|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Course Title | **Applied Navigation** | | | | | | |
| Course Code | MANS-211 | | | | | | |
| Course Type | Required | | | | | | |
| Level | 1st Cycle | | | | | | |
| Year / Semester | 2nd Year, Fall Semester | | | | | | |
| Teacher’s Name |  | | | | | | |
| ECTS | 8 | Theory | | Laboratory | Simulation | | Tutorial |
| 4 | | 2 | --- | | ------ |
| Course Purpose and Objectives | The main objectives of the course are to:   * explain the role of time in celestial navigation * introduce the altitudes corrections * describe the use of the rising and setting of heavenly bodies in navigation * define the twilight and its use to navigation * give details about the latitude at noon and latitude by Polaris observations * exhibit the utilization of two or more position lines in position fixing * display the procedure of the recognition of heavenly bodies * elaborate on issues of oceanographic phenomena * analyze the navigation of life boats procedures * clarify the reception procedures of the notices to mariners | | | | | | |
| Learning Outcomes | After completion of the course students are expected to be able to:   * consider time in their position fixing process * correct properly the sextant altitudes * observe the true rising and setting of heavenly bodies as a means of establishing the compass error * calculate the local times of morning and evening twilight * extract the latitude out of a body’s meridian passage or out of a Polaris observation * fix their position utilizing two or more position lines * define the sea’s level using data provided by the tide tables * safely navigate a life boat after abandoning the vessel * receive and immediately install the corrections provided by the notices to mariners | | | | | | |
| Prerequisites | MANS-114 | | Required | | | None | |
| Course Content | * Time types, equation of time, solar and sidereal time * Altitude corrections * Rising and setting of heavenly bodies, twilights and relevant applications * Compass error at true rise or set * Compass error using time * Latitude at sun’s meridian passage * Polaris observations * Evaluating a celestial position line * Development of two or more celestial position lines * Identification of heavenly bodies * Tides, oceanographic phenomena * Notices to mariners management | | | | | | |
| Teaching Methodology | Lectures, in-class assignments, sound and video equipment, computer, projector, relevant software, Bridge simulator | | | | | | |
| Bibliography | **Required Textbooks/Reading:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Authors** | **Title** | **Publisher** | **Year** | **ISBN** | | Bowditch, N. | The American Practical Navigator | Paradise Cay Publications | 2004 | 0939837544 |   **Recommended Textbooks/Reading:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Authors** | **Title** | **Publisher** | **Year** | **ISBN** | | Sybramaniam, H. | Practical Navigation | Vijaya Publications | 1978 |  | | Cutler, T.,J. | Dutton’s nautical navigation | US Naval Institute | 2003 | 9781557502483 | | | | | | | |
| Assessment | Homework, in-class assignments, projects, exams, final exam. | | | | | | |
| Language | English | | | | | | |