

COURSE PACKAGE

Part A: Course Specifications

Course Code	: SEAM 1			
Course Descriptive Title	: Basic Seamanship			
Prerequisite	: None		Corequisite	: None
Year Level	: First Year		Semester Offered	: First Semester
Course Credits	: 4 units	Theoretical Contact Hours Per Week	: 3 hours	Demonstration/Practical Work Contact Hours Per Week : 3 hours
Course Description	<p>Basic Seamanship is a fundamental course which enables a prospective marine deck officer to effectively use the IMO Standard Marine Communication Phrases and the English language in written and oral form and ability to transmit and receive information by visual signalling using international code flags.</p> <p>Some competencies from Table A-II/5 of STCW 1978, as amended are also covered in this course to ensure that the prospective marine deck officer is knowledgeable of the tasks being carried out by support level which may be supervised by him or her. It deals with safe operation of deck machineries, marlinspike seamanship and the safe performance of deck maintenance.</p> <p>Students are to be engaged in interactive discussion and practical demonstrations and activities.</p>			
STCW Reference	STCW Table	Function	Competence	Knowledge, Understanding and Proficiency
	A-II/1	F1. Navigation at the operational level	C7. Use the IMO Standard Marine Communication Phrases and the English language in written and oral form	English language KUP1. Ability to use and understand the IMO Standard Marine Communication Phrases (IMO SMCP)
			C8. Transmit and receive information by visual signalling	Visual signalling KUP1. Ability to use the International Code of Signals KUP2. Ability to transmit and receive by visual signalling of single-letter signals as also specified in the International Code of Signals
	A-II/5	F5. Controlling the	C1. Contribute to the safe	KUP1. Knowledge of deck equipment, including:

		<p>operation of the ships and care for persons on-board at the support level</p>	<p>operation of deck equipment and machinery</p>	<p>.1 function and uses of valves and pumps, hoists, cranes, booms and related equipment .2 function and uses of winches, windlasses, capstans and related equipment .3 hatches, watertight doors, ports and related equipment .4 fibre and wire ropes, cables and chains, including their construction, use, markings, maintenance and proper stowage .5 ability to use and understand basic signals for the operation of equipment, including winches, windlasses, cranes and hoists .6 ability to operate anchoring equipment under various conditions, such as anchoring, weighing anchor, securing for sea, and in emergencies</p> <p><i>KUP2.</i> Knowledge of the following procedures and ability to:</p> <p>.1 rig and unrig bosun’s chairs and staging .2 rig and unrig pilot ladders, hoists, rat-guards and gangways .3 use marlinspike seamanship skills, including the proper use of knots, splices and stoppers</p> <p><i>KUP3.</i> Use and handling of deck and cargo-handling gear and equipment:</p> <p>.1 access arrangements, hatches and hatch covers, ramps, side/bow/stern doors or elevators .2 pipeline systems – bilge and ballast suctions and wells .3 cranes, derricks, winches</p>
			<p>C2. Apply occupational health and safety precautions</p>	<p><i>KUP1.</i> Working knowledge of safe working practices and personal shipboard safety including:</p> <p>.1 working aloft .2 working over the side .3 working in enclosed spaces .4 permit to work systems .5 line handling .6 lifting techniques and methods of preventing back injury .7 electrical safety .8 mechanical safety .9 chemical and biohazard safety .10 personal safety equipment</p>
		<p>F6. Maintenance and repair at the support level</p>	<p>C3. Contribute to shipboard maintenance and repair</p>	<p><i>KUP1.</i> Ability to use painting, lubrication and cleaning materials and equipment</p> <p><i>KUP2.</i> Ability to understand and execute routine maintenance and</p>



