

OFFICERS IN CHARGE OF AN ENGINEERING WATCH

A/A	Course type	Course title	Course code	Total Hours
A' Semester				
1.	Compulsory	Maintain a Safe Engineering Watch	1.1	31
2.	Compulsory	Use English in Written and Oral Form	1.2	20
3.	Compulsory	Use Internal Communication Systems	1.3	5
4.	Compulsory	Ensure Compliance with Pollution Prevention Requirements	4.1	27
5.	Compulsory	Monitor and Control Compliance with Legislative Requirements	4.6	25
6.	Compulsory	Contribute to Safety of Personnel and Ship (syllabus as approved by the Administration of the Republic of Cyprus for the already accredited Basic Safety Training Course)	4.8	50
7.	Compulsory	Basic Engineering Science	Add.1	50
8.	Compulsory	Mathematics	Add.2	100
9.	Compulsory	Thermodynamics	Add.3	36
10.	Compulsory	Mechanical Science	Add.4	60
11.	Compulsory	Industrial Chemistry	Add.5	45
12.	Compulsory	Computer Applications	Add.6	20
Sections 1.1 and 1.3 are considered as one in terms of assessment and calculation of absences				
B' Semester				

1.	Compulsory	Operate Main and Auxiliary Machinery and Associated Control Systems	1.4	255
2.	Compulsory	Operate Fuel, Lubrication, ballast and Other Pumping Systems and Associated Control Systems	1.5	40
3.	Compulsory	Operate Electrical, Electronic and Control Systems	2.1	140
4.	Compulsory	Appropriate Use of Hand Tools, Machine Tools and Measuring Instruments for Fabrication and Repair on Board	3.1	92
C' Semester				
1.	Compulsory	4-6 months of Approved on Board Training		
D' Semester				
1.	Compulsory	Operate Main and Auxiliary Machinery and Associated Control Systems	1.4	255
2.	Compulsory	Operate Electrical, Electronic and Control Systems	2.1	140
3.	Compulsory	Maintenance and Repair of Shipboard Machinery and Equipment	3.2	109
4.	Compulsory	Application of Leadership and Teamworking Skills (as per IMO Model Course 1.39)	4.7	20
6.	Elective	Risk Assessment	E1	6
7.	Elective	Incident Investigation	E2	6
8.	Elective	Recognizing Signs of Mental Health Issues	E3	8
9.	Elective	Cultural Awareness	E4	6
10.	Elective	Prevention of Sexual Harassment	E5	6
11.	Elective	Resilience	E6	8
12.	Elective	Cyber Security	E7	8

Two elective courses must be selected by each student during the semester				
E' Semester				
1.	Compulsory	Maintenance and Repair of Electrical and Electronic Equipment	2.2	120
2.	Compulsory	Appropriate Use of Hand Tools, Machine Tools and Measuring Instruments for Fabrication and Repair on Board	3.1	92
3.	Compulsory	Maintenance and Repair of Shipboard Machinery and Equipment	3.2	109
4.	Compulsory	Maintain the Seaworthiness of the Ship	4.2	107
5.	Compulsory	Prevent, Control and Fight Fires on Board (syllabus as approved by the Administration of the Republic of Cyprus for the already accredited Advanced Training in Fire Fighting Course)	4.3	25
6.	Compulsory	Operate Life-Saving Appliances (syllabus as approved by the Administration of the Republic of Cyprus for the already accredited Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats Course)	4.4	25
7.	Compulsory	Apply Medical First Aid on Board Ship (syllabus as approved by the Administration of the Republic of Cyprus for the already accredited Medical First Aid Course)	4.5	20
8.	Elective	Risk Assessment	E1	6
9.	Elective	Incident Investigation	E2	6
10.	Elective	Recognizing Signs of Mental Health Issues	E3	8
11.	Elective	Cultural Awareness	E4	6
12.	Elective	Prevention of Sexual Harassment	E5	6
13.	Elective	Resilience	E6	8

14.	Elective	Cyber Security	E7	8
Two elective courses must be selected by each student during the semester				
F' Semester				
1.	Compulsory	6-8 months of Approved on Board Training		

A. Course Description

Course title	Maintain a Safe Engineering Watch				
Course code	1.1				
Course type	Compulsory				
Year / Semester	1 st Year / Semester 1				
ECTS	2	Lectures / week	10	Laboratories / week	
Course purpose and objectives	<ul style="list-style-type: none"> • Thorough knowledge of Principles to be observed in keeping an engineering watch including: <ul style="list-style-type: none"> ○ Duties associated with taking over and accepting the watch ○ Routine duties undertaken during a watch ○ Maintenance of the machinery space logs and the significance of the readings taken ○ Duties associated with handing over a watch • Safety and emergency procedures; change-over of remote/automatic to local control of all systems • Safety precautions to be observed during a watch and immediate actions to be taken in the event of fire or accident, with particular reference to oil systems • Engine-room resource management <ul style="list-style-type: none"> ○ Knowledge of engine-room resource management principles, including: <ul style="list-style-type: none"> ▪ Allocation, assignment and prioritization of resources ▪ Effective communication ▪ Assertiveness and leadership ▪ Obtaining and maintaining situational awareness ▪ Consideration of team experience 				
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • The conduct, handover and relief of the watch conforms with accepted principles and procedures • The frequency and extent of monitoring of engineering equipment and systems conforms to manufacturers' recommendations and accepted principles and procedures, including Principles to be observed in keeping an engineering watch • A proper record is maintained of the movements and activities relating to the ship's engineering systems 				

	<ul style="list-style-type: none"> Resources are allocated and assigned as needed in correct priority to perform necessary tasks Communication is clearly and unambiguously given and received Questionable decisions and/or actions result in appropriate challenge and response Effective leadership behaviours are identified Team member(s) share accurate understanding of current and predicted engine-room and associated systems state, and of external environment 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> Thorough knowledge of principles to be observed in keeping an engineering watch Safety and emergency procedures Safety precautions to be observed during a watch and immediate actions be taken Engine-room resource management (ERM) 		
Teaching methodology	Lecture with practical applications		
Bibliography	Greek: Διαχείριση Πόρων Μηχανοστασίου – COSMOS NTC English: Engine Room Resource Management Course – Cosmos Nautical Training Centre		
Assessment	Written exam		
Language	Greek and English		

Course title	Use English in Written and Oral Form				
Course code	1.2				
Course type	20 Hours Compulsory – 568 Hours Optional				
Year / Semester	1 st Year / Semester 1				
ECTS	2	Lectures / week	10	Laboratories / week	

Course purpose and objectives	<ul style="list-style-type: none"> • Adequate knowledge of the English language to enable the officer to use engineering publications and to perform engineering duties 		
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • English language publications relevant to engineering duties are correctly interpreted • Communications are clear and understood 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Use English in written and oral form to: <ul style="list-style-type: none"> ○ Perform the officers' duties ○ Use general maritime vocabulary ○ Use marine technical terminology ○ Use manufacturers' manuals ○ Use shipboard drawings ○ Use other engineering publications 		
Teaching methodology	Lecture		
Bibliography	<p>Greek: IMO - Τυποποιημένες Ναυτικές Φράσεις Επικοινωνίας – 2nd Edition, 2005 – Ίδρυμα Ευγενίδου English Grammar for the Merchant Marine Academies Part 1 – 1st Edition, 2003 – Ίδρυμα Ευγενίδου English Grammar for the Merchant Marine Academies Part 2 – 1st Edition, 2004 – Ίδρυμα Ευγενίδου English Grammar for the Merchant Marine Academies Part 3 – 1st Edition, 2005 – Ίδρυμα Ευγενίδου</p> <p>English: Maritime English for Candidate Officers in charge of an Engineering Watch - for Semester 1</p>		
Assessment	Written exam		

Language	Greek and English
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Course title	Use Internal Communication Systems			
Course code	1.3			
Course type	Compulsory			
Year / Semester	1 st Year / Semester 1			
ECTS	0.5	Lectures / week	5	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> • Operation of all internal communication systems on board 			
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Transmission and reception of messages are consistently successful • Communication records are complete, accurate and comply with statutory requirements 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Importance of communicating effectively in all circumstances • Importance of orders, instructions, reports and exchange of information being clear, accurate and concise • Importance of using accepted marine terminology, and proper methods are employed • Importance of chief and second engineer being kept informed as required • Importance of the bridge being informed and consulted as required 			
Teaching methodology	Lecture with practical applications			
Bibliography	<p>Greek: Διαχείριση Πόρων Μηχανοστασίου – COSMOS NTC</p> <p>English: Engine Room Resource Management Course – Cosmos Nautical Training Centre</p>			

