

Standard Course Syllabus  University of Cebu -Maritime Academy Alumnos, Mambaling, Cebu City	Document Code: SCS-BSMT-01-00		Revision No. 00
	Date Filed: 02/26/2010	Date Reviewed :04/21/2010	Page No. 01 of 06
	Prepared by : CAPT. ARNEL N. MALAGA OIC EMETERIO ABANGAN JR.		Date Effective: June 2010
	Approved by : YCG		
SECTION: STANDARD COURSE SYLLABUS			
SUBJECT: COURSE SYLLABUS: SEAM 5 (Ship handling and Maneuvering)			

COURSE SYLLABUS

Cross-reference No. : CMO NO. 13, S.2005 (D63-SEAM 5)
 SLP-BSMT-01-00 (SEAM 5 : Shiphandling and Maneuvering)
 SLG-BSMT-01-00 (SEAM 5 : Shiphandling and Maneuvering)
 SEA-BSMT-01-00 (SEAM 5 : Shiphandling and Maneuvering)

Course Name : SHIP HANDLING AND MANEUVERING

Instructional Hours :

Lecture (L)	:	46.5 hours
Practical (P)	:	17.5 hours
Tutorial (T)	:	-
Total	:	64.0 hours

Entry Requirements :

Cadets must have completed and passed the following subjects: Seam-1, Seam-2, Seam-4, DWK-1, and DWK-2.

Subject Aims :

This subject aims to have the cadets identify and relate to the basic knowledge and principles of maneuvering ships of various sizes, drafts and trim considering the effects of wind, current, squat and shallow water. Evaluate the Turning Circles diagram and distinguish the procedures for anchoring and mooring.

Teaching Methods :

Instructions shall take place through a combination of lectures, simulators and computer-based training.

**UNIVERSITY OF CEBU-MARITIME ACADEMY
CONTROLLED DOCUMENT**

Document Code: SCS-BSMT-01-00	Revision No. 00
Subject : Course Syllabus: Seam 5 (Shiphandling and Maneuvering)	Page No. : 02 of 06

Assessment Methods :

Class Standing	:	70 %
		Seatwork - 15%
		Assignment - 10%
		Quizzes - 35%
		Practical Assessment - 40%
End of Course Examination	:	30 %

- Candidates shall have to score a minimum of 75% in each assessment.
- Those candidates who fail to meet the above criteria shall be allowed one re-sit after which they will have to enroll for the entire course again.

Recommended Text, International Conventions, and Websites:

1. T1 - Kemp & Young, Seamanship Notes, (Latest) 5th Edition 1996
2. T2 - Graham Danton Theory and Practice of Seamanship (11th edition)1996
3. T3 – Mac Elverey, Ship Handling for Mariner, 2nd Edition
4. T4 – DJ House, Seamanship Techniques, Part 2 Shiphandling (3rd Edition) 2004
5. T5 – Jose Luis Dizon, Shiphandling and Maneuvering (revised Edition)
6. T6 – Nathaniel Bowditch, The American Practical Navigator, 2002 Bicentennial Edition
7. <http://www.ship-squat.com/How do I predict Ship Squat.htm>
8. <http://www.standard-club.com/docs/StandardSafety-Oct08.pdf>
9. <http://www.japanham.co.jp/en/service/pdf/scilling.pdf>

Table of Specifications:

Topics	Weightage %				Total
	K	U	A	I	
Shiphandling	3.125	3.125	6.25		12.5
Turning Circles and Stopping Distances	6.25	6.25			12.5
Maneuvers for the Rescue of Man Overboard	3.125	3.125	6.25		12.5
Squat, Shallow water, blockage factor and similar effects	6.25	6.25			12.5
Proper Procedures for Anchoring and Mooring	12.50	12.50	12.50	12.50	50.0
Total	31.25	31.25	25.0	12.50	100.0

K: Knowledge; U: Understanding; A: Application; I: Integration**

** Refer to "Performance Verbs for the Cognitive Domain, Gronlund, E. (1985) Measurement and Evaluation in Teaching, Macmillan, (5th Edition) New York.

Learning Objectives		L	P	T	Date Completed	Instructor's Signature
A. Shiphandling <i>(Refer to the Table of Specifications)</i>		6 hrs	2 hrs			
PRELIM						
1*	Use the principles of ship-handling and the forces and factors affecting it.					
1.1**	Explain the use of engines, rudders and thrusters. 1.1.1 Identify different types of rudder.	2.0				
1.2	Explain the basic motions of the ship, namely; lateral, longitudinal, and rotational.	0.5				
1.3	Explain the side force and the lateral movement caused by right or left-handed propeller.	0.5				
1.4	Determine and explain the controllable forces that affect ship handling.	0.5				
1.5	Determine and explain the uncontrollable forces that affect ship handling.	0.5				
1.6	Deduce how wind and current affects ship-handling.	0.5				
1.7	Explain the phenomenon known as "propeller cavitations'.	0.5				
1.8	Calculate propeller pitch and percentage slip.	0.5				
1.9	Explain the directional stability of a ship.	0.5				
1.10	Demonstrate the proper execution of orders to the helm and engine telegraph.	-	2			
B. Turning Circles and Stopping Distances <i>(Refer to the Table of Specifications)</i>		7 hrs	1 hr			
2*	Interpret the turning circles and stopping distances diagram and determine what affects them.					
2.1**	Explain how deadweight and displacement affect turning circle and stopping distance.	1.5				
2.2	Explain how draught affects turning circles and stopping distance.	1.5				
2.3	Explain the effect of trim on the turning circle and stopping distance.	1.0				
2.4	Demonstrate through simulation exercise, how speed affects the turning circle and stopping distance.	0.5	1			
2.5	Describe how they are also affected by the ship's under-keel clearance.	1.5				
2.6	Explain how the location of ship's pivot point affects her turning diameter.	1.0				
3.1**	Explain the purpose of using the Williamson Turn.					

