fiberglass
- According to IMO regulations, what is the primary purpose of watertight doors?
  a) Allow ventilation
  b) Enhance aesthetics
  c) Maintain compartmental integrity in case of flooding
  d) Reduce hull friction
- Which factor primarily affects a ship's initial transverse stability?
  a) Cargo color
  b) Metacentric height (GM)
  c) Draft of the bow only
  d) Wind speed

Short Answer Questions

- Explain the differences between static and dynamic stability.
- What are the main considerations when planning the stowage of liquid cargoes on tankers?
- Describe the impact of improper cargo securing on ship stability during a voyage.

Calculation/Problem-Solving Questions

- Calculate the metacentric height (GM) of a ship if the center of gravity (KG) is 5.2 m above the keel and the metacenter (KM) is 7.8 m above the keel.
- Determine the bending moment on the midship section if the shear force at the bow is 400 kN and at the stern is -350 kN over a 100 m hull length.

Case Study / Scenario-Based Questions

- A bulk carrier has suffered flooding in one hold due to hull damage. Explain the steps you would take to assess stability, apply corrective actions, and communicate with the bridge team.
- You are planning the stowage of heavy deck cargo. Discuss how you would ensure compliance with the Code of Safe Practice for Cargo Stowage and Securing and evaluate the risks of improper securing.

Materials Used in the Course

Textbooks & Reference Books:

1. **"Ship Stability for Masters and Mates"** – D.R. Derrett & A. Gilbert
2. **"Cargo Handling and Stowage"** – M. F. Modarres
3. **"Ship Construction"** – David J. Eyres & George J. Bruce
4. **"IMO International Codes and Conventions"** – SOLAS, MARPOL, IMSBC, IMDG, ISGOTT, IMO Grain Code

Academic Articles & Standards:

- IMO guidelines on ship stability, damaged stability, and cargo securing.
- Technical papers on corrosion prevention and structural maintenance.
- Case studies on cargo handling, tankers, and bulk carriers.

Software & Simulation Tools:

- Stability calculation software (e.g., Maxsurf, GHS, AutoShip)
- Load and trim calculators for cargo planning
- Digital simulation tools for cargo securing and stability evaluation

Lab & Practical Materials:

- Ship models for stability demonstration
- Sample cargo items (timber, containers, drums) for stowage practice
- Measurement tools for weight, draft, and trim verification
- Mock-ups of hatch covers, doors, and securing devices

Online & Supplementary Resources:

- IMO e-learning modules on cargo handling and ship stability
- Video demonstrations of tank cleaning, loading/unloading operations, and emergency stability procedures
- Interactive tutorials for cargo securing and trim/stability calculations

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

Program Outcomes Matrix

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

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

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

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lecture, Multimedia Presentation, Case Studies	Quizzes, Assignments, Midterm Exam
CLO2	Lecture, Hands-on Workshops, Lab Exercises	Lab Reports, Practical Exams, Assignments
CLO3	Lecture, Problem-Solving Sessions, Case Studies	Assignments, Midterm Exam, Practical Exercises
CLO4	Lecture, Simulation Exercises, Tutorials	Lab Reports, Assignments, Practical Exams
CLO5	Lecture, Demonstrations, Case Studies	Quizzes, Assignments, Project Reports
CLO6	Hands-on Workshops, Practical Exercises, Demonstrations	Practical Exams, Lab Reports, Assignments
CLO7	Role-Playing, Group Work, Simulation Exercises	Observation, Assignments, Practical Exams
CLO8	Problem-Based Learning, Case Studies, Simulations	Assignments, Midterm Exam, Project Reports
CLO9	Lecture, Discussions, Case Studies	Quizzes, Participation, Assignments
CLO10	Scenario-Based Exercises, Simulation, Group Projects	Project Reports, Practical Exams, Assignments

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**4**	**60**
Midterm Exam	**1**	**4**	**4**
Preparation for Midterm Exam	**1**	**10**	**10**
Final Exam	**1**	**4**	**4**
Preparation for Final Exam	**1**	**10**	**10**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	**1**	**15**	**15**
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			**143**
ECTS Credit			**5**

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

University of Kyrenia

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Chartering and Shipbroking II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
CSB402	IV	Spring	3	3	3	0	0
Course type: Compulsory Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Monday / 08:30 – 11:20			
Instructor information				**Dr. Gökhan Tarı** Faculty of Maritime Studies Wednesday / 09:00 – 12:00 +90 (392) 650 26 00 / 4040 gokhan.tari@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course provides an advanced understanding of ship hiring and contractual practices within the framework of international maritime commerce. It focuses on the dynamics of maritime markets, including liner and tramp shipping, and explores the different types of charter party agreements such as voyage, time, and bareboat charters. Students will gain practical knowledge of freight markets, negotiation processes, and essential shipping documents including bills of lading, notices of readiness, statements of facts, and time sheets. The course also examines the roles of shipping agents, brokers, and international maritime organizations, as well as the implications of international trade terms (INCOTERMS) and flags of convenience. Special emphasis is placed on the use of Maritime English in documentation, correspondence, and record keeping, equipping students with both theoretical and practical competencies required in the global shipping industry.
Course Aims and Objectives	The course aims to provide students with a comprehensive understanding of maritime commercial operations, focusing on ship hiring, charter agreements, and freight contracts. It seeks to develop both theoretical knowledge and practical skills required for effective ship management, negotiation, and documentation in the international shipping industry. • Understand the structure and dynamics of maritime markets, including liner and tramp shipping. • Analyze different types of charter party agreements (voyage, time, and bareboat) and their key elements. • Apply knowledge of freight markets, charter negotiations, and the use of shipping abbreviations. • Interpret and prepare essential shipping documents, including bills of lading, notices of readiness, statements of facts, and time sheets. • Recognize the roles and responsibilities of shipping agents, brokers, and flag states in maritime operations. • Utilize international trade terms (INCOTERMS) effectively in shipping contracts. • Develop proficiency in Maritime English for documentation, correspondence, and reporting. • Understand the legal and operational framework of international maritime organizations and conventions affecting ship hiring and chartering.
	CLO1. Analyze the structure and functioning of maritime markets, including liner and tramp markets, and evaluate the key factors influencing freight rates.

Course Learning Outcomes	CLO2. Identify, compare, and interpret major types of charter parties (voyage, time, bareboat) and explain their essential contractual components. CLO3. Demonstrate practical negotiation skills for chartering processes, including preparing offers, counteroffers, and assessing key charter clauses. CLO4. Prepare, interpret, and verify essential shipping documents such as bills of lading, notices of readiness, statements of facts, time sheets, and cargo manifests. CLO5. Apply international trade terms, including INCOTERMS, accurately in maritime contracts and operational decision-making. CLO6. Communicate effectively in written and oral Maritime English within the context of ship operations, reporting, documentation, and maritime correspondence. CLO7. Explain the legal and regulatory frameworks governing shipping operations, including the roles of international maritime organizations, flag states, and global conventions affecting ship hiring and freight contracts. CLO8. Assess the responsibilities, liabilities, and rights of shipowners, charterers, agents, and other stakeholders within various shipping agreements. CLO9. Evaluate operational and commercial risks related to voyage performance, delays, laytime/demurrage, and cargo claims in maritime transportation. CLO10. Integrate market analysis, legal frameworks, contractual knowledge, and documentation skills to make informed and strategic decisions in chartering and ship operations.

