|  |  |
| --- | --- |
| Course Title | **Navigation Fundamentals** |
| Course Code | MANS-111 |
| Course Type | Required |
| Level | 1st Cycle |
| Year / Semester | 1st Year, Fall Semester |
| Teacher’s Name |  |
| ECTS | 5 | Theory | Laboratory | Simulation | Tutorial |
| 3 | 1 | --- | ---- |
| Course Purpose and Objectives | The main objectives of the course are to:* exhibit the planning of a safe passage considering all the related parameters
* demonstrate safe practices that ensure a proper and accurate course keeping
* display the ways the ship’s position is defined
* describe the magnetic compass’s working principles and its errors
* present the basic modern navigational instruments
 |
| Learning Outcomes | After completion of the course students are expected to be able to: * execute the passage plan under all prevailing conditions
* navigate in narrow waters and in areas covered by VTS schemes
* plot the ship’s fixed position with all the available means on board
* employ surface observations to fix the ship’s position
* compute the magnetic compass’s error
* extract navigational data from the bridge’s electronic means of navigation
 |
| Prerequisites | None | Required | None |
| Course Content | * Earth and coordinate systems
* Direction, speed, distance and depth calculations
* Visual and acoustic aids to navigation
* Electronic navigational equipment
* Nautical publications
* Chart projections
* Navigation following the passage plan
* Position lines of different types
* Fixing the ship’s position
* Entering, navigating through and exiting a VTS scheme
* Zone time, nautical chronometers
* Magnetic compasses description
* Magnetic compass’s error
 |
| Teaching Methodology | Lectures, in-class assignments, sound and video equipment, computer, projector, simulation or other equivalent exercise environment |
| Bibliography | **Required Textbooks/Reading:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Authors** | **Title** | **Publisher** | **Year** | **ISBN** |
| Nautical Institute | Admiralty Manual of Navigation | Nautical Institute | 2011 | 9781870077651 |

**Recommended Textbooks/Reading:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Authors** | **Title** | **Publisher** | **Year** | **ISBN** |
| Wootenunder Edge | An introduction to coastal navigation | Morgan’s technical books | 1985 | 0-948254-02-5 |
| Frost, A. | The Principles and Practice of Navigation | Glasgow, Brown, Son & Ferguson | 1988 | 0-85174-444-3 |

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