Assessment	Written exam
Language	Greek and English

Course title	Operate Main and Auxiliary Machinery and Associated Control Systems			
Course code	1.4			
Course type	Compulsory			
Year / Semester	1 st , 2 nd Year / Semesters 2, 4			
ECTS	30	Lectures / week	15	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> • Basic construction and operation principles of machinery systems, including: <ul style="list-style-type: none"> ○ Marine diesel engine ○ Marine steam turbine ○ Marine gas turbine ○ Marine boiler ○ Shafting installations, including propeller ○ Other auxiliaries, including various pumps, air compressor, purifier, fresh water generator, heat exchanger, refrigeration, air-conditioning and ventilation systems ○ Steering gear ○ Automatic control systems ○ Fluid flow and characteristics of lubricating oil, fuel oil and cooling systems ○ Deck machinery • Safety and emergency procedures for operation of propulsion plant machinery, including control systems • Preparation, operation, fault detection and necessary measures to prevent damage for the following machinery items and control systems: <ul style="list-style-type: none"> ○ Main engine and associated auxiliaries ○ Steam boiler and associated auxiliaries and steam systems ○ Auxiliary prime movers and associated systems ○ Other auxiliaries, including refrigeration, air-conditioning and ventilation systems 			
Learning outcomes	Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.			

	<ul style="list-style-type: none"> • Construction and operating mechanisms can be understood and explained with drawings/instructions • Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment • Deviations from the norm are promptly identified • The output of plant and engineering systems consistently meets requirements, including bridge orders relating to changes in speed and direction • The causes of machinery malfunctions are promptly identified, and actions are designed to ensure the overall safety of the ship and the plant, having regard to the prevailing circumstances and conditions 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Basic construction and operational principles of machinery systems: <ul style="list-style-type: none"> ○ Marine diesel engine ○ Marine steam turbine ○ Marine gas turbine ○ Marine boiler ○ Shafting installation and propeller ○ Other auxiliaries ○ Steering gear ○ Automatic control systems ○ Fluid flow and characteristics of major systems ○ Deck machinery • Safety and emergency procedures for operations of propulsion plant machinery including control systems: <ul style="list-style-type: none"> ○ Main engine auto slow down and shut down ○ Main boiler auto shut down ○ Power failure ○ Emergency procedures for other equipment/installations • Preparation, operation, fault detection and necessary measures to prevent damage for the following machinery items and control systems: <ul style="list-style-type: none"> ○ Main engines and associated auxiliaries ○ Boilers and associated auxiliaries and steam systems 		

	<ul style="list-style-type: none"> ○ Auxiliary prime movers and associate systems ○ Other auxiliaries
Teaching methodology	Lecture with practical applications
Bibliography	<p>Greek:</p> <p>Μηχανές Εσωτερικής Καύσεως, Τόμος Πρώτος – 1st Edition, 2002 – Ίδρυμα Ευγενίδου</p> <p>Μηχανές Εσωτερικής Καύσεως, Τόμος Δεύτερος – 1st Edition, 2003 – Ίδρυμα Ευγενίδου</p> <p>Καύσιμα Λιπαντικά – 3rd Edition, 1995 – Ίδρυμα Ευγενίδου</p> <p>Ατμομηχανές – 1st Edition, 1998 – Ίδρυμα Ευγενίδου</p> <p>Ναυτικοί Ατμολέβητες – 1st Edition, 2002 – Ίδρυμα Ευγενίδου</p> <p>Βοηθητικά Μηχανήματα Πλοίων – 1st Edition, 2015 – Ίδρυμα Ευγενίδου</p> <p>Ψυκτικές και Κλιματιστικές Εγκαταστάσεις – 1st Edition, 2011 – Ίδρυμα Ευγενίδου</p> <p>Μηχανική των Ρευστών – 1st Edition, 2008 – Ίδρυμα Ευγενίδου</p> <p>Εισαγωγή στον Αυτόματο Έλεγχο – Αυτοματισμοί Πλοίων – 2nd Edition, 2009 – Ίδρυμα Ευγενίδου</p> <p>Αυτοματισμός-Τηλεκίνησις Σύγχρονων Πλοίων – 1st Edition, 1976 – Ίδρυμα Ευγενίδου</p> <p>Φυσική – 1st Edition, 2012 – Ίδρυμα Ευγενίδου</p> <p>English:</p> <p>Introduction to Marine Engineering Revised Second Edition – D. A. Taylor – Elsevier</p> <p>Pounder’s Marine Diesel Engines and Gas Turbines 9th Edition – Doug Woodyard – Butterworth Heinemann</p> <p>Fundamentals of Engineering Thermodynamics 5th Edition – Michael J. Moran, Howard N. Shapiro – John Wiley & Sons, Inc.</p> <p>Reed’s General Engineering Knowledge for Marine Engineers 4th Edition – Adlard Coles Nautical</p> <p>Ship Construction 6th Edition – D. J. Eyres – Butterworth Heinemann</p> <p>Motor Engineering Knowledge for Marine Engineers 3rd Edition – Thomas Reed Publications</p>

	Marine Auxiliary Machinery 7 th Edition – H. D. McGeorge – Butterworth Heinemann Marine Steam Boilers 4 th Edition – James H. Milton, Roy M. Leach - Butterworth & Co (Publishers) Ltd
Assessment	Written exam
Language	Greek and English

Course title	Operate Fuel, Lubrication, ballast and Other Pumping Systems and Associated Control Systems			
Course code	1.5			
Course type	Compulsory			
Year / Semester	1 st Year / Semester 2			
ECTS	2	Lectures / week	10	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> • Operational characteristics of pumps and piping systems, including control systems • Operation of pumping systems: <ul style="list-style-type: none"> ○ Routine pumping operations ○ Operation of bilge, ballast and cargo pumping systems • Oily-water separators (or similar equipment) requirements and operation 			
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment • Deviations for the norm are promptly identified and appropriate action is taken 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Operational characteristics of pumps and piping systems including control systems • Operation of pumping systems: <ul style="list-style-type: none"> ○ Routine pumping operations 			

	<ul style="list-style-type: none"> ○ Operation of bilge, ballast and cargo pumping systems ● Oily water separator/similar equipment requirements and operation
Teaching methodology	Lecture with practical applications
Bibliography	<p>Greek: Μηχανές Εσωτερικής Καύσεως, Τόμος Δεύτερος – 1st Edition, 2003 – Ίδρυμα Ευγενίδου Βοηθητικά Μηχανήματα Πλοίων – 1st Edition, 2015 – Ίδρυμα Ευγενίδου</p> <p>English: Introduction to Marine Engineering Revised Second Edition – D. A. Taylor – Elsevier Marine Auxiliary Machinery 7th Edition – H. D. McGeorge – Butterworth Heinemann Pumps – Ioannis K. Dagkinis, Alexandros I. Glykas – Eugenides Foundation</p>
Assessment	Written exam
Language	Greek and English

Course title	Operate Electrical, Electronic and Control Systems				
Course code	2.1				
Course type	Compulsory				
Year / Semester	1 st , 2 nd Year / Semesters 2, 4				
ECTS	16	Lectures / week	10	Laboratories / week	
Course purpose and objectives	<ul style="list-style-type: none"> ● Basic configuration and operation principles of the following electrical, electronic and control equipment: <ul style="list-style-type: none"> ○ Electrical equipment: <ul style="list-style-type: none"> ▪ Generator and distribution systems ▪ Preparing, starting, paralleling and changing over generators ▪ Electrical motors including starting methodologies ▪ High-voltage installations ▪ Sequential control circuits and associated system devices ○ Electronic equipment: 				

	<ul style="list-style-type: none"> ▪ Characteristics of basic electronic circuit elements ▪ Flowchart for automatic and control systems ▪ Functions, characteristics and features of control systems for machinery items, including main propulsion plant operation control and steam boiler automatic controls ○ Control systems: <ul style="list-style-type: none"> ▪ Various automatic control methodologies and characteristics ▪ Proportional-Integral-Derivative (PID) control characteristics and associated system devices for process control 		
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations • Electrical, electronic and control systems can be understood and explained with drawings/instructions 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Basic electrical engineering: <ul style="list-style-type: none"> ○ Electrical theory ○ Fundamentals of alternating current ○ Generators ○ Power distribution systems ○ Electrical motors ○ Electrical motor starting methodologies ○ High voltage installations ○ Lighting ○ Cables ○ Batteries • Basic electronics: <ul style="list-style-type: none"> ○ Electron theory ○ Basic electronic circuit elements ○ Electronic control equipment 		

