"MIRCEA CEL BATRAN" NAVAL ACADEMY FACULTY OF NAVIGATION AND NAVAL MANAGEMENT DEPARTMENT OF NAVIGATION AND NAVAL TRANSPORT

INTEGRATED NAVIGATION SYSTEMS

Practical activities for Integrated Navigation Systems are carried out in this laboratory.

General objective

- \checkmark -recognizing the
 - constructive type of the navigation integrated system, according to specific criteria.
- ✓ -familiarization with and analysis of the components and functioning of the integrated navigation system



Specific objectives

- ✓ Determination of magnetic compasses and gyro compasses errors using astronomic and terrestrial equipment, and the introduction of correction for these errors
- ✓ Correlation of the data and of the indications for navigation systems and
 - equipment with the direct observations, so as to assure safe navigation conditions of ship and crew.
- ✓ Knowing the steering systems, the operating procedures, the changing from automatic steering to hand steering, and vice versa.



Operating the electrical navigation equipment and apparatuses



- A pendular gyroscopic compass IMRAD GC 80
- ✤ A Lilley&Gillie MK 200 Magnetic compass
- Equipment for SVDR data registering
- SIMRAD AP 50 automatic pilot

List of activities carried out in the laboratory

- 1. The apparent motion of the main shaft when the gyroscope is left free
- 2. Description and identification of components in blocks
- 3. Usage of compasses, verifications and controls
- **4. Determination of data gathered by SVDR** (*Simplified Voyage Data Record*) *such as: ship's cinematic position and parameters, depth, verbal commands, usually given from the bridge, etc.*
- **5. Interconnection of navigational equipmen t with GPS, compass, loch, sounder, navigational radar, and the** *AIS (Automatic Identification System).*