



Teaching Guide

Teaching Guide				
Identifying Data				2023/24
Subject (*)	Computing for the Nautical Management		Code	631510205
Study programme	Mestrado Universitario en Náutica e Transporte Marítimo			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	1st four-month period	First	Obligatory	3
Language	SpanishGalicianEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Enxeñaría de Computadores			
Coordinador	Vidal Paz, Jose	E-mail	jose.vidal.paz@udc.es	
Lecturers	Vidal Paz, Jose	E-mail	jose.vidal.paz@udc.es	
Web				
General description	Dado o enfoque de xestión que leva implícito o título do Máster, a informática pódese converter nunha ferramenta de axuda fundamental para realizar estas tarefas a bordo. Esta asignatura enfócase no deseño e programación de bases de datos relacionais orientadas ás tarefas de xestión, como son o mantemento dos equipos de seguridade, xestión de pañois, control da gambuza, do selo, xestión da frota, etc. Introducírase ó alumnado á programación de consultas de bases de datos mediante a linguaxe SQL e a algunha outra linguaxe de programación orientada a obxectos.			

Study programme competences / results

Code	Study programme competences / results
A23	Capacidade para xestionar informaticamente a documentación técnica e as operacións de mantemento.
B2	Capacidade para resolver problemas de forma efectiva.
B5	Capacidade para traballar de forma efectiva nunha contorna de traballo.
B7	Capacidade para uso das novas tecnoloxías TIC e de internet como medio de comunicación e como fonte de información.
B9	Capacidade de análise e síntese.
B10	Capacidade para adquirir e aplicar coñecementos.
B11	Capacidade para organizar, planificar e resolver problemas relativos ao departamento de navegación
B12	CB6 -Posuír e comprender coñecementos que aporten unha base ou oportunidade de ser orixinais no desenvolvemento e/ou aplicación de ideas, a miúdo nun contexto de investigación
B14	CB8-Que os estudantes sexan capaces de integrar coñecementos e enfrontarse á complexidade de formular xuízos a partires dunha información que, sendo incompleta ou limitada, inclúa reflexións sobre as responsabilidades sociais e éticas vencelladas á aplicación dos seus coñecementos e xuízos
B16	CB10-Que os estudantes posúan as habilidades de aprendizaxe que lles permitan continuar estudando dun modo que haberá de ser en grande medida autodirixido ou autónomo.
C2	Capacidade para dominar a expresión e a comprensión de forma oral e escrita nun idioma estranxeiro
C3	Capacidade para utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida
C6	Capacidade para valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	Capacidade para asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida
C8	Capacidade para valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade
C13	C13-Capacidade para desenvolver as habilidades de aprendizaxe que lles permitan continuar estudando dun modo que haberá de ser en gran medida autodirixido ou autónomo



Learning outcomes			
Learning outcomes	Study programme competences / results		
Being able to work with different computer tools useful for professional practice: database management systems, spreadsheets, text editors, collaborative work tools		BC5 BC7 BC9 BC10 BC16	CC3 CC7 CC8 CC13
Being able to design the tables, queries, reports and forms of a database that facilitate the management of maintenance operations and documentation on board	AJ23	BC2 BC5 BC9 BC10 BC11 BC12 BC14	CC2 CC3 CC6
Being able to integrate databases with other computer applications such as spreadsheets or text editors in order to generate reports and graphs that facilitate the interpretation and use of stored data	AJ23	BC2 BC5 BC9 BC10 BC11	CC3 CC6

Contents	
Topic	Sub-topic
1. INTRODUCTION TO SGDB	1.1. STRUCTURE OF A DBMS 1.2. COMPONENTS 1.3. DESIGN OF A DB 1.4. E-R MODEL 1.5. RELATIONAL MODEL 1.6. PHYSICAL MODEL
2. DATABASE DESIGN ORIENTED TO ON-BOARD MANAGEMENT	2.1. VEGETABLES AND MEAT STORES 2.2. BOUND STORE 2.3. PAINT STORE 2.4. CHEMICAL STORE 2.5. BOATSWAIN'S STORE 2.6. SECURITY STORE 2.7. MANIFEST 2.8. MAINTENANCE WORKS 2.9. SAFETY AND POLLUTION
3. INTEGRATION WITH OTHER OFFICE APPLICATIONS	3.1. DATA IMPORT AND EXPORT 3.2. DATA LINK 3.3. MACROS 3.4. ADO AND DAO 3.5. SQL
4. PRACTICES	4.1. REQUIREMENT ANALYSIS 4.2. PROTOTYPE 4.3. TABLES 4.4. PROGRAMMING WITH VBA