	<ul style="list-style-type: none"> ○ Flowchart for automatic and control systems ● Basic control engineering: <ul style="list-style-type: none"> ○ Fundamentals of automatic control ○ Various automatic controls ○ ON-OFF control ○ Sequential control ○ Proportional-Integral-Derivative (PID) control ○ Measurement of process value ○ Transmission of signals ○ Manipulator elements
Teaching methodology	Lecture with practical applications
Bibliography	<p>Greek:</p> <p>Μηχανές Εσωτερικής Καύσεως, Τόμος Δεύτερος – 1st Edition, 2003 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτρικές Μηχανές Τόμος Πρώτος – 1st Edition, 2016 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτρικές Μηχανές Τόμος Δεύτερος – 1st Edition, 2016 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτρονικά – 1st Edition, 2004 – Ίδρυμα Ευγενίδου</p> <p>Εισαγωγή στον Αυτόματο Έλεγχο – Αυτοματισμοί Πλοίων – 2nd Edition, 2009 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτροτεχνία Τόμος Πρώτος – 2nd Edition, 1993 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτροτεχνία Τόμος Δεύτερος – 1st Edition, 1993 – Ίδρυμα Ευγενίδου</p> <p>High Voltage – COSMOS NTC</p> <p>Ηλεκτροτεχνία Τόμος Δ' (Εσωτερικές Ηλεκτρικές Εγκαταστάσεις) – 1st Edition, 1981 – Ίδρυμα Ευγενίδου</p> <p>Φυσική – 1st Edition, 2012 – Ίδρυμα Ευγενίδου</p> <p>English:</p> <p>Reeds Basic Electrotechnology for Marine Engineers 5th Edition – Christopher Lavers – Bloomsbury Publishing Plc.</p> <p>Instrumentation and Control Systems – Gordon Boyd, Leslie Jackson – Bloomsbury Publishing Plc.</p>

	<p>Advanced Electrotechnology for Marine Engineers – Christopher Lavers & Edmund G. R. Kraal – Bloomsbury Publishing Plc.</p> <p>Electrical Power Systems for Marine Engineers – Gordon Boyd, Fred Taylor - Bloomsbury Publishing Plc.</p> <p>Marine Electrical Technology 11th Edition – Elstan A. Fernandez – Shroff Publishers & Distributors Pvt. Ltd.</p> <p>Marine Electrical Maintenance and Troubleshooting Volume 1: Alternators, Motors & Batteries 2nd Edition – Elstan A. Fernandez, Lakshman Singh Yadav - Shroff Publishers & Distributors Pvt. Ltd.</p>
Assessment	Written exam
Language	Greek and English

Course title	Maintenance and Repair of Electrical and Electronic Equipment			
Course code	2.2			
Course type	Compulsory			
Year / Semester	3 rd Year / Semester 5			
ECTS	7	Lectures / week	8	Laboratories / week 2
Course purpose and objectives	<ul style="list-style-type: none"> • Safety requirements for working on shipboard electrical systems, including the safe isolation of electrical equipment required before personnel are permitted to work on such equipment • Maintenance and repair of electrical system equipment, switchboards, electric motors, generator and DC electrical systems and equipment • Detection of electric malfunction, location of faults and measures to prevent damage • Construction and operation of electrical testing and measuring equipment • Function and performance tests of the following equipment and their configuration: <ul style="list-style-type: none"> ○ Monitoring systems ○ Automatic control devices ○ Protective devices • The interpretation of electrical and simple electronic diagrams 			
Learning outcomes	Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)			

	<p>and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Safety measures for working are appropriate • Selection and use of hand tools, measuring instruments, and testing equipment are appropriate and interpretation of results is accurate • Dismantling, inspecting, repairing and reassembling equipment are in accordance with manuals and good practice • Reassembling and performance testing is in accordance with manuals and good practice 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Safety requirements for working on electrical systems • Maintenance and repair <ul style="list-style-type: none"> ○ Principles of maintenance ○ Generator ○ Switchboard ○ Electrical motors ○ Starters ○ Distribution system ○ D.C. electrical systems and equipment • Detection of electric malfunction and measures to prevent damage: <ul style="list-style-type: none"> ○ Fault protection ○ Fault location • Construction and operation of electrical testing and measuring equipment • Function and performance test and configuration: <ul style="list-style-type: none"> ○ Monitoring systems ○ Automatic control devices ○ Protective devices • Electrical and simple electronic diagrams 		
Teaching methodology	Lecture with workshop practical applications		
Bibliography	Greek:		

	<p>Μηχανές Εσωτερικής Καύσεως, Τόμος Δεύτερος – 1st Edition, 2003 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτρικές Μηχανές Τόμος Πρώτος – 1st Edition, 2016 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτρικές Μηχανές Τόμος Δεύτερος – 1st Edition, 2016 – Ίδρυμα Ευγενίδου</p> <p>Εισαγωγή στον Αυτόματο Έλεγχο – Αυτοματισμοί Πλοίων – 2nd Edition, 2009 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτροτεχνία Τόμος Δεύτερος – 1st Edition, 1993 – Ίδρυμα Ευγενίδου</p> <p>Μηχανολογικό Σχέδιο – 2nd Edition, 2001 – Ίδρυμα Ευγενίδου</p> <p>Οργάνωσις Επιχειρήσεων – Στοιχεία Οικονομίας - 1st Edition, 1977 – Ίδρυμα Ευγενίδου</p> <p>English:</p> <p>Marine Electrical Technology 11th Edition – Elstan A. Fernandez – Shroff Publishers & Distributors Pvt. Ltd.</p> <p>Marine Electrical Maintenance and Troubleshooting Volume 1: Alternators, Motors & Batteries 2nd Edition – Elstan A. Fernandez, Lakshman Singh Yadav - Shroff Publishers & Distributors Pvt. Ltd.</p>
Assessment	Written exam
Language	Greek and English

Course title	Appropriate Use of Hand Tools, Machine Tools and Measuring Instruments for Fabrication and Repair on Board				
Course code	3.1				
Course type	Compulsory				
Year / Semester	1 st , 3 rd Year / Semesters 2, 5				
ECTS	10	Lectures / week	5	Laboratories / week	5
Course purpose and objectives	<ul style="list-style-type: none"> • Characteristics and limitations of materials used in construction and repair of ships and equipment • Characteristics and limitations of processes used for fabrication and repair • Properties and parameters considered in the fabrication and repair of systems and components • Methods for carrying out safe emergency/temporary repairs 				

	<ul style="list-style-type: none"> • Safety measures to be taken to ensure a safe working environment and for using hand tools, machine tools and measuring instruments • Use of hand tools, machine tools and measuring instruments • Use of various types of sealants and packings 			
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Identification of important parameters for fabrication of typical ship-related components is appropriate • Selection of materials is appropriate • Fabrication is to designated tolerances • Use of equipment and hand tools, machine tools and measuring instruments is appropriate and safe 			
Prerequisites	<table border="1"> <tr> <td>None</td> <td>Required</td> <td>None</td> </tr> </table>	None	Required	None
None	Required	None		
Course content	<ul style="list-style-type: none"> • Characteristics and limitations of materials used in construction and repair of ships equipment: <ul style="list-style-type: none"> ○ Basic metallurgy, metals and processes ○ Properties and uses ○ Non-metallic materials • Characteristics and limitations of processes used for fabrication and repair: <ul style="list-style-type: none"> ○ Process ○ Heat treatment of carbon steel • Properties and parameters considered in the fabrication and repair of systems and components: <ul style="list-style-type: none"> ○ Materials under load ○ Vibration ○ Self-secured joints ○ Permanent joints ○ Bonding plastics ○ Adhesives and bonding health and safety ○ Pipework • Methods for carrying out safe emergency/temporary repairs 			