Content of the Course

Week	*Subject*
1	**Introduction to Maritime Commercial Operations** • Overview of maritime markets • Basic concepts of liner and tramp shipping
2	**Introduction to Maritime Commercial Operations** • Overview of maritime markets • Basic concepts of liner and tramp shipping
3	**Liner Shipping Services** • Characteristics of liner trade • Operational and commercial aspects
4	**Tramp Shipping Operations** • Tramp shipping markets and contracts • Flexibility and cargo types
5	**Freight Markets and Dynamics** • Spot, time charter, and long-term markets • Market cycles and their implications
6	**Charter Party Agreements** • Structure and types of charter parties • Main contractual provisions
7	**Voyage Charter Parties** • Key elements and clauses • Responsibilities of owners and charterers
8	**Voyage Charter Parties** • Key elements and clauses • Responsibilities of owners and charterers
9	**Bareboat Charter Parties** • Essential provisions and responsibilities • Distinction from voyage and time charters
10	**Chartering Negotiations and Documentation** • Offer and counter-offer methods • Negotiation strategies and practices
11	**Freight, Abbreviations, and Related Terms** • Common abbreviations and expressions • Practical usage in chartering
12	**Bills of Lading** • Functions and types • Relations to letters of credit and indemnity letters
13	**Maritime Agents and Documentation** • Types of agents and their roles • Preparation of documents: Notice of Readiness, SOF, Time Sheet, Mate's Receipt, Manifest, Loading Order
14	**Maritime Agents and Documentation** • Types of agents and their roles • Preparation of documents: Notice of Readiness, SOF, Time Sheet, Mate's Receipt, Manifest, Loading Order
15	**International Trade Terms and Shipping Organizations** • INCOTERMS and their applications • International shipping conferences and organizations • Flags of convenience and their implications

Methods and Techniques used in the Course

Lectures: Systematic presentations of theoretical concepts, maritime laws, charter types, and shipping markets.

Case Studies: Analysis of real-world shipping contracts, disputes, and negotiations to develop practical understanding.

Document Review Workshops: Hands-on exercises in preparing, interpreting, and evaluating bills of lading, manifests, and other shipping documentation.

Simulations and Role-Playing: Practice of charter negotiations, freight discussions, and problem-solving in a controlled, realistic environment.

Group Discussions: Collaborative evaluation of charter party clauses, market conditions, and risk management strategies.

Maritime English Exercises: Structured practice of professional communication, report writing, and correspondence in Maritime English.

Guest Lectures / Seminars (Optional): Insights from industry professionals on current trends, regulations, and charter practices.

Assignments and Quizzes: Individual and group tasks to reinforce theoretical knowledge and applied skills.

Sample Questions

- Explain the differences between voyage, time, and bareboat charter agreements and provide examples of when each type is used.
- Describe the roles and responsibilities of the shipowner, charterer, and agent in a shipping contract.
- Analyze a sample bill of lading and identify the critical clauses that affect the rights and obligations of the parties.
- Discuss the steps involved in negotiating a charter party, including offers, counteroffers, and finalization.
- Explain how INCOTERMS influence contractual obligations in international maritime trade.
- Interpret a statement of facts (SOF) and time sheet for a given voyage scenario.
- Describe the documentation required for a voyage under a liner service and a tramp service.
- Evaluate a scenario in which a dispute arises under a freight contract and propose a resolution based on maritime law principles.
- Explain how international maritime organizations and conventions affect ship hiring and chartering practices.
- Translate common shipping terms and abbreviations into Maritime English for documentation and correspondence.

Materials Used in the Course

Textbooks & Reference Books

- "Shipbroking and Chartering Practice" – relevant chapters on chartering types and freight contracts
- "Maritime Law" – sections on contracts, bills of lading, and liability
- "Maritime English for Ship Operators" – for terminology and documentation

Official Documents and Templates

- Sample charter parties (voyage, time, bareboat)
- Sample bills of lading and shipping manifests
- Statement of Facts (SOF) and Time Sheet templates

International Conventions and Guidelines

- INCOTERMS (latest edition)
- IMO guidelines relevant to chartering, freight contracts, and documentation
- International maritime conventions impacting contracts and shipping operations

Digital and Online Resources

- Online freight and chartering databases
- IMO and national maritime authority websites
- Online case studies and reports on charter disputes

Practical Tools

- Simulation software for voyage planning and chartering scenarios
- Forms for ship registration, cargo operations, and agent communication

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

Program Outcomes Matrix

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

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

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

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1. Analyze Maritime Markets	Lectures, case studies, market data analysis	Midterm exam, assignments, class discussion
CLO2. Understand Charter Agreements	Lectures, document analysis, comparative workshops	Midterm exam, quizzes, document-based assessment
CLO3. Negotiate Charter Terms	Role-playing activities, simulations, case studies	Simulation performance, oral assessment, assignment
CLO4. Prepare and Interpret Shipping Documents	Practical workshops, document drafting sessions, demonstrations	Practical exam, portfolio submission, assignments
CLO5. Apply International Trade Terms (INCOTERMS)	Interactive lectures, scenario-based exercises	Quiz, written exam, case-based assignment
CLO6. Demonstrate Maritime English Proficiency	Writing exercises, oral communication sessions, presentations	Oral exam, written exam, presentation assessment
CLO7. Understand Legal and Regulatory Frameworks	Lectures, regulation analysis, discussion sessions	Midterm/final exam, short written assignments
CLO8. Assess Risk and Liability	Case studies, group discussions, legal scenario analysis	Case-study exam, written assignments
CLO9. Apply Knowledge in Real Shipping Scenarios	Problem-solving sessions, workshops, real-world cases	Final exam, scenario-based assessment
CLO10. Demonstrate Professional Decision-Making in Maritime Operations	Interactive lectures, simulations, group work	Final exam, simulation performance, participation

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**	**5**	**5**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**5**	**5**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	**2**	**5**	**10**
In-class Discussion(s)	-	-	-
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			**94**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	2	10
Field Work	2	10
Special Course Internship (Work Placement)	-	-
Homework/Assignments	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

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Emergency Procedures							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
EMR402	IV	Spring	3	3	2	2	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				30	-	-	70
Course Venue and Time				Friday / 09:30 – 13:20			
Instructor information				**Cpt. Çağrı Deliceırmak** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4040 cagri.deliceırmak@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course offers a comprehensive overview of emergency procedures on board ships, with a focus on the safety and security of the crew, passengers, cargo, and the vessel. It covers the practical and theoretical aspects of emergencies, including collision, grounding, and damage control, as well as precautionary measures, emergency response, and post-incident mitigation. The course also addresses the operation and maintenance of lifesaving and firefighting systems, emergency steering and backup arrangements, coordination of rescue operations, and effective communication during emergencies. Additionally, the course introduces medical care management on board, including the use of international medical guides, first aid for hazardous cargo incidents, and medical emergency communication in English. Students will acquire the knowledge and skills necessary to respond efficiently to maritime emergencies, ensuring compliance with international regulations and safety standards.
Course Aims and Objectives	The course aims to equip students with the theoretical knowledge and practical skills required to effectively manage emergencies aboard ships, ensuring the safety of crew, passengers, and the vessel. It aims to develop an understanding of international maritime safety regulations, emergency procedures, and damage-control strategies. • Gain an understanding of how to prevent, respond to, and report emergencies such as collisions, grounding, stranding, beaching, structural damage, fire, explosion, pollution, blackout, steering, and engine failures. • Provide skills for effective emergency steering and backup arrangements. • Understand methods of emergency towing and towing arrangements. • Develop contingency and damage control planning, as well as enhance decision-making, leadership, coordination, and situational awareness skills for managing emergencies. • Familiarize with international maritime safety standards, regulations, and emergency preparedness best practices. • Develop the capability to operate and maintain lifesaving, firefighting, and other emergency systems to ensure safety on board. • Learn the coordination of search and rescue operations at sea.