Planning



Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student's personal work hours	Total hours
Guest lecture / keynote speech	B7 B9 B10 B12 B14 B16 C2 C6 C7 C8	8	0	8
Supervised projects	A23 B2 B5 B7 B9 B10 B11 B12 B14 B16 C2 C3 C6 C7 C8 C13	20	40	60
Oral presentation	A23 B7	1	2	3
Objective test	B2 B5 B9 B11	2	0	2
Personalized attention		2	0	2
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	An introductory explanation of the contents of each topic will be made. Students will be provided with either materials or instructions on how to consult additional sources to increase the study of the subject. The basic concepts will be worked on individually by the student in the classroom with the assistance of the teacher and using exercises or tutorials that the teacher will have previously prepared on the e-learning platform. In addition, they will also be provided with videos that they can view in asynchronous mode. These classes can be carried out both in a computer classroom, and on the students' personal computers with their own applications or using VDI virtual desktops.
Supervised projects	The development of a Database application oriented to on-board management will be proposed to the students, in which the knowledge acquired in the guest lectures must be incorporated.
Oral presentation	Exhibition and defense of the supervised work, indicating the functions that are demanded of the application and answering the questions of the teaching staff, with which the authorship of the work must be demonstrated.
Objective test	If the students do not prefer continuous evaluation, they will be examined from the complete syllabus, and 100% of the grade will come from this objective test.

Personalized attention	
Methodologies	Description
Supervised projects Guest lecture / keynote speech	Personalized attention is essential to guide students in carrying out the proposed work, trying to provide solutions to problems and doubts that arise throughout its development. They will be carried out in the professor's office during the tutoring hours established at the beginning of the course and made known to the students by the appropriate means at the center and on the university's e-learning platform. In addition, the professor can also resolve doubts received by electronic means such as e-mail, forums created for this purpose in the e-learning platform, or videoconferences through Teams.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Supervised projects	A23 B2 B5 B7 B9 B10 B11 B12 B14 B16 C2 C3 C6 C7 C8 C13	The final grade is determined by the management application developed by the students throughout the course, in which the incorporation of the means and solutions learned throughout the semester will be especially valued.	100

Assessment comments



Students have two evaluation possibilities:

1. CONTINUOUS ASSESSMENT. Through this option, students have the possibility of passing the subject by course by presenting and defending an on-board management application based on a Database. In the case of reaching more than 50 points, they will not have to do the objective test on the 1st opportunity. 2. FINAL OBJECTIVE TEST. This option will be applied when the students do not reach a minimum of 50 points throughout the semester. In this case the students will be examined from the complete syllabus and 100% of the grade will come from this objective test. OBSERVATIONS For students with recognition of part-time dedication and academic waiver of attendance exception as established by the "NORMA QUE REGULA O RÉXIME DE DEDICACIÓN AO ESTUDO DOS ESTUDANTES DE GRAO E MÁSTER UNIVERSITARIO NA UDC (Arts. 2.3; 3.b; 4.3 e 7.5) (04/05/2017): Minimum attendance/participation in class activities: can be compensated by remote development (on board) of the management application performing tutorials and videoconference with Teams and making use of the e-learning platform and VDI virtual desktops. Qualification: same criteria will apply. Fraudulent performance of the test assessment activities, once verified, will directly imply the failing grade "0" in the subject in the corresponding opportunity, thus invalidating any grade obtained in all the assessment activities for the second opportunity and the opportunity ahead. The assessment criteria contemplated in table A-II/2 of the STCW Code and included in the Quality Assurance System, will be taken into account when designing and carrying out the assessment.

Sources of information

Basic	- Steven Roman (2002). Access Database, design & programming. O'Reilly - Alexander M, Clark G (2007). Excel & Access integration. Wiley - Bagui S, Earp R (2012). Database design using Entity-Relationship diagrams. CRC Press - Teaching Soft Group (2010). Access 2010. Curso práctico. Ra-Ma - Laugie, H (2011). VBA Access 2010: creación de aplicaciones profesionales. ENI - Amelot, M (2010). VBA Access 2010: programar en Access. ENI
Complementary	- Bovey, Wallentin, Bullen, Green (2005). Professional Excel Development. Addison-Wesley

Recommendations

Subjects that it is recommended to have taken before

Subjects that are recommended to be taken simultaneously

Subjects that continue the syllabus

Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.