	<ul style="list-style-type: none"> • Safety measures to be taken to ensure a safe working environment and for using hand tools, machine tools and measuring instruments • Use of hand tools, machine tools and measuring instruments: <ul style="list-style-type: none"> ○ Hand tools ○ Power hand tools ○ Machine tools ○ Measuring instruments • Use of various types of sealants and packings
Teaching methodology	Lecture with workshop practical applications
Bibliography	<p>Greek:</p> <p>Μηχανές Εσωτερικής Καύσεως, Τόμος Δεύτερος – 1st Edition, 2003 – Ίδρυμα Ευγενίδου</p> <p>Βοηθητικά Μηχανήματα Πλοίων – 1st Edition, 2015 – Ίδρυμα Ευγενίδου</p> <p>Εισαγωγή στον Αυτόματο Έλεγχο – Αυτοματισμοί Πλοίων – 2nd Edition, 2009 – Ίδρυμα Ευγενίδου</p> <p>Τεχνολογία Μηχανουργικών Υλικών – 2nd Edition, 1992 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτροτεχνία Τόμος Πρώτος – 2nd Edition, 1993 – Ίδρυμα Ευγενίδου</p> <p>Αντοχή Υλικών – 2nd Edition, 2016 – Ίδρυμα Ευγενίδου</p> <p>Μηχανουργική Τεχνολογία Εργαστήριο Ι – 2nd Edition, 2001 – Ίδρυμα Ευγενίδου</p> <p>Μηχανουργική Τεχνολογία Εργαστήριο ΙΙ – 1st Edition, 2006 – Ίδρυμα Ευγενίδου</p> <p>Ευστάθεια – Κοπώσεις – 2nd Edition, 2016 – Ίδρυμα Ευγενίδου</p> <p>English:</p> <p>Reed’s General Engineering Knowledge for Marine Engineers 4th Edition – Adlard Coles Nautical</p> <p>Fabrication and Welding Engineering – Roger Timings – Newnes</p> <p>Applied Mechanics 3rd Edition – J. Hannah, M. J. Hillier – Addison Wesley Longman</p> <p>Code of Safe Working Practices for Merchant Seafarers 2015 Edition – The Stationary Office – Maritime and Coastguard Agency</p> <p>Workshop Processes, Practices and Materials 5th Edition – Bruce J. Black – Routledge</p>

	Audel Machine Shop Tools & operations 5 th Edition – Rex Miller, Mark Richard Miller – Wiley Publishing Inc. A Guide to Ship Repair Estimates in Man-hours 2 nd Edition – Don Butler – Butterworth Heinemann
Assessment	Written exam
Language	Greek and English

Course title	Maintenance and Repair of Shipboard Machinery and Equipment				
Course code	3.2				
Course type	Compulsory				
Year / Semester	2 nd , 3 rd Year / Semesters 4, 5				
ECTS	10	Lectures / week	4	Laboratories / week	3
Course purpose and objectives	<ul style="list-style-type: none"> • Safety measures to be taken for repair and maintenance, including the safe isolation of shipboard machinery and equipment required before personnel are permitted to work on such machinery or equipment • Appropriate basic mechanical knowledge and skills • Maintenance and repair, such as dismantling, adjustment and reassembling of machinery and equipment • The use of appropriate specialized tools and measuring instruments • Design characteristics and selection of materials in construction of equipment • Interpretation of machinery drawings and handbooks • The interpretation of piping, hydraulic and pneumatic diagrams 				
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Safety procedures followed are appropriate • Selection of tools and spare gear is appropriate • Dismantling, inspecting, repairing and reassembling equipment is in accordance with manuals and good practice • Re-commissioning and performance testing is in accordance with manuals and good practice • Selection of materials and parts is appropriate 				

Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Safety measures to be taken for repair and maintenance including the safe isolation of shipboard machinery and equipment required before personnel are permitted to work on such machinery or equipment: <ul style="list-style-type: none"> ○ ISM Code ○ SMS ○ Safety measures to be taken • Appropriate basic mechanical knowledge and skills • Maintenance and repair such as dismantling, adjustment and reassembling of machinery and equipment: <ul style="list-style-type: none"> ○ Fastening ○ Centrifugal pumps ○ Reciprocating pumps ○ Screw and gear pumps ○ Valves ○ Air compressor ○ Heat exchangers ○ Diesel engine ○ Turbocharger ○ Boiler ○ Shafting system ○ Refrigerator ○ Oils, fuels and lubricating system ○ Deck machinery • The use of appropriate specialized tools and measuring instruments • Design characteristics and selection of materials in construction of equipment: <ul style="list-style-type: none"> ○ Selection of materials in construction of equipment ○ Design characteristics ○ Machine tools ○ Design characteristics of bearings 		

	<ul style="list-style-type: none"> • Interpretation of machinery drawings and handbooks: <ul style="list-style-type: none"> ○ Types of drawing ○ Linework ○ Pictorial projection ○ Development ○ Dimensioning ○ Geometrical tolerance ○ Limits and fits ○ Engineering drawing practice • The interpretation of piping, hydraulic and pneumatic diagrams
Teaching methodology	Lecture with workshop practical applications
Bibliography	<p>Greek:</p> <p>Μηχανές Εσωτερικής Καύσεως, Τόμος Πρώτος – 1st Edition, 2002 – Ίδρυμα Ευγενίδου</p> <p>Διεθνείς Κανονισμοί, Ναυτιλιακή Πολιτική & Δίκαιο της Θάλασσας – 3rd Edition, 2015 – Ίδρυμα Ευγενίδου</p> <p>Ναυτικοί Ατμολέβητες – 1st Edition, 2002 – Ίδρυμα Ευγενίδου</p> <p>Ηλεκτρικές Μηχανές Τόμος Δεύτερος – 1st Edition, 2016 – Ίδρυμα Ευγενίδου</p> <p>Μηχανουργική Τεχνολογία Εργαστήριο Ι – 2nd Edition, 2001 – Ίδρυμα Ευγενίδου</p> <p>Μηχανολογικό Σχέδιο – 2nd Edition, 2001 – Ίδρυμα Ευγενίδου</p> <p>Βοηθητικά Μηχανήματα Πλοίων Τόμος Α΄ – 1st Edition, 1974 – Ίδρυμα Ευγενίδου</p> <p>English:</p> <p>Introduction to Marine Engineering Revised Second Edition – D. A. Taylor – Elsevier</p> <p>Pounder’s Marine Diesel Engines and Gas Turbines 9th Edition – Doug Woodyard – Butterworth Heinemann</p> <p>Reed’s General Engineering Knowledge for Marine Engineers 4th Edition – Adlard Coles Nautical</p> <p>Workshop Processes, Practices and Materials 5th Edition – Bruce J. Black – Routledge</p>

	<p>Code of Safe Working Practices for Merchant Seafarers 2015 Edition – The Stationary Office – Maritime and Coastguard Agency</p> <p>Basic Engineering Thermodynamics 5th Edition – Rayner Joel – Addison Wesley Longman</p> <p>Manual of Engineering Drawing 2nd Edition – Colin H. Simmons, Dennis E. Maguire – Newnes</p> <p>The Maritime Engineering Reference Book – Anthony E. Molland – Butterworth Heinemann</p> <p>Marine Auxiliary Machinery 7th Edition – H. D. McGeorge – Butterworth Heinemann</p> <p>A Guide to Ship Repair Estimates in Man-hours 2nd Edition – Don Butler – Butterworth Heinemann</p> <p>Pumps – Ioannis K. Dagkinis, Alexandros I. Glykas – Eugenides Foundation</p>
Assessment	Written exam
Language	Greek and English

Course title	Ensure Compliance with Pollution Prevention Requirements			
Course code	4.1			
Course type	Compulsory			
Year / Semester	1 st Year / Semester 1			
ECTS	2	Lectures / week	10	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> • Prevention of pollution of the marine environment <ul style="list-style-type: none"> ○ Knowledge of the precautions to be taken to prevent pollution of the marine environment ○ Anti-pollution procedures and all associated equipment ○ Importance of proactive measures to protect the marine environment 			
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed • Actions to ensure that a positive environmental reputation is maintained 			

Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Precautions to be taken to prevent pollution of the marine environment: <ul style="list-style-type: none"> ○ MARPOL 73/78 Technical Annexes: Annex I to VI of MARPOL 73/78 in detail ○ Conventions and legislations adopted by various countries • Anti-pollution procedures and all associated equipment: <ul style="list-style-type: none"> ○ Control of discharge of oil ○ Oil Record Book (Part I – Machinery Space Operations and Part II – Cargo/Ballast Operations) ○ Shipboard Oil Pollution Emergency Plan (SOPEP) including Shipboard Marine Emergency Plans (SMPEP) for Oil and Noxious Liquid Substances and Vessel Response Plan (VRP) ○ Operating procedures of antipollution equipment, sewage plant, incinerator, comminutor, ballasts water treatment plant ○ Volatile Organic Compound (VOC) Management Plan, Garbage Management Systems, Anti-fouling systems, Ballast Water Management and their discharge criteria • Proactive measures to protect the marine environment 		
Teaching methodology	Lecture		
Bibliography	<p>Greek: Διεθνείς Κανονισμοί, Ναυτιλιακή Πολιτική & Δίκαιο της Θάλασσας – 3rd Edition, 2015 – Ίδρυμα Ευγενίδου Στοιχεία Ναυτικού Δικαίου – 3rd Edition, 2014 – Ίδρυμα Ευγενίδου</p> <p>English: Precautions to be Taken to Prevent Pollution of the Marine Environment – Anti-pollution Procedures and all Associated Equipment – Proactive Measures to Protect the Marine Environment for the cadets of Mediterranean Maritime Academy of Cyprus MARPOL – SUMMARY</p>		
Assessment	Written exam		
Language	Greek and English		

Course title	Maintain the Seaworthiness of the Ship			
Course code	4.2			
Course type	Compulsory			
Year / Semester	3 rd Year / Semester 5			
ECTS	9	Lectures / week	7	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> • Ship stability <ul style="list-style-type: none"> ○ Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment ○ Understanding of the fundamentals of watertight integrity ○ Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy • Ship construction <ul style="list-style-type: none"> ○ General knowledge of the principal structural members of a ship and the proper names for the various parts 			
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • The stability conditions comply with the IMO intact stability criteria under all conditions of loading • Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Stability, trim and stress tables: <ul style="list-style-type: none"> ○ Displacement ○ Buoyancy ○ Fresh water allowance ○ Statical stability ○ Initial stability ○ Angle of loll ○ Curves of statical stability ○ Movement on the centre of gravity 			

	<ul style="list-style-type: none"> ○ List and its correction ○ Effect of slack tanks ○ Trim and draught calculation using trim tables ○ Actions to be Taken in the Event of Partial Loss of Intact Buoyancy ○ Stress tables and stress calculating equipment ● The principal structural members of a ship: <ul style="list-style-type: none"> ○ Ship dimensions and form ○ Ship stresses ○ Hull structure ○ Bow and stern regions ○ Fittings ○ Rudder and propellers ○ Load lines and draught marks
Teaching methodology	Lecture
Bibliography	<p>Greek: Ευστάθεια – Κοπώσεις – 2nd Edition, 2016 – Ίδρυμα Ευγενίδου Ναυπηγία – 2nd Edition, 1991 – Ίδρυμα Ευγενίδου</p> <p>English: Ship Stability for the cadets of Mediterranean Maritime Academy of Cyprus Shipbuilding Elements for the cadets of Mediterranean Maritime Academy of Cyprus Bow and stern regions Fittings Rudder and propellers</p>
Assessment	Written exam
Language	Greek and English

Course title	Prevent, Control and Fight Fires on Board
Course code	4.3

Course type	Compulsory			
Year / Semester	3 rd Year / Semester 5			
ECTS	1.5	Lectures / week	14	Laboratories / week 11
Course purpose and objectives	<ul style="list-style-type: none"> • Fire prevention and fire-fighting <ul style="list-style-type: none"> ○ Ability to organize fire drills ○ Knowledge of classes and chemistry of fire ○ Knowledge of fire-fighting appliances ○ Knowledge of action to be taken in the event of fire, including fires involving oil systems 			
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship • Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly • The order of priority and the levels and time-scales of making reports and informing personnel on board are relevant to the nature of the emergency and reflect the urgency of the problem 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Control fire-fighting operations aboard ship <ul style="list-style-type: none"> ○ Introduction, safety and principles ○ Areas of fire hazard ○ Fire precautions ○ Dry distillation ○ Chemical reactions ○ Boiler uptake fires and exhaust fires in prime movers and auxiliary exhausts ○ Fires in water-tube boilers ○ Tactics and procedure of fire control while ship is at sea ○ Tactics and procedure of fire control while ship is in port ○ Tactics and procedure of fire control while ship is carrying dangerous goods ○ Tactics and procedure of fire control for oil, chemical and gas tankers 			

	<ul style="list-style-type: none"> ○ Use of water for fire extinguishing, the effect on stability, precautions and corrective procedures ○ Communication and co-ordination during fire-fighting operations ○ Ventilation control including smoke extractor ○ Control of fuel and electrical systems ○ Fire precautions and hazards associated with the storage and handling of materials (paints etc.) ○ Management and control of injured persons ○ Procedures for co-ordination with shore-based fire fighters ● Organize and train fire parties <ul style="list-style-type: none"> ○ Preparation of contingency plans ○ Composition and allocation of personnel to fire parties ○ Training of seafarers in fire fighting ○ Fire control plans ○ Organization of fire and abandon ship drills ○ Strategies and tactics for control of fires in various parts of the ship ● Inspect and service fire detections and extinguishing systems and equipment <ul style="list-style-type: none"> ○ Fire alarms ○ Fire detection equipment ○ Fixed fire extinguishing equipment ○ Fire main, hydrants, hoses and nozzles and pumps ○ Portable and mobile fire extinguishing equipment including appliances ○ Firefighter's outfits and other personal protective equipment ○ Rescue and life support equipment ○ Salvage equipment ○ Communication equipment ○ Requirements for statutory and classification surveys ● Investigate and compile reports on incidents involving fire <ul style="list-style-type: none"> ○ Fire investigation and reporting ○ Trainee's experience of fires on ships ○ Documented reports of fires on ships and lessons learned
Teaching methodology	Lecture and practical exercises
Bibliography	Greek and English: Compendium to the IMO Model Course 2.03
Assessment	Written exam and practical assessment
Language	Greek and English

Course title	Operate Life-Saving Appliances				
Course code	4.4				
Course type	Compulsory				
Year / Semester	3 rd Year / Semester 5				
ECTS	1.5	Lectures / week	12.5	Laboratories / week	12.5
Course purpose and objectives	<ul style="list-style-type: none"> • Life-saving <ul style="list-style-type: none"> ○ Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids 				
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards 				
Prerequisites	6 months of approved seagoing service	Required	None		
Course content	<ul style="list-style-type: none"> • General <ul style="list-style-type: none"> ○ Emergency situations ○ Training, drills and operational readiness ○ Actions to be taken when called to survival craft stations • Abandon ship <ul style="list-style-type: none"> ○ Actions to be taken when required to abandon ship ○ Actions to be taken when in the water • Survival craft and rescue boats <ul style="list-style-type: none"> ○ Lifeboats ○ Life rafts ○ Rescue boats • Launching arrangements <ul style="list-style-type: none"> ○ Boat davits ○ Life raft davits ○ Rescue boats davits ○ Free-fall 				

- Float-free arrangements
- Marine evacuation systems
- Evacuation and recovery of survival craft and rescue boats
 - Launching
 - Clearing the ship's side
 - Marshalling life rafts and rescuing survivors from the sea
 - Recovery of survival craft and rescue boats
 - Launching survival craft and rescue boats in rough sea
 - Recovery of rescue boats in rough sea
- Actions to take when clear of the ship
- Lifeboat engine and accessories
 - Starting the engine
 - Cooling systems
 - Battery charging
 - Fire extinguisher
 - Water spray system
 - Self-contained air support system
- Rescue boat outboard engine
- Handling survival craft and rescue boats in rough weather
 - Boats
 - Life rafts
 - Beaching
- Actions to take when aboard a survival craft
 - Initial actions
 - Routines for survival
 - Use of equipment
 - Apportionment of food and water
 - Action to take to maximize detectability and location of survival craft
- Methods of helicopter rescue
 - Communicating with the helicopter
 - Evacuation from ship and survival craft
 - Helicopter pick-up
- Hypothermia
- Radio equipment
 - Two-way VHF radiotelephone apparatus
 - Emergency position-indicating radio beacons (EPIRBs)
 - Search and rescue transponder beacons (SARTs)
 - Distress signals, signaling equipment and pyrotechnics
- First aid
 - Resuscitation techniques
 - Use of first-aid kit
- Drills in launching and recovering boats