	• Acquire knowledge in medical care management aboard ships, encompassing first aid, utilization of medical guides, and emergency communication protocols.
Course Learning Outcomes	**LO1**: Demonstrate knowledge and proficiency in emergency procedures and apply appropriate measures to mitigate risks. **LO2**: Demonstrate knowledge and proficiency in emergency steering and towing. **LO3**: Develop, execute, and assess contingency and damage control strategies to maintain vessel integrity during emergencies. **LO4**: Demonstrate leadership, decision-making, and situational awareness skills essential for managing onboard emergencies. **LO5**: Demonstrate awareness of international maritime safety standards and regulations and apply them during emergencies. **LO6**: Ensure the safety and security of the vessel, crew, and environment through the effective utilization of lifesaving, firefighting, and other emergency response systems. **LO7**: Coordinate search, rescue, and assistance operations in compliance with international maritime regulations. **LO8**: Adhere to international medical guidelines and deliver medical care within maritime environments, encompassing effective medical communication.

Content of the Course

Week	*Subject*
1	**Introduction to Emergency Procedures** Terminology and related maritime English terms Overview of shipboard emergencies Roles and responsibilities during emergencies
2	**Collision, Grounding, and Damage Control – Part 1** Terminology and related maritime English terms Precautions when beaching and grounding a vessel Actions immediately before and after beaching and grounding
3	**Collision, Grounding, and Damage Control – Part 2** Terminology and related maritime English terms Refloating grounded ships with or without assistance Emergency actions following loss of watertight integrity
4	**Damage Control Procedures** Terminology and related maritime English terms Implementation of shipboard damage control measures Organization and responsibilities of damage control teams
5	**Steering and Manoeuvring in Emergencies** Terminology and related maritime English terms Emergency steering systems, Contingency procedures for steering failure
6	**Backup Arrangements and Emergency Towing** Terminology and related maritime English terms Alternative propulsion and steering systems Emergency towing procedures and techniques
7	**Coordination of Rescue and Assistance Operations** Terminology and related maritime English terms Ship-to-ship, ship-to-shore and ship-to-air coordination in SAR operations Coordination and collaboration with search and rescue authorities
8	**Safety and Security of Crew and Passengers** Terminology and related maritime English terms Maintaining safety during evacuation and emergencies Duties and responsibilities in life-saving and firefighting operations
9	**Lifesaving Appliances and Firefighting Systems – Part 1**

	Terminology and related maritime English terms Regulations for life-saving appliances Organization of fire and abandon-ship drills
10	**Lifesaving Appliances and Firefighting Systems – Part 2** Terminology and related maritime English terms Operational maintenance of lifesaving, firefighting, and safety systems Measures to protect all personnel during emergencies
11	**Post-Incident Damage Mitigation** Terminology and related maritime English terms Actions to reduce damage after fire, explosion, collision, or grounding Restoration of ship stability and integrity
12	**Development of Emergency and Damage Control Plans** Terminology and related maritime English terms Preparation of contingency plans for various emergencies Integration of fire prevention and firefighting systems
13	**Report on Pollution** Terminology and related maritime English terms External Communication and Reporting of Pollution Legal aspects and responsibilities
14	**Medical Care on Board** Terminology and related maritime English terms International medical publications and guides Shipboard medical responsibilities Use of the International Code of Signals for medical emergencies First aid procedures for hazardous cargo incidents Sending and receiving medical emergency messages
15	**Review and Final Evaluation** Recap of emergency procedures Practical assessment and scenario-based exercises Evaluation of student competence in shipboard emergency procedures

Methods and Techniques used in the Course

Lectures and Presentations: In-depth explanations of emergency procedures, safety protocols, and maritime regulations.

Case Studies: Analysis of past maritime emergencies to identify best practices and lessons learned.

Simulation Exercises: Practical exercises using ship simulators to practice collision, grounding, and emergency response scenarios.

Demonstrations: Hands-on demonstrations of lifesaving equipment, firefighting systems, and damage control techniques.

Workshops: Interactive sessions for planning and coordinating emergency operations, including crew and passenger safety.

Role-Playing: Simulated onboard emergencies to develop decision-making, leadership, and communication skills.

Group Discussions: Collaborative analysis of safety protocols, emergency plans, and international regulations.

Practical Drills: Conducting lifeboat, firefighting, and medical emergency drills to reinforce operational readiness.

Multimedia Tools: Use of videos, diagrams, and online resources to visualize emergency procedures and safety equipment.

Assessment and Feedback: Continuous evaluation through quizzes, practical exercises, and scenario-based assessments to reinforce learning.

Sample Questions

- Describe the steps to be taken immediately before and after a ship runs aground to ensure safety and minimize damage.
- Explain the procedures for controlling flooding and structural damage after a collision at sea.
- How would you organize and coordinate a search and rescue operation following a man-overboard incident?
- Discuss the proper use and maintenance of lifesaving appliances and firefighting systems on board.
- Explain how to develop and implement an emergency response plan for fire or explosion on a ship.
- Describe the procedures for emergency steering and backup arrangements in case of steering failure.
- How is medical care provided on board, and what international medical guides and communication protocols are used?

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, MARPOL Practical Guide, LSA Code, Marine Emergencies: For Masters and Mates, International Medical Guide for Ships
- Related IMO Model Courses and STCW (Standards of Training, Certification, and Watchkeeping) manuals.
- Maritime Safety textbooks covering onboard emergencies, shipboard emergency procedures, including collision, grounding, flooding, fire, explosion, pollution, and injuries
    - SOLAS Consolidated Edition
    - LSA Code
    - FSS Code
    - The Fire Fighting System Guidance
    - Fire Prevention and Fire Fighting
    - Emergency Procedures and General Check Lists at Sea
    - Guidelines for Contingency Plans
    - International Medical Guide for Ships

Supplementary Resources

- Instructional videos demonstrate emergency response techniques, personal safety, and the use of protective equipment.
- Interactive simulations of onboard emergency scenarios, including collision, flooding, fire, and piracy attacks.
- Online resources from the International Maritime Organization (IMO) and maritime safety training platforms.
- Mannequin and CPR training devices for first aid and life-saving practice.
- Personal Safety Equipment, including Life Jacket, Life Buoy, Immersion Suits, and TPAs.
- Personal protective equipment (PPE) such as helmets, gloves, and goggles.

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

Program Outcomes Matrix

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

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

Program Outcomes /Course Learning Outcomes Matrix **Level of Contribution**:**0**-No Contribution **1**-Little Contribution **2**-Partial Contribution **3**-Full Contribution										
PO	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**	**CLO9**	**CLO10**
PO1	3	3	3	3	3	3	3	2	x	x
PO2	3	3	3	2	2	2	2	3	x	x
PO3	3	3	3	3	3	3	3	3	x	x
PO4	3	3	2	2	2	2	2	1	x	x
PO5	3	3	3	3	3	3	3	3	x	x
PO6	3	3	3	3	3	3	2	2	x	x
PO7	3	3	3	3	3	3	2	2	x	x
PO8	3	3	3	3	3	3	2	2	x	x
PO9	3	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	2	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, Final Exam, Assignment
LO8	Lectures, Practical Applications, Case Studies, and Discussions	Midterm Exam, Final Exam, Assignment

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

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	1	10
Laboratory	-	-
Application	1	20
Field Work (Class Work)	-	-
Special Course Internship (Work Placement)	-	-
Assignment(s)/Homework/Class Works	1	20
Providing reliability and motivation for the individual homework completion and Submission	-	-
Presentation/Jury	-	-
Project	-	-
Quiz	-	-
Midterms/Oral Exams	1	20
Final/Oral Exams	1	30
Total	**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 the instructor's web page frequently for the course announcements. • The University of Kyrenia honor code will be strictly enforced regarding any issues concerning cheating.		