Learning Objectives	L	P	T	Date Completed	Instructor's Signature
C. Maneuvers for the Rescue of Man Overboard (Refer to the Table of Specifications)	1.5 hrs	6.5 hrs			
MIDTERM					
3* Differentiate the various maneuvers for the rescue of Man Overboard and decide on which maneuver has the most advantages.					
3.1 Explain the purpose of the Williamson Turn	0.5				
3.2 ** Demonstrate procedures to carry-out Williamson Turn		2.5			
3.3 Explain the purpose of the Single Delayed Turn and demonstrate in a simulation exercise the procedures in carrying out this maneuver.	0.5	2.0			
3.4 Explain the purpose of Scharnow Turn and demonstrate in a simulation exercise, the procedures in carrying out this maneuver.	0.5	2.0			
D. Squat, Shallow Water, blockage factor and similar effects (Refer to the Table of Specifications)	8 hrs	-			
4* Understand the effect of squat, shallow water and similar effects.					
4.1** Define shallow water and explain how it may be detected and experienced on board.	1.5				
4.2 Explain the effect of squat and shallow water during maneuver and distinguish how these may be minimized. 4.2.1 Calculate sinkage and squat.	1.5				
4.3 Determine how to minimize the negative effects of shallow water.	0.5				
4.4 Identify the dangers of having a large squat.	0.5				
4.5 Define blockage factor.	0.5				
4.6 Calculate blockage factor.	1.0				
4.7 Explain the water pressure changes that occur around the ship's hull as the blockage factor increases.	1.5				
4.8 Explain the effects of an increased blockage factor to the ship's hull.	0.5				
4.9 Compare the relationship between blockage factor and squat.	0.5				

Document Code: SCS-BSMT-01-00	Revision No. 00
Subject : Course Syllabus: Seam 5 (Shiphandling and Maneuvering)	Page No. : 05 of 06

Learning Objectives		L	P	T	Date Completed	Instructor's Signature
E. Proper Procedures for Anchoring and Mooring (Refer to the Table of Specifications)		24 hrs	8 hrs			
SEMI-FINAL						
5*	Understand the standard safe procedures for Anchoring and Mooring					
5.1**	Summarize the standard safe procedures for dropping the anchor.	2				
5.2	Draw and show the parts of a stockless anchor, anchor windlass and mooring windlass.	2.0				
5.3	Summarize the safety precautions needed for letting go anchor.	1.0				
5.4	Calculate the scope of cable (radius of swing) available for the ship as the wind and stream changes direction.	3.0				
5.5	Outline the procedures for anchoring in deep water.	1.5				
5.6	Outline the procedures for weighing the anchor.	1.5				
5.7	Explain how to ascertain whether a ship at anchor is dragging her anchor or not.	2.0				
5.8	Draw a sketch showing the mooring arrangement of a ship.	1.0				
5.9	Plan and illustrate the procedures in securing a vessel to a buoy using an anchor chain and slip wire.	2.0				
FINAL						
5.10	Explain the effects of a right-handed screw and left-handed screw with reference to the forward and astern motion of the ship, through demonstration in simulation exercises.	1.5	1.5			
5.11	Explain how a bow thruster shall be used to assist in maneuvering a ship particularly when going alongside and rounding bends at slow speed, through demonstration in simulation exercises.	0.5	2.5			

Learning Objectives		L	P	T	Date Completed	Instructor's Signature
5.12	Explain the effects on a ship when maneuvering in narrow canals, rivers and restricted channels and how to maintain maneuverability.	3.0				
5.13	Explain how the rudder works in turning the ship towards the desired direction.	0.5	1.5			
5.14	Apply the techniques in handling the ship during heavy weather.	0.5	2.5			
5.15	State the purpose of lock and precautions to take when entering the lock.	2.0				
	Total Number of hours	46.5 hrs	17.5 hrs			

Checked and Verified by:

Date:

UC-DNV-SEASKILL ACADEMIC COORDINATOR

Noted by:

DEAN/ACADEMIC HEAD

Legend:

CMO NO. 13, S.2005
SCS
SLP
SEA
SLG

(CHED MEMORANDUM ORDER NO. 13, SERIES 2005)
(STANDARD COURSE SYLLABUS)
(STANDARD LESSON PLAN)
(STANDARD EXAMINATION AND ASSESSMENT)
(STANDARD LEARNING GUIDE)

UC/SCS-BSMT-01-00/SEAM 5/