				<p>repair procedures</p> <p><i>KUP3.</i> Knowledge of surface preparation techniques</p> <p><i>KUP4.</i> Understanding manufacturer's safety guidelines and shipboard instructions</p> <p><i>KUP5.</i> Knowledge of safe disposal of waste materials</p> <p><i>KUP6.</i> Knowledge of the application, maintenance and use of hand and power tools</p>
Course Outcomes	PO-D.8	CO1.	Transmit and receive information by flags signalling in accordance with the International Code of Signals	
	PO-B.3	CO2.	Use and interpret hand signals for the operation of crane, windlass and winches	
		CO3.	Describe the safe operation of mooring, anchoring and other deck equipment	
		CO4.	Perform marlinspike seamanship skills and riggings	
	PO-C.1	CO5.	Demonstrate the proper disposal of wastes generated from the deck maintenance	
Course Intake Limitations	:	The number of students that can be accommodated shall not exceed 40 for lecture and 20 for laboratory.		
Faculty Requirement	:	<p>Instructor The faculty that will be assigned to handle the course must possess the following qualifications:</p> <ul style="list-style-type: none"> graduate of Bachelor of Science in Marine Transportation; with at least 12 months of seagoing experience as Officer-in-charge of a Navigational Watch on seagoing ships of 500 GRT or more; completed Training Course for Instructors (IMO Model Course 6.09) completed Training Course on Assessment, Examination and Certification of Seafarers (IMO Model Course 3.12); and preferably with teaching experience. <p>The following may handle the laboratory activities of this course (covering marlinspike seamanship, riggings and deck works) provided that they completed Training Course for Instructors (IMO Model Course 6.09):</p> <ul style="list-style-type: none"> Boatswain/Bosun AB Deck <p>Assessor The assigned assessor to conduct the assessment for this course shall have the same qualification for the instructor as outlined above.</p>		
Teaching Facilities and	:	CLASSROOM		

