

General Information	
Academic subject	Navigaton and meteorology
Degree course	Science and Management of Maritime Activities
Curriculum	
ECTS credits	12
Compulsory attendance	No (recommended)
Language	Italian

Subject teacher	Name Surname	Mail address
	Paolo Guarino	<a href="mailto:paolo.guarino@uniba.it">paolo.guarino@uniba.it</a> <a href="mailto:paolo.guarino@marina.difesa.it">paolo.guarino@marina.difesa.it</a>

ECTS credits details	Area	SSD	ETCS
Basic teaching activities		ICAR/06	12

Class schedule	
Period	I semester
Year	III
Type of class	Mainly carried out in the morning time and includes lessons, repetitions, exercises and intermediate tests/ verifications.

Time management	
Hours	300 (12x25)
In-class study hours	96 (8x12)
Out-of-class study hours	204

Academic calendar	
Class begins	09.11.2020
Class ends	27.02.2020

Syllabus	
Prerequisites/requirements	knowledge of the Italian language and naval terminology
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	<p><i>Knowledge and understanding</i> The acquisition of the elements necessary for the knowledge and understanding of the fundamentals of navigation and meteorology indicated in the program.</p> <p><i>Applying knowledge and understanding</i> The acquisition of the methodology necessary for application of knowledge and understanding of aspects related to conduct of navigation and ability to predict the trend of weather-marine conditions.</p> <p><i>Making informed judgements and choices</i> The acquisition and development of discriminating study skills of the aspects indicated in the program in order to acquire greater autonomy of judgment.</p> <p><i>Communicating knowledge and understanding</i> The acquisition of the ability and terminology necessary to argue the aspects covered and analyzed, so as to know how to describe them well in moments of sharing, comparison and discussion.</p> <p><i>Capacities to continue learning</i> The acquisition of the methodology necessary for learning, mastery of the discipline, critical study of the main fundamentals of navigation and meteorology.</p>

Contents	<p>the course aims to acquire the following concepts and notions:  nautical chart elements;</p> <ul style="list-style-type: none"> <li>- dead reckoning and coastal navigation;</li> <li>- notions of meteorology;</li> </ul> <p>and the following capabilities:</p> <ul style="list-style-type: none"> <li>- use of the main nautical instruments for navigational check;</li> <li>- know-how for the correct use of navigational publications, books, reports and nautical charts;</li> <li>- recognition and analysis of weather phenomena and interpretation of weather maps.</li> </ul>
Course program	
Bibliography	<p>“Manuale dell’Ufficiale di rotta” published by Italian Hydrographic Institute (I.I. 3100).  “Elementi di navigazione” published by Zanichelli  Convention on the International Regulations for Preventing Collisions at Sea, 1972, as amended (COLREG 72)</p>
Notes	Other reference texts recommended by the teacher
Teaching methods	<p>The course is developed through lectures related to the aspects of the discipline relevant and indispensable for the achievement of the specific educational objectives of the course and global of the course of study. In addition, there are several exercise periods to ensure the correct use and the indispensable manual skills of the nautical material. During the lessons various tools are used for the improvement of teaching such as, for example, PowerPoint presentations projected in the classroom, bibliographic indications and anything else considered useful for improving the effectiveness of teaching.</p>
Assessment methods (indicate at least the type written, oral, other)	In order to verify the learning, tests may be carried out. The final exam consists of an oral interview concerning the topics covered by the program.
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.	<ul style="list-style-type: none"> <li>• Knowledge and understanding skills  The evaluation criteria used aim to verify the actual acquisition by the student of the methodology necessary for the knowledge and understanding of the fundamentals of navigation and meteorology indicated in the program.</li> <li>• Applied knowledge and understanding  The evaluation criteria used aim to verify the actual acquisition, by the student, of the methodology necessary for the application of knowledge and understanding of all those aspects related to the conduct of a navigation and the ability to predict the trend of weather-marine conditions.</li> <li>• Autonomy of judgment  The evaluation criteria used aim to verify the actual acquisition and development, by the student, of the ability to critically study the aspects indicated in the program in order to acquire a greater autonomy of judgment.</li> <li>• Communication skills  The evaluation criteria used aim to verify the actual acquisition, by the student, of the ability to argue the aspects covered and analyzed, so as to know how to describe them well in moments of sharing, comparison and discussion.</li> <li>• Ability to learn  The evaluation criteria used aim to verify the actual acquisition, by the student, of the methodology necessary for</li> </ul>

	learning, mastery of the discipline, critical study of the main fundamentals of navigation and meteorology.
Further information	<p style="text-align: center;"><b>Contents of the program.</b></p> <p><u>Nautical elements.</u>  Geoid, ellipsoid, sphere and geographical coordinates of the Earth. Nautical units of measurement. Points of the compass and compass rose. ship's heading and course, bearing, rhumb line sailing and great circle sailing. Nautical charts. Rule of the road "Convention on the international regulations for preventing collisions at sea" (COLREG) first and second part. Navigational publications, books and reports (Sailing Directions or Pilots, List of Light's, Charts catalogue, List of Radio Signals). Type of navigation: dead reckoning and coastal navigation. Absolute and relative wind. Electronic Charts Display Information System (ECDIS). Global Navigation Satellite System (GNSS). Radio Detection and Ranging (RADAR). Buoys, beacons and lights. International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). Notices to Mariners.</p> <p><u>Elements of meteorology.</u>  Atmosphere (physical characteristics and vertical structure of the atmosphere).  Temperature, pressure and humidity. Condensation and precipitation, general circulation of the atmosphere, wind, fronts, state of the sea.  Description of the most common representations in the meteorological field, main weather forecast and their reception on board.</p>