University of Kyrenia

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Graduation Project							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
FGP444	IV	Spring	2	4	0	4	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Wednesday 09.30-14.20			
Instructor information				**Prof. Dr. Şenol Başkaya** Faculty of Maritime Studies Wednesday / 09:00 - 12:00 +90 (392) 650 26 00 / 4060 senol.baskaya@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	The **Graduation Project** course is designed as a capstone experience that enables students to integrate and apply the knowledge and skills they have acquired throughout their academic studies. The course emphasizes independent research, critical thinking, problem solving, and project-based learning, guiding students through the entire process of identifying a problem, developing a theoretical and methodological framework, conducting research, and presenting their findings in a scientific manner. Through weekly guidance, students are introduced to the historical background, theoretical foundations, research methodologies, and ethical considerations relevant to their chosen field of study. They engage in practical applications, critical discussions, and collaborative or individual project work. Special emphasis is placed on scientific writing, academic presentation, and the ability to analyze and evaluate current developments in the field. By the end of the course, students are expected to complete an original project that demonstrates their capacity for independent inquiry, academic writing, and professional presentation, preparing them for advanced research or professional careers in their discipline.
Course Aims and Objectives	The main aim of the **Graduation Project** course is to provide students with the opportunity to synthesize and apply the theoretical knowledge, technical skills, and research competencies they have acquired during their undergraduate education in a comprehensive project. The course is designed to foster independent research, critical thinking, and problem-solving skills, while preparing students for professional practice and/or advanced academic studies. • Identify, define, and formulate a research problem or project topic relevant to their field of study. • Conduct a thorough literature review and establish a strong theoretical framework. • Select and apply appropriate research methods and data analysis techniques. • Develop solutions to practical or theoretical problems through independent and/or group work.

	• Adhere to ethical principles in research, including data privacy, academic honesty, and responsible authorship. • Enhance project management, teamwork, and communication skills. • Prepare a well-structured scientific report and deliver an effective academic presentation. • Demonstrate the ability to integrate multidisciplinary knowledge and apply it to real-world or research-based problems.
Course Learning Outcomes	**CLO1:** Define and formulate a research problem or project topic relevant to maritime, engineering, or related disciplines. **CLO2:** Conduct a comprehensive literature review and critically evaluate existing knowledge in the field. **CLO3:** Select and apply appropriate research methods (quantitative, qualitative, or mixed) to address the project objectives. **CLO4:** Design and implement a research/project plan, including data collection, analysis, and interpretation. **CLO5:** Apply ethical principles in conducting research, ensuring academic integrity and data security. **CLO6:** Demonstrate problem-solving and critical thinking skills in addressing complex technical or theoretical issues. **CLO7:** Collaborate effectively in individual or group projects, managing time and resources efficiently. **CLO8:** Prepare a structured scientific report that meets academic writing standards. **CLO9:** Present project outcomes effectively using oral, written, and visual communication techniques. **CLO10:** Integrate multidisciplinary knowledge and propose innovative solutions or contributions to the field.

Content of the Course

Week	*Subject*
1	**Introduction and Basic Concepts** Aim and content of the course Basic concepts and definitions related to the subject General functioning of the course and evaluation methods
2	**Historical Development and Current Situation** Historical origins of the issue Important scientists and studies in the field Current developments and debates
3	**Theoretical Framework** The main theories used to explain the topic Models and conceptual frameworks Comparison of different theories
4	**Research Methods** Methods used when conducting research on the topic Data collection techniques (questionnaire, observation, experiment etc.) Data analysis methods (statistical analysis, qualitative analysis etc.)
5	**Application Areas** Applications of the subject in different fields Practical examples and case studies Impact of technological developments
6	**Ethical Principles** Ethical principles in scientific research Data privacy and security Conflicts of interest
7	**Critical Thinking and Problem Solving** Critical thinking skills Problem solving methods Decision-making processes
8	**Scientific Writing and Presentation** Rules for writing scientific articles Academic presentation techniques
9	**Special Topics and Project** More in-depth examination of the issue Special topics according to students' interests Individual or group projects
10	Project Studies
11	Project Studies
12	Project Studies
13	Project Studies
14	Project presentations and evaluations
15	Project presentations and evaluations

Methods and Techniques used in the Course

Project-Based Learning (PBL): Students actively engage in developing and managing an individual or group project, applying theoretical knowledge to real-world problems.

Research-Oriented Approach: Emphasis is placed on independent research, literature review, data collection, and analysis.

Case Studies and Best Practices: Examination of selected examples to understand applications and challenges in the field.

Supervision and Mentorship: Regular guidance sessions with academic supervisors to monitor progress and provide feedback.

Collaborative Work: Team-based project activities to enhance communication, coordination, and problem-solving skills.

Critical Discussions and Seminars: Classroom discussions and presentations to encourage critical thinking and peer evaluation.

Scientific Writing and Presentation: Training in preparing structured reports, academic papers, and professional presentations.

Practical Application: Hands-on activities and project implementation to strengthen applied knowledge and research skills.

Sample Questions

Theoretical / Conceptual Questions

- Explain the importance of defining a clear research problem in academic studies.
- Compare and contrast quantitative and qualitative research methods in the context of maritime or engineering research.
- Discuss the role of ethical principles in scientific research and provide examples of possible ethical dilemmas in project studies.

Application-Oriented Questions

- Design a basic project proposal including: research question, objectives, methodology, and expected outcomes.
- Prepare a sample data collection plan for a study on fuel efficiency in modern ship propulsion systems.
- Identify potential risks and limitations of a project studying the impact of alternative fuels on shipping emissions, and propose mitigation strategies.

Critical Thinking / Case-Based Questions

- A research group has limited access to reliable data for their project. What strategies could they adopt to overcome this problem without violating research ethics?
- Imagine you are preparing a graduation project on “Digitalization in Port Operations.” Outline the key steps you would follow to ensure that your project is scientifically valid and practically useful.
- Review the following project abstract (given in the exam) and identify its strengths and weaknesses in terms of clarity, methodology, and scope.

Presentation / Reporting Questions

- What are the essential components of an academic project report, and why is each important?
- How would you structure a 10-minute oral presentation of your graduation project to effectively communicate your findings to both technical and non-technical audiences?

Materials Used in the Course

Core References and Textbooks

- Books and handbooks on scientific research methods, project design, and academic writing.
- Standard references on methodology, statistical analysis, and case study applications.

Supplementary Resources

- Scientific journals, conference proceedings, and recent academic publications related to students' project topics.
- Technical reports, industry standards, and guidelines from international organizations (e.g., IMO, ISO, IACS).

Digital and Online Resources

- University's online library databases (e.g., ScienceDirect, Springer, Taylor & Francis).
- Online tools for data collection and analysis (SPSS, MATLAB, R, NVivo, Excel).
- Reference management tools (Zotero, EndNote, Mendeley).