<p>Equipment</p>	<p>The standard classroom size shall be a minimum of 48 square meters, no side shall be less than 6 meters for a class of 40 students. Classroom must be well-lighted and well-ventilated. It should contain the following:</p> <ul style="list-style-type: none"> • Tables and chairs or armed chairs • Whiteboards or chalkboards • Multimedia equipment <p>EQUIPMENT FOR DEMONSTRATION/PRACTICAL WORK</p> <table border="1" data-bbox="607 488 1906 1362"> <thead> <tr> <th data-bbox="607 488 1384 539">Item</th> <th data-bbox="1384 488 1906 539">Quantity Required</th> </tr> </thead> <tbody> <tr> <td data-bbox="607 539 1384 587">• Personal Protective Equipment</td> <td data-bbox="1384 539 1906 587"></td> </tr> <tr> <td data-bbox="607 587 1384 635">○ Overalls (Safety Suit)</td> <td data-bbox="1384 587 1906 635">1 pc for each student</td> </tr> <tr> <td data-bbox="607 635 1384 683">○ Safety helmet</td> <td data-bbox="1384 635 1906 683">25</td> </tr> <tr> <td data-bbox="607 683 1384 730">○ Face shield</td> <td data-bbox="1384 683 1906 730">25</td> </tr> <tr> <td data-bbox="607 730 1384 778">○ Earmuffs or ear plugs</td> <td data-bbox="1384 730 1906 778">1 pc for each student</td> </tr> <tr> <td data-bbox="607 778 1384 826">○ Goggles</td> <td data-bbox="1384 778 1906 826">25</td> </tr> <tr> <td data-bbox="607 826 1384 874">○ Dust masks or respirators</td> <td data-bbox="1384 826 1906 874">1 pc for each student</td> </tr> <tr> <td data-bbox="607 874 1384 922">○ Gloves</td> <td data-bbox="1384 874 1906 922">25</td> </tr> <tr> <td data-bbox="607 922 1384 970">○ Safety shoes</td> <td data-bbox="1384 922 1906 970">25</td> </tr> <tr> <td data-bbox="607 970 1384 1018">○ Safety belt or Safety Harness</td> <td data-bbox="1384 970 1906 1018">3</td> </tr> <tr> <td data-bbox="607 1018 1384 1066">• Ropes</td> <td data-bbox="1384 1018 1906 1066"></td> </tr> <tr> <td data-bbox="607 1066 1384 1114">○ Natural fibre (Manila) – at least 12 mm in diameter</td> <td data-bbox="1384 1066 1906 1114">1 coil (220 metres)</td> </tr> <tr> <td data-bbox="607 1114 1384 1161">○ Synthetic fibre (Nylon or Polypropylene) – at least 6 mm (3/4 in) in diameter, 3-strand</td> <td data-bbox="1384 1114 1906 1161">1 coil (220 metres)</td> </tr> <tr> <td data-bbox="607 1161 1384 1209">○ Steel wire rope – at least 8 mm in diameter</td> <td data-bbox="1384 1161 1906 1209">30 metres</td> </tr> <tr> <td data-bbox="607 1209 1384 1257">• Work benches</td> <td data-bbox="1384 1209 1906 1257">6</td> </tr> <tr> <td data-bbox="607 1257 1384 1305">○ Vises attached to the work benches</td> <td data-bbox="1384 1257 1906 1305">12</td> </tr> <tr> <td data-bbox="607 1305 1384 1353">• Marlinspike (6 – 10 inches)</td> <td data-bbox="1384 1305 1906 1353">10</td> </tr> <tr> <td data-bbox="607 1353 1384 1362">• Fid</td> <td data-bbox="1384 1353 1906 1362">10</td> </tr> </tbody> </table>	Item	Quantity Required	• Personal Protective Equipment		○ Overalls (Safety Suit)	1 pc for each student	○ Safety helmet	25	○ Face shield	25	○ Earmuffs or ear plugs	1 pc for each student	○ Goggles	25	○ Dust masks or respirators	1 pc for each student	○ Gloves	25	○ Safety shoes	25	○ Safety belt or Safety Harness	3	• Ropes		○ Natural fibre (Manila) – at least 12 mm in diameter	1 coil (220 metres)	○ Synthetic fibre (Nylon or Polypropylene) – at least 6 mm (3/4 in) in diameter, 3-strand	1 coil (220 metres)	○ Steel wire rope – at least 8 mm in diameter	30 metres	• Work benches	6	○ Vises attached to the work benches	12	• Marlinspike (6 – 10 inches)	10	• Fid	10
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• Calliper	1
• Bosun's chair	2
• Staging	2
• Pilot ladder	1
• Safety net	1
• Disc sander	2
• Chipping hammer	10
• Hand scrapper, angular	10
• Long handle scrapper	10
• Wire brush	10
• Paint	
○ Primer	1 Gallon
○ Finish	1 Gallon
○ Thinner	1 Gallon
• Long handle brush – 2-1/2" brush width	10
• Paint roller – 9" roller width	10
• Gun tackle	1
• Two-fold purchase (Wooden blocks)	1
• Three-fold purchase (Wooden blocks)	1
• Shackle (Various sizes)	6
• Turnbuckle	6
• Chain block	1
• Snatch block	1
• Mooring station (mock-up)	
○ Mooring bits	2

	<ul style="list-style-type: none"> ○ Bollard ○ Cleat • Hand tools <ul style="list-style-type: none"> ○ Wrenches ○ Pliers ○ Hammers ○ Screwdrivers • International Code and Signals (ICS) Flags (Flag and Pennants) • Mast or pole for hoisting flags • Copper wires • Fire hose coupling with hose at least 2 metres in length for demonstration of fire hose maintenance • Manual grease gun • Grease 	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>1 set</p> <p>2</p> <p>1 roll</p> <p>2</p> <p>1</p> <p>500 g</p>
	<p><i>Note: The MHEIs may use additional teaching facilities and equipment as deemed necessary to meet the learning outcomes of this course.</i></p>	
Teaching Aids	<p>A1 PowerPoint Presentation (PPT)</p> <p>A2 Handouts</p> <p>A3 Illustration of International Code of Signals Flags (ICS)</p> <p>A4 Illustrations of different types of knots and splices</p> <p>A5 Poster – Required Boarding Arrangements for Pilot</p> <p>A6 Manufacturer’s Guidelines and Shipboard Instructions</p> <p>A7 Poster or Video:</p> <ul style="list-style-type: none"> ○ Rigging of an accommodation ladder ○ Safe use of a needle scaler (Jet Chisel) ○ Mooring operation ○ Anchoring operation 	
	<p><i>Note: The MHEIs may use additional teaching aids as deemed necessary to meet the learning outcomes of this course.</i></p>	
References / Bibliographies	<p>References:</p> <p>R1 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended</p>	

