

Meteorology

Basic Course Specification		
Course Title	Course Code	Program on which the course is given
Meteorology	BS 281	Bachelor
Academic Year	Specialization (units of study)	Pre-Requisites
2020-2021	Theoretical (1hrs /week) Application (3hrs/week) Credit 2 Cr	None

Overall Course Objectives

On completion of this course, students should be competent to understand the earth's atmosphere and its composition, describe the types of air masses and understand the weather associated, classify types of clouds, define Tropical Revolving Storm (T.R.S.) and understand their development, use various meteorological instruments, read the weather chart and be familiar with its symbols, calculate the relative humidity and the dew point temperature, predict the wind direction and wind speed as per the requirement of the STCW 78 convention as amended and its Code - Table A-II/1 and in the light of the IMO model course 7.03 item 1.1.7, Meteorology in Officer in charge of a Navigational watch, Cover the basic principles to be observed in keeping a Navigational watch.

Course Learning Outcomes. By successful completion of the course each student will be able to:

Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. Understand the earth's atmosphere and its composition.	a	√			
2. Assess the concepts, principles, procedures, theories and their interrelationships for interpreting weather forecasting and related meteorological data.	a				√
3. Demonstrate understanding of atmospheric pressure.	a	√		√	
4. Classify types of clouds.	a	√		√	
5. Describe the types of air masses and understand the weather associated.	a			√	√
6. Explain Tropical Revolving Storm (T.R.S.) and its development.	a			√	√

Course Content

Lec./ Week #	Topic	Hrs. #	Theoretical	Application
1	<ul style="list-style-type: none"> • Introduction & Composition and layers of atmosphere. • Weather elements. 	4	1	3
2	<ul style="list-style-type: none"> • Heat and air temperature – DALR – SALR – ELR. 	4	1	3

Course Content					
Lec./ Week #	Topic	Hrs. #	Theoretical	Application	
3	• Atmospheric pressure.	4	1	3	
4	• Water Vapor Cycle in Atmosphere.	4	1	3	
5	• Clouds – Precipitation.	4	1	3	
6	• Stability and instability in the atmosphere.	4	1	3	
7	7th Week Exam	4	1	3	
8	• Meteors - Thunderstorms – Visibility.	4	1	3	
9	• Surface Wind. • General Circulation of Pressure and Wind over Earth surface. • Local Wind.	4	1	3	
10	• Air mass and Fronts.	4	1	3	
11	• Pressure distributions and associated Weather.	4	1	3	
12	12th Week Exam	4	1	3	
13	• Synoptic Charts - Weather Services for Shipping.	4	1	3	
14	• Recording & Reporting Weather Observations.	4	1	3	
15	• Weather Forecasting.	4	1	3	
16	Final Assessment				
		Total Hours	60	15	45
Teaching & Learning Methods		Facilities Required for Teaching & Learning Methods			
<ul style="list-style-type: none"> Explaining and demonstrating the lesson contents – Delivery of experience - discussing and asking questions to interact with students – solving examples. 		<ul style="list-style-type: none"> Whiteboard& Data Show 			
Students Assessment Methods					
Assessment Schedule					
Assessment#1		Week 7			
Assessment#2		Week 12			
Assessment#3		Week 16			
Grading Method					
7th Week Assessment	Written exam		30%		
12 th week Assessment	Written exam		20%		
Class Activities	Participation - Quiz		10%		
Final Exam	Written exam		40%		
Total			100 %		
Assessment criteria shall meet the standards of the STCW 78 convention "as amended"; and in the light of the related IMO model courses.					

Course Content				
Lec./ Week #	Topic	Hrs. #	Theoretical	Application
Staff Requirements				
Master FG/ Ph.D.				
List of References				
Course Notes		Essential Books		
None		REEDS MARITIME METEOROLOGY ISBN 9781408112069		
Recommended Books		Periodicals and Publications		
<ul style="list-style-type: none"> • David Burch. Modern Marine Weather, Second Edition, 2013, • 2- Chris Tibbs. Onboard Weather Handbook, Understanding and Predicting Conditions at Sea. 		World Meteorological Organization web site.		
Others (websites, e-books...etc)				
International Convention for the Safety of Life at Sea 1974, as amended (SOLAS) 2020 edition.				
None				

Accreditation Bodies
*Egyptian Authority for Maritime Safety (EAMS) *European Commission (EC) *ISO (9001 – 2015) DNV-GL* *Central Evaluation and Accreditation Agency Hanover, Germany (ZEVA) *Ministry of Education (KSA) Ministry of Higher Education (Greece)* *Ministry of Higher Education (Oman) *Commission for Academic Accreditation (CAA), Ministry of higher Education (UAE) *University of Plymouth, United Kingdom (dual degree)

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