Practical Materials

- Laboratory facilities, simulation software, and technical equipment where applicable.
- Fieldwork instruments such as questionnaires, observation checklists, and measurement devices.
- Case study materials provided by instructors or external stakeholders (e.g., shipping companies, maritime authorities).

Communication and Presentation Tools

- Academic writing guides and thesis formatting manuals.
- Presentation software (PowerPoint, LaTeX Beamer, Prezi) for final project defense.
- Templates for project proposals, progress reports, and final documentation.

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

Program Outcomes Matrix

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

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

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

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lecture, Seminar, Guided Discussions	Assignments, Quizzes, Proposal Submission
CLO2	Literature Review Workshops, Library Research, Online Databases	Literature Review Report, Annotated Bibliography
CLO3	Lectures, Tutorials, Practical Sessions, Software Demonstrations	Research Methodology Assignment, Practical Exercises
CLO4	Project Planning Workshops, Mentorship Sessions, Lab/Field Work	Project Plan Submission, Interim Progress Reports
CLO5	Ethics Seminars, Case Studies, Group Discussions	Ethics Statement, Participation in Discussion
CLO6	Problem-Based Learning, Tutorials, Critical Analysis Exercises	Problem-Solving Reports, Case Study Analyses
CLO7	Group Projects, Collaborative Workshops, Team-Based Exercises	Peer Evaluation, Group Project Reports
CLO8	Academic Writing Workshops, Draft Reviews, Mentoring	Final Research Report, Structured Paper Submission
CLO9	Presentations, Poster Sessions, Oral Defence Practices	Oral Presentation, Poster Presentation, Seminar Participation
CLO10	Integrated Project Work, Case Studies, Innovation Labs	Final Project Submission, Innovation Report, Solution Proposals

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	-	-	-
Lectures	**15**	**4**	**60**
Midterm Exam	-	-	-
Preparation for Midterm Exam	-	-	-
Final Exam	-	-	-
Preparation for Final Exam	-	-	-
Presentation(s)	**1**	**10**	**10**
Preparation for Presentation(s)	**1**	**10**	**10**
Research for Project(s)/Essay(s)	**1**	**10**	**10**
Project Writing	**1**	**10**	**10**
Group Work	-	-	-
In-class Discussion(s)	-	-	-
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	-	-	-
Assignment(s)/Homework/Class Works	-	-	-
Micro-Teaching Sessions	-	-	-
Lesson Planning	**1**	**10**	**10**
Materials Adaptation	-	-	-
Material Development	-	-	-
Draft Preparation	**1**	**10**	**10**
Drawing	-	-	-
Essay Writing	**1**	**20**	**20**
Tutorial(s)	-	-	-
Portfolio Preparation	-	-	-
Portfolio Presentation	-	-	-
Total Workload			**140**
ECTS Credit			**4**

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

University of Kyrenia

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Global Maritime Distress and Safety System II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
GMS402	IV	Spring	2	3	1	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			

Course Description	This course provides advanced knowledge and practical skills in maritime communication within the framework of the Global Maritime Distress and Safety System (GMDSS). It emphasizes the principles and practices of visual signaling, radio telephony, radio telex communication, and the use of the International Code of Signals. Students will learn to operate, maintain, and monitor communication equipment while adhering to international conventions and safety requirements. Special attention is given to emergency communication procedures, distress and safety message handling, IAMSAR-related communications, and the application of IMO Standard Marine Communication Phrases (SMCP) in both routine and emergency situations. The course also addresses ship reporting systems and Vessel Traffic Services (VTS) reporting, ensuring compliance with international regulations for safe navigation and maritime operations.
Course Aims and Objectives	The primary aim of this course is to equip students with the theoretical knowledge and practical competencies required for effective maritime communication under the Global Maritime Distress and Safety System (GMDSS). • Develop proficiency in visual signaling methods, including the use of Morse code and Aldis lamp communication. • Enhance skills in radiotelephony and radio telex communication for both ship-to-ship and ship-to-shore operations. • Provide knowledge on the maintenance and operational checks of communication equipment to ensure reliability. • Familiarize students with the International Code of Signals for routine and emergency communication. • Train students in emergency, distress, and safety communication procedures, including search and rescue coordination (IAMSAR). • Promote accurate use of IMO Standard Marine Communication Phrases (SMCP) in routine, safety, and emergency contexts. • Introduce the principles and requirements of ship reporting systems and Vessel Traffic Services (VTS) communication. • Foster awareness of international conventions and safety regulations governing maritime communication.

Course Learning Outcomes	**CLO1:** Demonstrate proficiency in visual signaling, including sending and receiving messages using Morse code and Aldis lamp. **CLO2:** Apply correct procedures for radiotelephony and radio telex communication in ship-to-ship and ship-to-shore operations. **CLO3:** Perform maintenance checks and functional tests on maritime communication equipment in compliance with international standards. **CLO4:** Utilize the International Code of Signals effectively for routine, safety, and emergency communication. **CLO5:** Explain the structure, purpose, and operation of the Global Maritime Distress and Safety System (GMDSS). **CLO6:** Accurately transmit and respond to distress, urgency, and safety messages in accordance with IMO and SOLAS requirements. **CLO7:** Apply the IMO Standard Marine Communication Phrases (SMCP) to ensure clear and standardized communication in English. **CLO8:** Interpret and apply relevant IMO conventions, codes, and amendments related to maritime distress and safety communication. **CLO9:** Demonstrate competence in ship reporting systems and vessel traffic services reporting procedures. **CLO10:** Integrate communication skills and regulatory knowledge to contribute effectively to safe navigation, search and rescue operations, and overall maritime safety.

Content of the Course

Week	*Subject*
1	**Introduction to Maritime Communication** • Overview of ship-to-ship, ship-to-shore, and internal ship communication • Principles of maritime signaling
2	**Visual Signaling Fundamentals** • Morse code signaling • Aldis lamp signaling sending and receiving messages • Practical exercises in visual communication
3	**Radiotelephony Communication** • Radio telephone principles • Ship-to-ship and ship-to-shore radiotelephony • Communication protocols and etiquette
4	**Radiotelegraphy and Telex Communication** • Radio telex basics • Message transmission procedures • Equipment operation and safety
5	**Maintenance and Control of Communication Equipment** • Routine inspection of radios, lamps, and signaling devices • Troubleshooting and preventive maintenance
6	**International Code of Signals** • Structure and usage of the International Code of Signals (ICS) • Single-letter and multi-letter signals • Practical exercises in signaling messages visually
7	**International Code of Signals** • Structure and usage of the International Code of Signals (ICS) • Single-letter and multi-letter signals • Practical exercises in signaling messages visually
8	**Emergency Communication: Distress and Safety Messages** • Procedures for sending and receiving distress signals • Relay of emergency messages to other stations • Case study: IAMSAR communication standards
9	**Visual Distress Signaling** • SOS and other emergency visual signals • Morse lamp signaling for distress messages • International collision prevention signaling (COLREG IV)
10	**Maritime English for Communication** • Using the International Code of Signals in English • Ship-to-ship, ship-to-shore, and internal ship communication in English
11	**IMO Standard Marine Communication Phrases**

	• Introduction to IMO SMCP • Practical exercises for routine and emergency communication
12	**IMO Standard Marine Communication Phrases** • Introduction to IMO SMCP • Practical exercises for routine and emergency communication
13	**Sending and Receiving Emergency Messages in English** • Procedures and language requirements • Practical simulation exercises
14	**Vessel Traffic Services (VTS) Reporting** • Reporting to VTS stations • Procedures, format, and communication standards
15	**Integrated Communication Exercises** • Combined exercises for visual, radiotelephony, and emergency communication • Evaluation and feedback on practical proficiency

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.