- R2 Officer in Charge of a Navigational Watch (IMO Model Course 7.03)
- R3 IMO Standard Marine Communication Phrases (IMO SMCP)
- R4 International Code of Signals
- R5 Maritime and Coastguard Agency. (2015). *Code of Safe Working Practices for Merchant Seafarers* (2015 ed.). London, UK: The Stationery Office.
- R6 International Chamber of Shipping. (2012). *Shipping Industry Guidance on Pilot Transfer Arrangements*.
- R7 IMO Resolution A.1045(27) – Pilot transfer arrangements

Textbook:

- T1 House, D. J., (Master Mariner). (2004). *Seamanship Techniques* (3rd ed.). Oxford, UK: Butterworth-Heinemann.

Videos:

- V1 JeffHK (2017, July 8). *How to Anchor a Mega-Ship | Anchoring & Equipment Explained | Life at Sea*. Retrieved from <https://youtu.be/62O7KYfb4GA>
- V2 JeffHK (2018, February 14). *Docking a Mega-Ship | Mooring and Berthing Explained! | Life at Sea*. Retrieved from <https://youtu.be/6GvQN8zi8kk>
- V3 JeffHK (2016, October 26). *Chipping and Painting on Ships – How its [sic] Done | Life at Sea on a Container Ship*. Retrieved from <https://youtu.be/dtbLLBdfXY4>

Note: The MHEIs may use additional references/bibliographies as deemed necessary to meet the learning outcomes of this course.

Part B: Course Outline and Timetable

Term	Week	Topic	Time Allotment (in hours)	
			Theoretical	Demonstration/ Practical Work
<p><i>Note:</i> MHEIs shall determine the number of periods or terms the semester is divided based on their school calendar of activities such as Prelim, Midterm, and Final.</p>	1	1. Safe Working Practices and Personal Safety 1.1. Safe working practices 1.2. Personal protective equipment (PPE) 1.3. Permit to work system 1.4. Entering a confined space	3	3
	2 - 3	2. Flag Signalling 2.1. IMO Standard Marine Communication Phrases (IMO SMCP) 2.2. International Code of Signals 2.3. Single-letter, two-letter 2.4. Two-letter signals 2.5. Three-letter signals	6	6
	4 - 6	3. Marlinspike seamanship 3.1. Ropes and wires 3.2. Knots 3.3. Hitches 3.4. Bends 3.5. Short splice 3.6. Long splice 3.7. Back splice 3.8. Eye splice	9	9
	7 - 8	4. Riggings 4.1. Bosun's chair 4.2. Staging 4.3. Pilot ladder 4.4. Accommodation ladder	6	6
	9	5. Manufacturer's Guidelines and Shipboard Instructions 5.1. Manufacturer's guidelines 5.2. Shipboard instructions	3	3



Term	Week	Topic	Time Allotment (in hours)	
			Theoretical	Demonstration/ Practical Work
	10 - 12	6. Deck Equipment 6.1. Lifting gears 6.2. Cargo equipment 6.3. Mooring equipment 6.4. Anchoring equipment	9	9
	13	7. Hand and Power Tools 7.1. Hand tools 7.2. Power tools	3	3
	14 - 16	8. Surface Preparation Techniques and Painting 8.1. Corrosion 8.2. Surface Preparation Techniques 8.3. Painting	9	9
	17	9. Lubrication and Cleaning Materials 9.1. Lubrication Materials 9.2. Cleaning Materials 9.3. Proper Waste Disposal	3	3
Sub-total (Contact Hours)			51	51
Total Contact Hours			102	
Examination and Assessment				

Note:

1. The MHEIs are to develop their respective timetable according to their resources but meets with the minimum time allocation for the contact hours.
2. The MHEIs shall determine the time allotment for the conduct of summative assessments.



