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| Course Title | **Marine Meteorology** |
| Course Code | MANS-212 |
| Course Type | Required |
| Level | 1st Cycle |
| Year / Semester | 2nd Year, Fall Semester |
| Teacher’s Name |  |
| ECTS | 6 | Theory | Laboratory | Simulation | Tutorial |
| 4 | --- | --- | ----- |
| Course Purpose and Objectives | The main objectives of the course are to:* present the meteorological instruments on board
* introduce the characteristics of the various weather systems
* analyze the weather reporting procedures
* explain the symbols used in the synoptic chart and in the pilot charts
* elaborate on the area weather prognosis given the prevailing weather conditions and other relevant information
* display the characteristics of the revolving tropical storms and the best practices to avoid the dangerous semicircle
* represent the structure of the depressions
* exhibit the operation and the targets of the World Meteorological Organization
* describe the meteorological codes
* illustrate the weather prognosis procedures
* demonstrate the ocean currents systems basics
* exhibit the ice basics
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| Learning Outcomes | After completion of the course students are expected to be able to: * name and utilize the meteorological instruments on board and evaluate their readings
* identify the major weather systems
* fill a weather report following the proper procedure
* receive analytic and forecasting charts, weather bulletins, NAVTEX weather reports, satellite photos
* read in detail a synoptic and a pilot chart
* make a local weather prognosis given the prevailing weather conditions and other relevant information
* recognize the characteristics of revolving tropical storms and employ the best practices to avoid the dangerous semicircle
* realize the importance of the services WMO is offering
* code and decode meteorological data
* apply weather prognosis practices to ensure a safe passage
* comprehend the basics on the ocean currents systems
* appreciate the development and distribution of sea ice
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| Prerequisites | None | Required | None |
| Course Content | * Atmosphere, its elements and its natural properties
* Atmospheric pressure
* Winds and waves
* Clouds and precipitation
* Visibility
* General circulation of atmosphere
* Regional wind systems
* Air masses and fronts
* Barometric Lows and Highs
* Tropical revolving storms
* Meteorological support for mariners
* Meteorological observations on board
* Weather forecasting
* Ocean currents
* Ice
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| Teaching Methodology | Lectures, in-class assignments, sound and video equipment, computer, projector, internet |
| Bibliography | **Required Textbooks/Reading:**

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| --- | --- | --- | --- | --- |
| **Authors** | **Title** | **Publisher** | **Year** | **ISBN** |
| Meteorological office | Meteorology for Mariners | London HMSO | 1996 | 0-114-00367X |

**Recommended Textbooks/Reading:**

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| **Authors** | **Title** | **Publisher** | **Year** | **ISBN** |
| Cornish, M., Ives. E.  | Reeds Maritime Meteorology | Adlard Coles | 2010 | 978-1408112069 |
| Meteorological office | Marine Observer’s Handbook | London HMSO | 1995 | 0-11-400297-5 |

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| Assessment | Homework, in-class assignments, projects, exams, final exam. |
| Language | English  |