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.

Materials Used in the Course

Textbooks and Reference Materials

- International Maritime Organization (IMO) publications:
  - *SOLAS Convention (Safety of Life at Sea)*
  - *GMDSS Handbook*
  - *IAMSAR Manual (International Aeronautical and Maritime Search and Rescue)*
  - *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

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	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	0	0	0	0	0	0	0	0	0	1
PO12	1	1	1	1	1	1	1	1	1	1

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO2	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO3	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO4	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO5	Lecture, Hands-On Practice, Simulator	Quiz, performance assessment
CLO6	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO7	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO8	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO9	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment
CLO10	Lecture, Hands-On Practice, Simulator	Role-play, performance assessment

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	-	-	-
Group Work	-	-	-
In-class Discussion(s)	**8**	**1**	**8**
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			**90**
ECTS Credit			**3**

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.		

University of Kyrenia

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Marine Insurance							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
MSC402	IV	Spring	3	3	3	0	0
Course type: Compulsory Elective				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				-	-	-	100
Course Venue and Time				Friday / 08:30 – 11:20			
Instructor information				**Dr. Gökhan Tarı** Faculty of Maritime Studies Wednesday / 09:00 – 12:00 +90 (392) 650 26 00 / 4040 gokhan.tari@kyrenia.edu.tr www.kyrenia.edu.tr			

Course Description	This course provides an in-depth understanding of maritime risk management and insurance practices. It covers the fundamental principles of insurance law, with a focus on marine insurance, hull and machinery insurance, and Protection & Indemnity (P&I) coverage. Students will learn about the legal and economic significance of ship insurance, the structure and content of insurance policies, risk assessment, claims procedures, and coordination between different types of coverage. The course also emphasizes practical applications through case studies, risk management exercises, and simulations to equip students with the knowledge and skills required to protect ships and their operations from potential financial and operational risks.
Course Aims and Objectives	The course aims to provide students with a comprehensive understanding of maritime insurance and risk management. It focuses on equipping students with the knowledge and skills to identify, assess, and mitigate risks associated with ship operations and to understand the legal and practical frameworks of marine insurance. • Explain the basic principles and legal foundations of insurance and maritime insurance law. • Identify different types of marine insurance, including hull and machinery, cargo, and Protection & Indemnity (P&I) coverage. • Understand the components and clauses of marine insurance policies and their practical applications. • Analyze risks related to ship operations and determine appropriate risk mitigation strategies. • Manage claims and interactions with insurance companies effectively. • Apply maritime insurance principles to real-world scenarios through case studies and simulations.
Course Learning Outcomes	**Demonstrate** a clear understanding of the principles, purpose, and legal framework of insurance in maritime operations. **Differentiate** between the various types of marine insurance, including hull and machinery insurance, cargo insurance, and P&I club coverage. **Analyze and interpret** marine insurance policies, including coverage, exclusions, and clauses, to assess their applicability to different shipping scenarios. **Identify** potential risks and hazards in ship operations and develop appropriate risk management and mitigation strategies. **Effectively** manage and process claims, including communication and negotiation with insurance companies. **Apply** theoretical knowledge of maritime insurance to practical situations through case studies, problem-solving exercises, and scenario analyses. **Evaluate** the economic and legal implications of insurance decisions for shipowners, charterers, and other stakeholders.

Content of the Course

Week	*Subject*
1	**Introduction to Insurance and Insurance Law** • Definition of insurance • Legal and economic necessity of insurance • Overview of different types of insurance
2	**Principles of Marine Insurance** • Definition and scope of marine insurance • Distinction between general and maritime insurance • Importance of marine insurance for ship operations
3	**Marine Insurance Policies** • Structure and content of insurance policies • Key clauses and conditions • Obligations of the insured and insurer
4	**Hull and Machinery Insurance (Part I)** • Scope and coverage of hull insurance • Risk assessment and valuation of ships • Conditions and exclusions
5	**Hull and Machinery Insurance (Part II)** • Machinery coverage specifics • Claims procedures and documentation • Interaction with the insurance company
6	**P&I Club Insurance (Part I)** • Definition and purpose of Protection & Indemnity (P&I) insurance • Scope of P&I coverage for shipowners
7	**P&I Club Insurance (Part II)** • Claims handling and coordination with the P&I club • Legal and operational responsibilities of members
8	**Risk Assessment and Management in Shipping** • Identifying risks associated with ship operations • Mitigation strategies and preventive measures • Role of insurance in risk management
9	**Case Studies on Marine Insurance Claims** • Analysis of historical and recent claims • Lessons learned for risk prevention and claims handling
10	**Legal Framework of Marine Insurance**

	• Relevant international conventions and national laws • Rights and obligations of parties under marine insurance law
11	**Insurance Documentation and Communication** • Policy issuance, endorsements, and adjustments • Effective communication with insurers and brokers
12	**Interaction Between Hull, Machinery, and P&I Insurance** • Coordination between different types of insurance coverage • Avoiding overlap and gaps in protection
13	**Emerging Trends in Marine Insurance** • Impact of technology, environmental regulations, and new shipping routes • Cyber risks and modern insurance solutions
14	**Risk Management Exercises and Simulations** • Practical exercises in risk assessment and claims scenarios • Role-playing negotiations with insurers and P&I clubs
15	**Review and Assessment** • Summary of course concepts • Discussion on best practices in marine risk protection • Preparation for final examination

Methods and Techniques used in the Course

Lectures: Instructor-led presentations covering legal frameworks, insurance types, policies, and risk management principles.

Case Studies: Analysis of real-life maritime insurance claims and incidents to illustrate practical application of theory.

Interactive Discussions: Group discussions and debates on current issues and challenges in ship insurance.

Problem-Based Learning: Exercises that involve assessing risk, interpreting policies, and developing insurance strategies.

Workshops: Hands-on practice in drafting, reviewing, and evaluating marine insurance policies and claims.

Simulations: Scenario-based exercises to practice risk assessment, claims processing, and communication with insurers.

Research Assignments: Individual or group projects to investigate recent developments in maritime insurance and present findings.

Guest Lectures: Insights from professionals in maritime insurance, P&I clubs, and risk management.

Sample Questions

- Explain the legal and economic importance of marine insurance for shipowners and operators.
- Differentiate between hull & machinery insurance and Protection & Indemnity (P&I) insurance, providing examples of scenarios where each is applicable.
- Discuss the key components of a marine insurance policy and the role of clauses in defining coverage.
- A vessel suffers damage due to a storm at sea. Explain the steps the shipowner should take to claim insurance, including communication with the insurer.
- Analyze the responsibilities of the insured and insurer in a cargo insurance contract.
- Evaluate the role of risk assessment in preventing maritime losses and minimizing insurance claims.
- Describe how insurance companies determine premiums for marine insurance policies.
- Discuss how international conventions and national regulations influence maritime insurance practices.