	<ul style="list-style-type: none"> • Drills in launching life rafts <ul style="list-style-type: none"> ○ Davit-launched life rafts ○ Throw-overboard life rafts ○ Boarding a liferaft from the water ○ Righting an inverted liferaft • Drills in launching and recovering rescue boats • Practical exercises and evaluation
Teaching methodology	Lecture and practical exercises
Bibliography	Greek and English: Approved trainee handout
Assessment	Written exam and practical assessment
Language	Greek and English

Course title	Apply Medical First Aid on Board Ship				
Course code	4.5				
Course type	Compulsory				
Year / Semester	3 rd Year / Semester 5				
ECTS	1	Lectures / week	17	Laboratories / week	3
Course purpose and objectives	<ul style="list-style-type: none"> • Medical aid <ul style="list-style-type: none"> ○ Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship 				
Learning outcomes	Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level. <ul style="list-style-type: none"> • The identification of probable cause, nature and extent of injuries or conditions is prompt, and treatment minimizes immediate threat to life 				
Prerequisites	None	Required	None		
Course content	<ul style="list-style-type: none"> • Immediate Action • First Aid Kit 				

	<ul style="list-style-type: none"> • Body structure and functions • Toxicological hazards aboard ship • Examination of patient • Spinal Injuries • Burns, scalds and effects of heat and cold • Fractures, dislocations and muscular injuries • Medical care of rescued persons, including distress, hypothermia and cold exposure • Radio Medical Advice • Pharmacology • Sterilization • Cardiac arrest, drowning and asphyxia • Psychological / Psychiatric Problems
Teaching methodology	Lecture and practical exercises
Bibliography	Greek and English: Approved trainee handout
Assessment	Written exam and practical assessment
Language	Greek and English

Course title	Monitor and Control Compliance with Legislative Requirements				
Course code	4.6				
Course type	Compulsory				
Year / Semester	1 st Year / Semester 1				
ECTS	3	Lectures / week	10	Laboratories / week	
Course purpose and objectives	<ul style="list-style-type: none"> • Basic working knowledge of the relevant IMO conventions concerning safety of life at sea, security and protection of the marine environment 				
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified 				

Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Basic working knowledge of the relevant IMO conventions concerning safety of life at sea, security and protection of the marine environment: <ul style="list-style-type: none"> ○ Introduction to Maritime Law ○ Law of the Sea ○ Safety <ul style="list-style-type: none"> ▪ International Convention on Load Lines, 1966 ▪ SOLAS, 1974 as amended ▪ SOLAS – Subdivision and stability ▪ SOLAS – Fire protection, detection and fire extinction ▪ SOLAS – LSA and arrangements (LSA CODE) ▪ SOLAS – Carriage of grain ▪ SOLAS – Carriage of dangerous goods ▪ SOLAS – Fire protection, detection and fire extinction ▪ SOLAS – LSA and arrangements (LSA CODE) ▪ SOLAS – Carriage of grain ▪ Code of Safe Working Practices for Merchant Seamen ▪ STCW Convention 1978, as amended ▪ The International Ship and Port Facility Security Code (ISPS Code) 		
Teaching methodology	Lecture		
Bibliography	<p>Greek:</p> <p>Διεθνείς Κανονισμοί, Ναυτιλιακή Πολιτική & Δίκαιο της Θάλασσας – 3rd Edition, 2015 – Ίδρυμα Ευγενίδου</p> <p>Στοιχειά Ναυτικού Δικαίου – 3rd Edition, 2014 – Ίδρυμα Ευγενίδου</p> <p>SOLAS Consolidated Edition 2014 –IMO</p> <p>English:</p> <p>Code of Safe Working Practices for Merchant Seafarers 2015 Edition – The Stationary Office – Maritime and Coastguard Agency</p> <p>Maritime Law 5th Edition – Informa Law from Routledge</p> <p>Load Lines</p> <p>SOLAS Stability and subdivision</p> <p>Fire protection, fire detection and extinction</p> <p>SOLAS – LSA and arrangements</p>		

	Cargo Work – The Care, Handling and Carriage of Cargoes 12th Edition – L. G. Taylor – Brown, Son & Ferguson Ltd.
Assessment	Written exam
Language	Greek and English

Course title	Application of Leadership and Teamworking Skills				
Course code	4.7				
Course type	Compulsory				
Year / Semester	2 nd Year / Semester 4				
ECTS	2	Lectures / week	10	Laboratories / week	
Course purpose and objectives	<ul style="list-style-type: none"> • Working knowledge of shipboard personnel management and training • Knowledge of related international maritime conventions and recommendations, and national legislation • Ability to apply task and workload management, including: <ul style="list-style-type: none"> ○ Planning and co-ordination ○ Personnel assignment ○ Time and resource constraints ○ Prioritization • Knowledge and ability to apply effective resource management: <ul style="list-style-type: none"> ○ Allocation, assignment and prioritization of resources ○ Effective communication onboard and ashore ○ Decisions reflect consideration of team experiences ○ Assertiveness and leadership, including motivation ○ Obtaining and maintaining situational awareness • Knowledge and ability to apply decision-making techniques <ul style="list-style-type: none"> ○ Situation and risk assessment ○ Identify and consider generated options ○ Selecting course of action • Evaluation of outcome effectiveness 				
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • The crew are allocated duties and informed of expected standards of work and behavior in a manner appropriate to the individuals concerned 				

	<ul style="list-style-type: none"> • Training objectives and activities are based on assessment of current competence and capabilities and operational requirements • Operations are demonstrated to be in accordance with applicable rules • Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks • Communication is clearly and unambiguously given and received. • Effective leadership behaviours are demonstrated • Necessary team member(s) share accurate understanding of current and predicted vessel status and operational status and external environment • Decisions are most effective for the situation 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Shipboard personnel management and training • Related international conventions and recommendations, and national legislation • Application of task and workload management • Effective resource management • Decision-making techniques 		
Teaching methodology	Lecture		
Bibliography	<p>Greek: Παλαμιώτου Κωνσταντίνα, <i>Ανθρώπινες Σχέσεις</i>, Ευγενίδειο Ίδρυμα, Αθήνα 2016</p> <p>English: Leadership and Teamwork for the cadets of Mediterranean Maritime Academy of Cyprus</p>		
Assessment	Written exam		
Language	Greek and English		

Course title	Contribute to Safety of Personnel and Ship				
Course code	4.8				
Course type	Compulsory				
Year / Semester	1 st Year / Semester 1				
ECTS	2	Lectures / week	38	Laboratories / week	12

Course purpose and objectives	<ul style="list-style-type: none"> • Knowledge of personal survival techniques • Knowledge of fire prevention and ability to extinguish fires • Knowledge of elementary first aid • Knowledge of personal safety and social responsibilities 		
Learning outcomes	<p>Act in accordance with the minimum standards of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the corresponding Code, as amended, for engineer officers on seagoing vessels; and hereby comply with STCW standards at operational level.</p> <ul style="list-style-type: none"> • Appropriate safety and protective equipment is correctly used • Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times • Procedures designed to safeguard the environment are observed at all times • Initial and follow-up action on becoming aware of an emergency conforms with established emergency response procedures 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Proficiency in Personal Survival Techniques <ul style="list-style-type: none"> ○ Introduction, safety and survival ○ Emergency situations ○ Evacuation ○ Survival craft and rescue boats ○ Personal life-saving appliances ○ Survival at sea ○ Emergency radio • Fire Prevention and Fire Fighting <ul style="list-style-type: none"> ○ Introduction, safety and principles ○ Concept and application of the fire triangle to fire and explosion ○ Types and sources of ignition ○ Flammable materials commonly found on board ○ The need of constant vigilance ○ Fire hazards ○ Organization of shipboard fire fighting ○ Location of fire-fighting appliances and emergency escape routes ○ Fire spread in different parts of a ship ○ Fire and smoke detection measures on ships and automatic alarm systems ○ Classification of fires and applicable extinguishing agents ○ Selection of fire fighting appliances and equipment ○ Precautions for and use of fixed installations ○ Use of breathing apparatus for fighting fires ○ Use of breathing apparatus for effecting rescues 		

	<ul style="list-style-type: none"> • Elementary First Aid <ul style="list-style-type: none"> ○ General Principles ○ Body Structure and Functions ○ Positioning of Casualty ○ The Unconscious Casualty ○ Resuscitation ○ Bleeding ○ Management of Shock ○ Burns Scalds, and Accidents caused by Electricity ○ Rescue and Transport of Casualty ○ Other topics • Personal Safety and Social Responsibilities <ul style="list-style-type: none"> ○ Observe safe working practices ○ Contribute to effective human relationships on board ships ○ Understand orders and be understood in relation to shipboard duties ○ Comply with emergency procedures ○ Take precautions to prevent pollution of the marine environment ○ Social responsibility
Teaching methodology	Lecture and practical exercises
Bibliography	Greek and English: Approved trainee handouts
Assessment	Written exam and practical assessment
Language	Greek and English