Part C: Course Syllabus

COs	Topics Learning Outcomes	References/ Bibliographies	Teaching Aids
CO3	1. Safe Working Practices and Personal Safety 1.1. Outline the requirements of the course 1.2. Identify safe and unsafe working practices onboard the ship 1.3. Correctly don personal protective equipment	R1, R2, R5, T1	A1, A2
CO1	2. Flag Signalling 2.1. Explain the importance of the IMO Standard Marine Communication Phrases and the International Code of Signals in the safe operation of the ship 2.2. Identify the spelling of letters and numbers as used in the International Code of Signals 2.3. Hoist and secure a single-letter flag signal 2.4. Hoist and secure single-letter flag signals with complements, two- and three-letter flag signals in the correct sequence 2.5. Determine the meaning of single-, two- and three-letter flag signals using the International Code of Signals	R3, R4, T1	A1, A2, A3
CO4	3. Marlinspike Seamanship Ropes and wires 3.1. Describe the safe use and properties of ropes and wires used on board the ship 3.2. Identify the lay, strand and construction of the rope and wire 3.3. Determine the breaking stress of the rope and wire 3.4. Measure the diameter of the rope and wire 3.5. Demonstrate the proper opening of a new coil of rope and wire and stowage Knots, Hitches and Bends 3.6. Perform common knots, hitches and bends used on board the ship Short splice, Long splice, Back splice and Eye splice 3.7. Perform proper splicing of a three-strand rope	R5, T1	A1, A2, A4
CO4	4. Riggings 4.1. Identify safe and unsafe practices while working aloft and over the side 4.2. Rig and unrig bosun's chair, staging and pilot ladder safely 4.3. Describe safe rigging and unrigging of the accommodation ladder	R5, R6, R7, T1	A1, A2, A5, A7
CO3	5. Manufacturer's Guidelines and Shipboard Instructions Manufacturer's guidelines 5.1. Explain the use of manufacturer's guidelines in ensuring the safety in shipboard operations	R5, T1	A1, A2, A6

COs	Topics Learning Outcomes	References/ Bibliographies	Teaching Aids
	<p>Shipboard instructions 5.2. Explain shipboard safety policies to ensure a safe working environment onboard the ship</p>		
CO2	<p>6. Deck Equipment Lifting gears and Cargo equipment 6.1. Describe the safe working practices when using ship's lifting gears, access arrangements and cargo equipment 6.2. Demonstrate the use of and interpretation of hand signals for crane operation</p> <p>Mooring equipment and Anchoring equipment 6.3. Describe the safe working practices during mooring and anchoring operation 6.4. Demonstrate the proper throwing of a heaving line for sending mooring ropes to shore 6.5. Demonstrate the safe use of a rope stopper for the securing of loose lines 6.6. Demonstrate the use of Standard Marine Communication Phrases for mooring and anchoring operations</p>	R3, R5, T1, V1, V2	A1, A2, A7
CO3	<p>7. Hand and Power Tools 7.1. Identify the different hand and power tools and their uses 7.2. Demonstrate the proper and safe use of hand and power tools for deck works 7.3. Bind a fire hose to a coupling using copper wire safely</p>	R5, T1	A1, A2, A7
CO3	<p>8. Surface Preparation Techniques and Painting Corrosion 8.1. Explain the causes of corrosion and the corresponding methods of its prevention</p> <p>Surface Preparation Techniques 8.2. De-rust and prepare steel surface for painting safely</p> <p>Painting 8.3. Apply a paint to a cleaned steel surface safely and according to the manufacturer's guidelines</p>	R5, T1, V3	A1, A2, A7
CO3 CO5	<p>9. Lubrication and Cleaning Materials Lubrication Materials 9.1. Explain the need for the conduct of lubrication maintenance to deck equipment 9.2. Use a manual grease gun in lubricating deck equipment</p> <p>Cleaning Materials and Proper Waste Disposal 9.3. Identify the requirements for the safe disposal of waste from deck maintenance activities</p>	R5, T1, V3	A1, A2, A6

Note: The MHEIs are to develop Part D: Detailed Teaching Syllabus and Instructional Materials (IMs), and Part E: Course Assessment and Assessment Tools (ATs) which satisfactorily meets with the requirements of the course as prescribed in the course outcomes and learning outcomes.