

## SUBJECT TEACHING GUIDE

G1059 - Navigation V

Degree in Nautical Engineering and Maritime Transport

Academic year 2021-2022

1. IDENTIFYING DATA					
Degree	Degree in Nautical Engineering and Maritime Transport			Type and Year	Compulsory. Year 3
Faculty	School of Maritime Engineering				
Discipline	Subject Area: Navigation				
Course unit title and code	G1059 - Navigation V				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web	<a href="https://web.unican.es/centros/nautica/estudios-de-grado/grado-en-ingenieria-nautica-y-transporte-mar">https://web.unican.es/centros/nautica/estudios-de-grado/grado-en-ingenieria-nautica-y-transporte-mar</a>				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DE LA NAVEGACION Y DE LA CONSTRUCCION NAVAL
Name of lecturer	EMMA DIAZ RUIZ DE NAVAMUEL
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Other lecturers	MARIA ANTONIA GONZALEZ VILLA

### 3.1 LEARNING OUTCOMES

- Plan and conduct a passage and determine position, in accordance with rule A-II/1 of the STCW Manila 78/2010 as amended.
- Maintain a safe navigational watch in accordance with rules A-II/1 and A-II/2 of the STCW Manila 78/2010 as amended.
- Use of radar, ARPA and ECDIS to maintain safety of navigation according to rule A-II/1 of STCW Manila 78/2010 as amended.
- Determine and compensate for compass errors in accordance with rules A-II/1 and A-II/2 of STCW Manila 78/2010 as amended.
- Establish watchkeeping arrangements and procedures, Maintain safe navigation through the use of information from navigation equipment and ECDIS to assist command decision making in accordance with the rule A-II/1 of the STCW Manila 78/2010 as amended.
- Determine position and the accuracy of resultant position fix by any means in accordance with the rule A -II/2 of the STCW Manila 78/2010 as amended.
- Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making in accordance with rules A-II/1 and A-II/2 of STCW Manila 78/2010 as amended.
- Respond to navigational emergencies in accordance with rule A-II/2 of STCW Manila 78/2010 as amended.
- The students who have chosen the itinerary I (Bridge Officer), must perform simultaneously and with a compulsory character an internship period in the School Ship, according to the Regulation of external academic practices of the ETSN of the UC, Section II.

### 4. OBJECTIVES

- Terrestrial and coastal navigation. Ability to determine the ship's position by use of all navigation aids
- Thorough knowledge of and ability to use nautical charts, and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information
- Ability to determine the ship's position by use of electronic navigational aids Using ARPA and ECDIS for safe navigation.
- Knowledge of the principles magnético. Capacidad compass to determine magnetic compass error using astronomical and terrestrial environments, and to compensate for such errors
- Ability to perform a safe guard in any meteorological condition by applying the international code to prevent collisions at sea from 1972 amended.
- Ability to Ability to operate the bridge equipment and apply the information correctly
- Ability to plan a trip and perform navigation in all conditions.
- Management capacity of operational procedures, system files and data.
- Government in case of emergency.
- Systems of control of the government apparatus: knowledge of the control systems of the government apparatus, operational procedures and manual to automatic and vice versa. Adjustment of the controls to achieve the best performance

## 6. COURSE ORGANIZATION

CONTENTS	
1	Magnetism Behavior magnética.- needle traps magnética.- The magnetic needle bordo.- Forward Compensation Compensation I. magnetic needle magnetic needle II field
2	Route planning using modern electronic navigational aids. Trip planning and navigation, given all the circumstances, following generally accepted tracing offshore defeats methods that take into account the restricted waters , conditions weather, ice, reduced visibility, traffic separation schemes, areas of vessel traffic services ( VTS ) and areas with strong effects of tides. Defeats in accordance with the general provisions on routeing. Notifications in accordance with the general principles to be respected by the ship reporting systems and procedures of the STM. Practical classes are held in the navigation simulator in the basement.
3	Electronic Navigation: Radar and electronic charts. Navigation and Monitoring of defeat using ARPA, ECDIS. Practical classes are held in the navigation simulator in the basement.
4	Radionavegación.- situation by radiodemoras.- Navigation Systems satélite.- NAVSTARGPS and GLONASS systems. Inercial.- navigation Automatic Identification Systems ( AIS / SIA ). Data recorders (VDRs / VDR ) . Identification transponders great distance ( LRIT). Practical classes are held in the navigation simulator in the basement.
5	Resource management of the bridge. Practical classes are held in the navigation simulator in the basement.

## 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
First partial exam	Written exam	No	Yes	14,00
Second midterm exam	Written exam	No	Yes	14,00
First partial exam	Written exam	No	Yes	14,00
Simulator Examn	Laboratory evaluation	No	Yes	58,00
TOTAL				100,00
Observations				
<p>Students who pass the theory and the simulator exam will not have to go to the final exam. To qualify the subject, the student must have passed the theory part, that is, it is necessary to pass the theory for the teacher to correct the practical exam. For the calculation of the theory grade, the work grade will also be taken into account, if any. The theory mark is calculated by taking the average of the partial exams, an average is made from 3.5 plus the average of the works divided by two. Theory mark = (Average works + average exams) / 2.</p> <p>In order to take the partial theory exams, the student must have a grade higher than 3.5 in all the previous exams. Students who do not pass by partial exams must go to the final exam with all the material, practical part included. The criteria for evaluating the competence will be those established by the STCW 2010 as amended. To pass the subject, students must have previously taken the subjects G1049 Navigation I, G1050 Navigation II, G1051 Navigation III and G1052 Navigation IV. and have taken the exams of said subjects for the current year.</p> <p>A remote assessment scenario may be presented, which would only be resorted to if the competent health and educational authorities so indicate. This scenario will be developed based on the skills already acquired so far. The university's online tools will be used.</p>				
Observations for part-time students				
To pass the subject the student must approve the theory part. The theory exams will be made average from 3.5.				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

### BASIC

LIBROS DE NAVEGACION TEORIA Y EJERCICIOS DE MOREU CURVERA  
TABLAS NAUTICAS  
ALMANAQUE NAUTICO  
TBLAS DE MAREAS

Reglamento Internacional para prevenir abordajes en la mar.