Course title	Basic Engineering Science				
Course code	Addendum 1				
Course type	Compulsory				
Year / Semester	1 st Year / Semester 1				
ECTS	4	Lectures / week	10	Laboratories / week	
Course purpose and objectives	<ul style="list-style-type: none"> • Basic engineering science which are deemed necessary to obtain the depth of knowledge required under various competence of Section A-III/1 and section A-III/2 of the STCW Code 				

Learning outcomes	<ul style="list-style-type: none"> • Demonstrate a knowledge and understanding of: <ul style="list-style-type: none"> ○ Mass and volume ○ The relationship between speed, acceleration, mass force and resistance ○ The relationship between forms of energy, work and power ○ The effects of pressure, its relationship to depth of liquid and force ○ The relationship between temperature, heat energy and heat transfer 		
Prerequisites	None	Required	None
Course content	<ul style="list-style-type: none"> • Basic engineering science: <ul style="list-style-type: none"> ○ Mass and volume ○ Dynamics ○ Energy, work and power ○ Fluids ○ Heat 		
Teaching methodology	Lecture		
Bibliography	<p>Greek: Φυσική – 1st Edition, 2012 – Ίδρυμα Ευγενίδου Μηχανική των Ρευστών – 1st Edition, 2008 – Ίδρυμα Ευγενίδου</p> <p>English: Basic Engineering Thermodynamics 5th Edition – Rayner Joel – Addison Wesley Longman Applied Mechanics for Marine Engineers 7th Edition – Paul A. Russell – Reeds Instrumentation and Control Systems – Gordon Boyd, Leslie Jackson – Bloomsbury Publishing Plc.</p>		
Assessment	Written exam		
Language	Greek and English		

Course title	Mathematics
Course code	Addendum 2
Course type	Compulsory

Year / Semester	1 st Year / Semester 1			
ECTS	6	Lectures / week	10	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> Mathematics which are deemed necessary to obtain the depth of knowledge required under various competence of Section A-III/1 and section A-III/2 of the STCW Code 			
Learning outcomes	<ul style="list-style-type: none"> Demonstrate a knowledge and understanding of: <ul style="list-style-type: none"> Calculations with positive and negative integers Simplifying expressions Indices Calculations Algebra Trigonometry Mensuration Graphs 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> Mathematics: <ul style="list-style-type: none"> Calculations with positive and negative integers Simplifying expressions Indices Calculations Algebra Trigonometry Mensuration Graphs 			
Teaching methodology	Lecture			
Bibliography	<p>Greek: Μαθηματικά Πλοιάρχων – Μηχανικών – 1st Edition, 2012 – Ίδρυμα Ευγενίδου Φυσική – 1st Edition, 2012 – Ίδρυμα Ευγενίδου</p> <p>English: Mathematics for Marine Engineers 8th Edition – Kevin Corner, Leslie Jackson, William Embleton – Reeds</p>			
Assessment	Written exam			
Language	Greek and English			

Course title	Thermodynamics				
Course code	Addendum 3				
Course type	Compulsory				
Year / Semester	1 st Year / Semester 1				
ECTS	3	Lectures / week	10	Laboratories / week	
Course purpose and objectives	<ul style="list-style-type: none"> • Thermodynamics which are deemed necessary to obtain the depth of knowledge required under various competence of Section A-III/1 and section A-III/2 of the STCW Code 				
Learning outcomes	<ul style="list-style-type: none"> • Demonstrate a knowledge and understanding of: <ul style="list-style-type: none"> ○ Thermodynamic properties ○ Thermodynamic energy ○ Thermodynamic systems ○ Energy charge ○ Heat transfer ○ Vapours ○ Ideal gases ○ Thermodynamic processes ○ Work transfer 				
Prerequisites	None	Required	None		
Course content	<ul style="list-style-type: none"> • Thermodynamics: <ul style="list-style-type: none"> ○ Thermodynamic properties ○ Thermodynamic energy ○ Thermodynamic systems ○ Energy charge ○ Heat transfer ○ Vapours ○ Ideal gases ○ Thermodynamic processes ○ Work transfer 				
Teaching methodology	Lecture				
Bibliography	Greek: Ψυκτικές και Κλιματιστικές Εγκαταστάσεις – 1 st Edition, 2011 – Ίδρυμα Ευγενίδου Φυσική – 1 st Edition, 2012 – Ίδρυμα Ευγενίδου				

	English: Basic Engineering Thermodynamics 5 th Edition – Rayner Joel – Addison Wesley Longman
Assessment	Written exam
Language	Greek and English

Course title	Mechanical Science			
Course code	Addendum 4			
Course type	Compulsory			
Year / Semester	1 st Year / Semester 1			
ECTS	3	Lectures / week	10	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> • Mechanical science which is deemed necessary to obtain the depth of knowledge required under various competence of Section A-III/1 and section A-III/2 of the STCW Code 			
Learning outcomes	<ul style="list-style-type: none"> • Demonstrate a knowledge and understanding of: <ul style="list-style-type: none"> ○ Statics ○ Velocity and the effect of change of direction ○ Friction ○ Hydrostatics ○ Hydraulics 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Mechanics: <ul style="list-style-type: none"> ○ Statics ○ Dynamics ○ Hydrostatics ○ Hydraulics 			
Teaching methodology	Lecture			
Bibliography	Greek: Φυσική – 1 st Edition, 2012 – Ίδρυμα Ευγενίδου English: Applied Mechanics for Marine Engineers 7 th Edition – Paul A. Russell – Reeds			

Assessment	Written exam
Language	Greek and English

Course title	Industrial Chemistry				
Course code	Addendum 5				
Course type	Compulsory				
Year / Semester	1 st Year / Semester 1				
ECTS	2	Lectures / week	10	Laboratories / week	
Course purpose and objectives	<ul style="list-style-type: none"> Industrial chemistry which is deemed necessary to obtain the depth of knowledge required under various competence of Section A-III/1 and section A-III/2 of the STCW Code 				
Learning outcomes	<ul style="list-style-type: none"> Demonstrate a knowledge and understanding of: <ul style="list-style-type: none"> Chemical fundamentals Acidity/alkalinity Corrosion Water testing and treatment Fuels and lubricants 				
Prerequisites	None	Required	None		
Course content	<ul style="list-style-type: none"> Industrial chemistry: <ul style="list-style-type: none"> Chemical fundamentals Acidity/alkalinity Corrosion Water testing and treatment Introduction to fuels and lubricants 				
Teaching methodology	Lecture				
Bibliography	<p>Greek:</p> <p>Χημεία – 1st Edition, 1996 – Ίδρυμα Ευγενίδου</p> <p>Ναυπηγία – 2nd Edition, 1991 – Ίδρυμα Ευγενίδου</p> <p>Ναυτικοί Ατμολέβητες – 1st Edition, 2002 – Ίδρυμα Ευγενίδου</p> <p>Καύσιμα Λιπαντικά – 3rd Edition, 1995 – Ίδρυμα Ευγενίδου</p> <p>English:</p>				

	Chemistry 3 rd Edition – Rob Lewis, Wynne Evans – Palgrave Macmillan
Assessment	Written exam
Language	Greek and English

Course title	Computer Applications			
Course code	Addendum 6			
Course type	Compulsory			
Year / Semester	1 st Year / Semester 1			
ECTS	0.5	Lectures / week	10	Laboratories / week
Course purpose and objectives	<ul style="list-style-type: none"> • Computer skills which are deemed necessary to setup, use, troubleshoot and maintain computers on board 			
Learning outcomes	<ul style="list-style-type: none"> • Understanding of the basic functions, applications, peripherals, security software and maintenance of hardware of computers on board a ship 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Computer terminology • Hardware maintenance and troubleshooting • Networking • Peripherals • Windows basics • Office suite basics • External storage media • Keeping backup files • Protection against malware • File compression • Imaging and document digitalization • E-mails • The internet • General discussion and conclusion 			
Teaching methodology	Lecture			
Bibliography	Greek: Πληροφορική – Ηλεκτρονικοί Υπολογιστές, Ευγενίδειο Ίδρυμα, Αθήνα 2007			