Materials Used in the Course

Textbooks and Reference Books:

- *Marine Insurance Law* by Francis Rose
- *Lloyd's Maritime and Commercial Law Quarterly*
- *Principles of Marine Insurance* by H.E. Howard
- IMO guidelines on maritime risk management

International Conventions and Regulations:

- International Convention on Civil Liability for Oil Pollution Damage (CLC)
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND)
- SOLAS (Safety of Life at Sea) relevant insurance provisions
- P&I Club Rules and Guidelines

Legal and Technical Documents:

- Sample marine insurance policies
- Hull and machinery insurance clauses
- Protection & Indemnity (P&I) documentation
- Claims procedures and forms

Supplementary Materials:

- Case studies on maritime accidents and insurance claims
- Industry reports and statistical data on ship losses and damages
- Articles from maritime law journals

Digital Resources:

- Online databases for maritime law and insurance
- IMO publications and circulars
- P&I Club digital guidance and advisories

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

Program Outcomes Matrix

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

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

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**	**5**	**5**
Final Exam	**1**	**2**	**2**
Preparation for Final Exam	**1**	**5**	**5**
Presentation(s)	-	-	-
Preparation for Presentation(s)	-	-	-
Research for Project(s)/Essay(s)	-	-	-
Project Writing	-	-	-
Group Work	**2**	**5**	**10**
In-class Discussion(s)	-	-	-
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			**94**
ECTS Credit			**3**

Evaluation System		
Semester Requirements	**Number**	**Percentage of Grade**
Attendance/Participation	-	-
Laboratory	-	-
Application	2	10
Field Work	2	10
Special Course Internship (Work Placement)	-	-
Homework/Assignments	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

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Oceanography							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
OCE402	IV	Spring	2	2	2	0	0
Course type: Compulsory				**Prerequisite: x**		**Language:** English	
% Contribution to the Professional Fundamental Component				**Basic Sciences**	**Engineering Science**	**Engineering Design**	**General Education**
				50	-	-	50
Course Venue and Time				Monday / 09:30 – 11:20			
Instructor information				**Assoc. Prof. 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			

Course Description	This course provides students with a comprehensive understanding of oceanographic and meteorological principles relevant to maritime operations. It covers synoptic and prognostic weather charts, global wind and pressure systems, ocean current systems, wave formation, and the effects of extreme weather on navigation. Students will learn to interpret weather data, understand ice conditions and hazards, and apply oceanographic knowledge for safe voyage planning. Practical applications include analyzing marine forecasts, predicting wave and swell conditions, and understanding the behavior of ocean currents. The course integrates theoretical knowledge with maritime operational requirements, preparing students for effective decision-making at sea.
Course Aims and Objectives	The aim of this course is to equip students with the fundamental knowledge and skills in oceanography and meteorology necessary for safe and efficient maritime operations. Students will gain an understanding of weather systems, ocean currents, waves, ice conditions, and their impacts on navigation and ship handling. • Understand and interpret global and regional wind, pressure, and weather systems. • Analyze synoptic and prognostic charts for maritime weather forecasting. • Identify the characteristics and effects of different ocean current systems. • Evaluate wave and swell conditions and apply this knowledge to voyage planning. • Recognize ice types, sources, movement patterns, and related navigational hazards. • Apply oceanographic and meteorological principles to enhance navigational safety. • Integrate theoretical knowledge with practical decision-making at sea.

Course Learning Outcomes	**CLO1:** Interpret Meteorological Data – Analyze and interpret synoptic and prognostic charts, weather codes, and forecasts for maritime operations. **CLO2:** Understand Atmospheric Systems – Explain the formation, structure, and effects of global and regional wind, pressure, and weather systems. **CLO3:** Assess Oceanographic Conditions – Evaluate ocean currents, tidal patterns, and surface water movements relevant to navigation. **CLO4:** Apply Knowledge of Waves and Swells – Analyze wave height, period, and direction to make informed decisions on ship handling and voyage planning. **CLO5:** Recognize Ice Hazards – Identify ice types, sources, movements, and the impact of ice accumulation on vessels and superstructures. **CLO6:** Implement Safety Measures – Apply oceanographic and meteorological principles to enhance safety and efficiency in maritime operations. **CLO7:** Integrate Theory and Practice – Combine theoretical knowledge with practical decision-making for route planning and risk mitigation at sea. **CLO8:** Record and Report Observations – Document shipboard meteorological and oceanographic data accurately following international standards. **CLO9:** Utilize Meteorological Technology – Operate meteorological and oceanographic instruments, including sensors, anemometers, barometers, and tide gauges. **CLO10:** Make Informed Operational Decisions – Apply meteorological and oceanographic knowledge to optimize navigation, voyage planning, and risk management in diverse maritime environments.

Content of the Course

Week	*Subject*
1	Introduction to Oceanography Fundamental concepts: oceans, seas, and marine environment
2	Synoptic Charts: Structure and Use Global wind and pressure systems
3	Major air mass types and associated weather Reading and interpreting synoptic charts
4	Prognostic charts and marine weather forecasts Classification of marine forecast codes and fax bulletins
5	Drifting ice: types, sources, and movement Safe navigation principles in ice-prone waters
6	Ice accumulation on ship superstructures Hazards and solutions for ice build-up
7	Weather systems: Formation and characteristics of frontal systems Weather associated with low-pressure regions
8	Non-frontal weather systems: Formation and effects Tropical cyclones: characteristics and navigation risks
9	Ocean current systems: Overview and circulation patterns Surface water movements in oceans and connected seas
10	Waves and swells: Formation and characteristics Influence of wind and currents on wave generation
11	Voyage planning based on wave height and weather conditions Practical examples and exercises
12	Advanced current systems: Regional currents and tidal effects Interaction between currents and navigation safety
13	Case studies: Extreme weather events and ocean conditions Strategies for safe navigation in challenging oceanographic conditions
14	Laboratory/practical exercises (if applicable): Chart reading, forecast interpretation, and swell prediction
15	Course review Exam preparation and discussion of key concepts

Methods and Techniques used in the Course

Lectures: Instructor-led presentations to explain fundamental concepts, atmospheric and oceanic processes, and maritime applications.

Visual Aids: Use of charts, synoptic maps, diagrams, and satellite imagery to illustrate weather and oceanographic phenomena.

Case Studies: Analysis of real-world maritime incidents related to weather, currents, and ice to reinforce practical understanding.

Practical Exercises: Interpretation of weather maps, ocean current charts, and ice movement patterns relevant to navigation.

Group Discussions: Collaborative discussions to develop problem-solving and decision-making skills in maritime operations.

Simulations: Application of meteorological and oceanographic data in voyage planning exercises.

Laboratory Sessions (if applicable): Hands-on exercises on weather data collection, ocean current analysis, and wave studies.

Independent Study: Assignments and readings to reinforce theoretical knowledge and connect it to maritime applications.

Sample Questions

- Which of the following best describes a synoptic weather map?

  a) A map showing only ocean currents

  b) A chart showing atmospheric pressure, fronts, and weather systems at a specific time

  c) A map illustrating only tropical cyclones

  d) A map showing ship routes
- The Coriolis effect influences:

  a) Wind direction and ocean currents

  b) Water temperature only

  c) Ice thickness

  d) Salinity levels
- Ice accumulation on the superstructure of a ship is more dangerous in warm climates. (True/False)
- Ocean surface currents are primarily driven by wind and the Earth's rotation. (True/False)
- Define "prognostic chart" and explain its importance for maritime navigation.
- List three key factors that determine wave height in open ocean conditions.
- Discuss the impact of tropical cyclones on ship routing and safety.
- Explain the methods for safe navigation in ice-prone waters and how ice movement affects voyage planning.

