

SUBJECT TEACHING GUIDE

G1065 - Nautical Meteorology and Oceanography

Degree in Nautical Engineering and Maritime Transport

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Nautical Engineering and Maritime Transport			Type and Year	Compulsory. Year 4
Faculty	School of Maritime Engineering				
Discipline	Subject Area: Nautical Meteorology and Oceanography				
Course unit title and code	G1065 - Nautical Meteorology and Oceanography				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DE LA NAVEGACION Y DE LA CONSTRUCCION NAVAL				
Name of lecturer	FRANCISCO JOSE SANCHEZ DIAZ DE LA CAMPA				
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Other lecturers					

3.1 LEARNING OUTCOMES
- Plan a voyage and determine the situation in accordance with Rule All / I of the STCW Convention
- Voyage planning and carry out a safe navigational watch
- Keep safety navigation
- Weather and sea state forecast

4. OBJECTIVES

Ability to understand a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax

Knowledge of the characteristics of various weather systems, including tropical revolving storms. Avoidance of storm centres and the dangerous quadrants

6. SUBJECT PROGRAM

CONTENTS

1	Pressure and wind at the synoptic-scale
2	Wind speed from mean sea level pressure maps.
3	Vertical structure of the atmosphere - Hydrostatic balance
4	500 hPa charts
5	General Circulation of the Atmosphere and mid-latitudes fronts
6	Frontal depressions
7	Atmospheric stability
8	Wind waves and swell
9	Marine fax products, their descriptions, and how to use them.
10	Passage planning and weather routeing
11	Tropical revolving storms
12	Maritime Safety Information

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Tasks in the GMDSS simulator related to Maritime Safety information	Others	No	No	20,00
Assessment test of parts I to V of the subject	Activity evaluation with Virtual Media	No	Yes	40,00
Assessment test of parts V to XI of the subject	Activity evaluation with Virtual Media	No	Yes	40,00
TOTAL				100,00
Observations				
It is mandatory to have a minimum score of 4 in all the parts to pass.				
Observations for part-time students				
Same assessment conditions as the rest of the students.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Eric J. Holweg. Mariner's Guide For Hurricane Awareness In The North Atlantic Basin. S.I. National. Oceanic and Atmospheric Administration. 2000. <https://www.nhc.noaa.gov/marinersguide.pdf>

Libros de fundamentos:

Jansa Guardiola, José María. Tratado de meteorología teórica. MAR 551.5 41 y MAR 551.5 41a.

Naya Cristobal, Antonio Meteorología Superior. MAR 551.5 39

Organización Meteorológica Mundial. Compendio de meteorología para uso del personal meteorológico de Clase I y Clase II. MAR 551.5 45 (V volúmenes)

Libros más descriptivos pero muy completos:

Roger Graham, Barry. Atmósfera, tiempo y clima. MAR 551.5 3B y CAM 551.5 2

William L.Donn. Meteorología. MAR 551.5 17 CIE 551.5 55

Dirección general de la Marina Mercante. Curso de Meteorología y Oceanografía. MAR 551.5 16

Meteorological Office. The Mariner's Handbook. MAR 627.7 33

Libro sencillo:

Martín Vide, Javier. Mapas del tiempo, fundamentos, interpretación e imágenes de satélite. MAR 551.5 22.

Naval Research Laboratory Monterey Ca. Naval Research Laboratory. [En línea] 1982, última actualización 2016. https://www.nrlmry.navy.mil/port_studies/tr8203nc/0start.htm