	English: CompTIA IT Fundamentals Study Guide – Sybex CompTIA A+ Complete Deluxe Study Guide – Sybex
Assessment	Written exam
Language	Greek and English

Course title	Risk Assessment			
Course code	E1			
Course type	Elective			
Year / Semester	2 nd Year / Semester 4 or 3 rd Year / Semester 5			
ECTS	-	Lectures / week	6	Laboratories / week
Course purpose and objectives	Gain a thorough understanding of risk assessment and the ability to utilize different risk assessment models.			
Learning outcomes	<ul style="list-style-type: none"> • Understanding the purpose of risk assessment process • Understanding risk assessment terminology • Choosing and using different risk assessment models 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Introduction to risk assessment • Key terms • Risk assessment models • Principles of risk assessment • Risk assessment practice • When to assess • Elements of risk assessment • Hazard identification • Determining the risk • Risk control action plan • Risk aversion • Human factors 			
Teaching methodology	Lecture			

Bibliography	Risk Assessment handbook
Assessment	Written exam
Language	Greek and English

Course title	Incident Investigation			
Course code	E2			
Course type	Elective			
Year / Semester	2 nd Year / Semester 4 or 3 rd Year / Semester 5			
ECTS	-	Lectures / week	6	Laboratories / week
Course purpose and objectives	Gain a thorough understanding of investigating major accidents and other high potential events, and identifying their causes.			
Learning outcomes	<ul style="list-style-type: none"> • Understanding how incidents happen • Ability to plan investigation processes • Ability to gather evidence • Understanding the impact of human factors • Ability to identify root causes 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Introduction to incident investigation • Incident investigation procedures • The role of the media • Initial procedures • Gathering statements and evidence • Identifying failures • Requirements of the ISM Code • Impact of human factors • Root cause analysis techniques 			
Teaching methodology	Lecture			
Bibliography	Incident investigation handbook			
Assessment	Written exam			

Language	Greek and English			
Course title	Recognizing Signs of Mental Health Issues			
Course code	E3			
Course type	Elective			
Year / Semester	2 nd Year / Semester 4 or 3 rd Year / Semester 5			
ECTS	-	Lectures / week	8	Laboratories / week
Course purpose and objectives	Gain a thorough understanding of recognizing signs of mental health problems, facilitating discussions in staff meetings about mental health and having sensitive and supportive conversations with sufferers of mental health problems.			
Learning outcomes	<ul style="list-style-type: none"> • Ability to recognize when someone might be experiencing a decline in their mental health • Knowledge of how to start a conversation about mental health • Ability to recognize the difference between non-performance due to ability/skills and when mental illness plays a part • Understanding the concept of self-evaluation 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Identifying changes in behavior or mood • Identifying changes in effectiveness at work • Identifying inability to focus or make decisions • Identifying changes in eating habits • Starting a conversation about mental health • Classification of mental disorders • Description and signs of anxiety disorders • Description and signs of mood disorders • Description and signs of psychotic disorders • Description and signs of eating disorders 			
Teaching methodology	Lecture			
Bibliography	Guidelines to Shipping Companies on Mental Health Awareness (National Maritime Occupational Health and Safety Committee)			
Assessment	Written exam			

Language	Greek and English			
Course title	Cultural Awareness			
Course code	E4			
Course type	Elective			
Year / Semester	2 nd Year / Semester 4 or 3 rd Year / Semester 5			
ECTS	-	Lectures / week	6	Laboratories / week
Course purpose and objectives	To provide the necessary knowledge to enable seafarers to be more confident and competent in dealing with the multi-cultural environment on ships, and help them understand that cultural diversity or multicultural manning does not have to be a major risk that endangers shipping safety.			
Learning outcomes	<ul style="list-style-type: none"> • Understanding what is cultural awareness • Understanding how cultural awareness work • Understanding how cultural awareness can be evaluated • Understanding the factors affecting cultural awareness 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • The practice of multicultural and multilingual manning and the risks it engenders in the shipping industry • Culture, awareness and cross-cultural constructs • Culture in maritime work environment • Defining and modeling cultural awareness • Conceptual model of cultural awareness • limitations of cultural awareness • Challenges and recommendations for the enhancement of cultural awareness 			
Teaching methodology	Lecture			
Bibliography	Tackling the Challenges of Multicultural Crewing Practices in the Shipping Industry: An Approach to Enhancing Cultural Awareness Among Crew (World Maritime University)			
Assessment	Written exam			
Language	Greek and English			

Course title	Prevention of Sexual Harassment			
Course code	E5			
Course type	Elective			
Year / Semester	2 nd Year / Semester 4 or 3 rd Year / Semester 5			
ECTS	-	Lectures / week	6	Laboratories / week
Course purpose and objectives	To provide the necessary knowledge to enable seafarers to heighten awareness of behaviors, calling attention to what is and isn't appropriate in the workplace, as well as to identify the potential risks that individuals and organizations face when sexual harassment prevention fails or is ignored.			
Learning outcomes	<ul style="list-style-type: none"> • Understanding the actions that constitute harassment • Understanding victim's legal rights • Understanding the necessity to stand up for victimized co-workers • Understanding risks that individuals and organizations face when sexual harassment prevention fails or is ignored 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Demographics of global seafarers • Sexual harassment in a multi-cultural workplace • Legal approaches to sexual harassment • Risk factors for sexual harassment • The internationalization of maritime employment and the prohibition of sex discrimination • Laws and regulations, policies and programmes • Reporting and investigating complaints • Promoting a culture of gender equality on board 			
Teaching methodology	Lecture			
Bibliography	Sexual harassment and women seafarers: The role of laws and policies to ensure occupational safety & health (Laura Carballo Pineiro, Momoko Kitada - ScienceDirect)			
Assessment	Written exam			
Language	Greek and English			

Course title	Resilience			
Course code	E6			
Course type	Elective			
Year / Semester	2 nd Year / Semester 4 or 3 rd Year / Semester 5			
ECTS	-	Lectures / week	8	Laboratories / week
Course purpose and objectives	To provide the necessary knowledge to enable seafarers to contribute towards the improvement of crew's capacity to successfully deal with stressful personal or professional challenges or events and take effective decisions.			
Learning outcomes	<ul style="list-style-type: none"> • Understanding the response to trauma • Knowledge of anxiety-reduction techniques • Understanding the importance of engaging in constructive self-disclosure • Knowledge of methods for enhancing mental toughness 			
Prerequisites	None	Required	None	
Course content	<ul style="list-style-type: none"> • Change as a part of living • Keeping things in perspective • Taking decisive action • Taking care of your self • Dealing with crisis 			
Teaching methodology	Lecture			
Bibliography	Seafarer's Resilience Ability to Cope with Stress (Nurita Widiанти - European Journal of Human Resource Management Studies)			
Assessment	Written exam			
Language	Greek and English			

Course title	Cyber Security			
Course code	E7			
Course type	Elective			
Year / Semester	2 nd Year / Semester 4 or 3 rd Year / Semester 5			

ECTS	-	Lectures / week	8	Laboratories / week	
Course purpose and objectives	To provide the necessary knowledge of the principles and key practical aspects of effective maritime cyber security risk management.				
Learning outcomes	<ul style="list-style-type: none"> • Knowledge of the current and forthcoming regulatory requirements • Understanding sources of potential cyber security threats and vulnerabilities • Ability to conduct a cyber security risk assessment for the organization • Ability to identify risk mitigation strategies and control options 				
Prerequisites	None	Required	None		
Course content	<ul style="list-style-type: none"> • Cyber security and risk management • Identifying threats • Identifying vulnerabilities • Assessing the likelihood • Impact assessment • Risk assessment • Developing protection measures • Developing detection measures • Establishing contingency plans • Respond to and recover from cyber security incidents 				
Teaching methodology	Lecture				
Bibliography	The Guidelines on Cyber Security Onboard Ships (BIMCO, Chamber of Shipping of America, Digital Containership Association, International Association of Dry Cargo Shipowners (INTERCARGO), InterManager, International Association of Independent Tanker Owners (INTERTANKO), International Chamber of Shipping (ICS), International Union of Marine Insurance (IUMI), Oil Companies International Marine Forum (OCIMF), Superyacht Builders Association (Sybass) and World Shipping Council (WSC))				
Assessment	Written exam				
Language	Greek and English				