Materials Used in the Course

Textbooks & Reference Books:

1. *Introduction to Oceanography* – Open University Press
2. *Essentials of Oceanography* – Tom Garrison
3. *Applied Meteorology for Oceanography and Navigation* – John Doe (example, replace with your preferred text)
4. *Marine Weather, Oceanography and Climate* – Relevant International Publications

Journals & Articles:

- *Journal of Marine Science and Engineering*
- *Oceanography Journal*
- Selected IMO and WMO guidelines on weather forecasting and ice navigation

Maps & Charts:

- Synoptic weather charts
- Prognostic charts
- Ice charts and marine navigation guides

Software & Tools:

- Weather prediction software
- Ocean current and wave modeling tools
- Maritime communication and forecasting tools

Laboratory & Field Equipment:

- Wind and barometric instruments
- Thermometers and salinometers
- Wave height measurement devices
- Ice thickness measurement kits (if applicable)

Online Resources:

- National Oceanic and Atmospheric Administration (NOAA) data portals
- World Meteorological Organization (WMO) online resources
- International Maritime Organization (IMO) weather and ice navigation guidelines

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

Program Outcomes Matrix

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

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

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

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1 – Interpret Meteorological Data	Lecture, Demonstration, Chart Analysis, Simulation Exercises	Quizzes, Assignments, Practical Exercises, Lab Reports
CLO2 – Understand Atmospheric Systems	Lecture, Multimedia Presentation, Case Studies	Quizzes, Assignments, Midterm Exam
CLO3 – Assess Oceanographic Conditions	Lecture, Simulation, Field Exercises	Lab Reports, Practical Exams, Assignments
CLO4 – Apply Knowledge of Waves and Swells	Lecture, Problem-Solving Sessions, Simulation Exercises	Practical Exercises, Assignments, Quizzes
CLO5 – Recognize Ice Hazards	Lecture, Case Studies, Visual Materials	Quizzes, Assignments, Practical Exercises
CLO6 – Implement Safety Measures	Lecture, Role-Playing, Simulation, Case Studies	Observation, Practical Exams, Assignments
CLO7 – Integrate Theory and Practice	Scenario-Based Learning, Simulation, Group Projects	Project Reports, Practical Exercises, Presentations
CLO8	Lecture, Practical Sessions, Field Trips	Assignments, Lab Reports, Practical Exams
CLO9	Case Studies, Simulation, Group Exercises	Assignments, Quizzes, Participation
CLO10	Integrated Simulation Exercises, Problem-Based Learning	Project Reports, Practical Exercises, Presentations

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	**15**	**1**	**15**
Lectures	**15**	**2**	**30**
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	**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			**82**
ECTS Credit			**2**

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

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

University of Kyrenia

Faculty of Maritime Studies

Maritime Transportation Management Engineering

Syllabus

Course name: Simulator II							
Code	**Year**	**Semester**	**Credit**	**ECTS**	**Course application, Hour/Week**		
					Theoretical	**Application**	**Laboratory**
SIM402	IV	Spring	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				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			

Course Description	This course provides practical experience in advanced maritime navigation through the use of simulators. Students will learn the operation and application of automatic radar plotting aids (ARPA) and electronic chart display and information systems (ECDIS) for safe and effective navigation under various operational conditions. The course emphasizes situational awareness, collision avoidance, and proper handling of electronic navigation aids.
Course Aims and Objectives	• To develop proficiency in the use of ARPA systems for collision avoidance and radar plotting. • To understand and apply safe navigation principles using ECDIS and related electronic systems. • To practice route planning, monitoring, and execution under simulated real-world maritime scenarios. • To enhance decision-making skills in complex navigational environments.
Course Learning Outcomes	**CLO1:** Operate ARPA and radar systems in accordance with IMO standards. **CLO2:** Apply manual and electronic radar plotting techniques for navigation and collision avoidance. **CLO3:** Plan, execute, and monitor voyages using ECDIS and integrated navigation systems. **CLO4:** Analyze navigational data, identify potential hazards, and implement corrective actions. **CLO5:** Demonstrate situational awareness and decision-making in simulated maritime operations. **CLO6:** Integrate bridge resource management principles to optimize safe navigation. **CLO7:** Evaluate the limitations and potential errors of electronic navigation aids. **CLO8:** Apply COLREGs and other international regulations in navigation scenarios. **CLO9:** Communicate navigational information effectively with bridge team members. **CLO10:** Develop contingency plans for navigation-related emergencies using electronic and traditional methods.

Content of the Course

Week	*Subject*
1	**Fundamentals of Radar and ARPA Systems** – Principles, safe distances, radiation hazards, and performance factors.
2	**Radar Settings and Performance** – External influences, performance standards, and radar adjustment per manufacturer guidelines.
3	**Manual Radar Plotting I** – Relative motion triangle, target identification, CPA and TCPA concepts.
4	**Manual Radar Plotting II** – Accounting for course and speed changes, data reporting.
5	**Collision Avoidance** – Application of COLREGs using ARPA and radar.
6	**ARPA System Operation** – Target acquisition, tracking, display interpretation, and error analysis.
7	Midterm Exam
8	**ECDIS Introduction** – System functions, chart display, limitations, and safety considerations.
9	**ECDIS Navigation** – Route monitoring, sensor integrity, and situational awareness.
10	**ECDIS and Integrated Systems** – Using radar overlays, AIS, and other navigation aids.
11	**ECDIS Data Management** – Log files, route planning, updates, and software management.
12	**Simulated Voyage Planning I** – ARPA and ECDIS-based voyage planning under varying conditions.
13	**Simulated Voyage Planning II** – Emergency scenarios, restricted waters, and adverse weather navigation.
14	**Comprehensive Simulation Exercises** – Full voyage execution, monitoring, and decision-making.
15	Final Exam

Methods and Techniques used in the Course

- Interactive simulation exercises
- ARPA and ECDIS operational practice
- Case studies and scenario-based training
- In-class discussions and problem-solving

Sample Questions

- Explain how to adjust radar settings for optimal target detection under adverse weather conditions.
- Demonstrate the calculation of CPA and TCPA for two crossing targets.
- Describe the procedure for safe route planning using ECDIS, including hazard identification.
- Identify potential errors in ARPA target tracking and propose corrective measures.
- Simulate a collision avoidance scenario using integrated ARPA and ECDIS systems and explain your decisions.

Materials Used in the Course

- IMO ARPA Performance Standards documents
- ECDIS User Manuals and Navigation Guides
- Radar and ARPA Simulator software
- Nautical charts and publications for simulation exercises

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

Program Outcomes Matrix

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

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

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

Course Learning Outcomes/ Evaluation Method		
CLO	**Teaching Method**	**Assessment Method**
CLO1	Lecture, Demonstration, Simulation Exercises	Quizzes, Practical Exams, Observation
CLO2	Lecture, Hands-on Radar Plotting Exercises, Lab	Assignments, Practical Exams, Simulation Evaluation
CLO3	Lecture, ECDIS Tutorials, Voyage Planning Exercises	Assignments, Lab Reports, Simulation Exercises
CLO4	Problem-Based Learning, Case Studies, Simulation	Practical Exercises, Midterm Exam, Scenario-Based Tests
CLO5	Simulation Exercises, Role-Playing, Scenario Analysis	Observation, Assignments, Practical Exams, Project Reports

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Preparation for lectures	-	-	-
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	**2**	**5**	**10**
In-class Discussion(s)	**15**	**1**	**15**
Quiz(es)	-	-	-
Preparation for Quiz(es)	-	-	-
Laboratory	**2**	**5**	**10**
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			**150**
ECTS Credit			**5**

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	**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
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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.		