Teaching Guide				
Identifying Data				2021/22
Subject (*)	Applied Informatics		Code	631G01501
Study programme	Grao en Náutica e Transporte Marítimo			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Third	Optional	6
Language	SpanishGalician			
Teaching method	Face-to-face			
Prerequisites				
Department	Electrónica e Sistemas			
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				

Contingency plan	1. Modifications to the contents 2. Methodologies *Teaching methodologies that are maintained - Supervised projects (computes in the evaluation) - Problem solving (use of Teams) (computes in the evaluation) *Teaching methodologies that are modified - Guest lecture / keynote speech (through Teams and videos in Sharepoint) - Mixed objective/subjective test (through the Virtual Campus of the UDC and Teams) (computes in the evaluation) - Collaborative learning (through Teams and Sharepoint) 3. Mechanisms for personalized attention to students - Email: Daily. Use to make inquiries, request virtual meetings to resolve doubts and follow up on the resolution of problems and supervised work. - Virtual Campus: Daily. According to the needs of the students. They have the theoretical contents of all the subjects. They also have files for download in which they have to solve practical exercises, and videos of own creation in Sharepoint in which the resolution of the examples is explained. In addition, they have links to web pages where they can find tutorials and videos. Direct links are also provided to the bibliography available at the UDC. - Teams: 1 weekly session of 2 hours to advance in the theoretical contents in the time slot assigned to the subject in the school's classroom calendar, as well as for the oral presentation. Another weekly session of 2 hours, also in the time slot assigned to the subject, for monitoring and support in solving problems and supervised work. This dynamic allows a standardized monitoring and adjusted to the learning needs of students to develop the work of the subject. 4. Modifications in the evaluation *Evaluation observations: - Mixed objective/subjective test will be online. 5. Modifications to the bibliography or webgraphy - No changes will be made. They already have all the work materials in a digitized way in the Virtual Campus of the UDC.

Study programme competences	
Code	Study programme competences
A14	Planificar e dirixir unha travesía, determinar a situación por calquera medio de navegación, e dirixir a navegación.
A22	Cargar, manipular e estibar do xeito axeitado as diferentes mercadorías transportables nun buque.
A31	Transporte de cargas perigosas.
A32	Controlar o asento, a estabilidade e os esforzos.
A34	Manter a seguridade e protección do buque, da tripulación e os pasaxeiros, así como o bo estado de funcionamento dos sistemas de salvamento, de loita contra incendios e demais sistemas de seguridade.
A36	Organizar, administrar e prestar os coidados médicos a bordo.
B2	Resolver problemas de xeito efectivo.

B5	Traballar de forma autónoma con iniciativa.
B6	Traballar de forma colaboradora.
B8	Aprender en ámbitos de teleformación.
B10	Versatilidade.
B12	Uso das novas tecnoloxías TIC, e de Internet como medio de comunicación e como fonte de información.
B14	Capacidade de análise e síntese.
B15	Capacidade para adquirir e aplicar coñecementos.
B16	Organizar, planificar e resolver problemas.
B19	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.
B22	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C3	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.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.
C8	Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.
C13	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.

Learning outcomes			
Learning outcomes	Study programme competences		
To be able to post information on a blog		B6 B8 B12 B19	C3 C7 C8 C13
To be able to share information with colleagues using cloud storage		B6 B12 B19 B22	C3
To be able to establish a network of professional contacts		B6 B12 B19	C3
To know the utilities and advanced programming possibilities of spreadsheets		B8 B14 B22	C7 C8 C13
To be able to develop an application to calculate the load, drafts, stability and structural resistance of the ship	A22 A31 A32	B2 B5 B8 B10 B12 B15 B16 B19	C3

To be able to program maritime-related plugins for a spreadsheet	A14 A22 A31 A32 A34 A36	B2 B5 B6 B8 B10 B12 B15 B16 B19	C3
To know how to correctly design the tables of a Database	A22 A36	B6 B8 B12 B14 B19 B22	C3 C13
To be able to integrate the information from a Database into a spreadsheet	A22	B2 B5 B6 B8 B10 B12 B19	C3

Contents	
Topic	**Sub-topic**
1. FORMS, CONTROLS & DRAWING OBJECTS	1.1. INTRODUCTION 1.2. FORMS 1.3. CONTROLS 1.4. ADDING INTERACTIVITY 1.5. DRAWING OBJECTS
2. MACROS	2.1. INTRODUCTION 2.2. ADDING THE DEVELOPER TAB 2.3. ENABLE MACROS 2.4. STARTING EXCEL MACRO RECORDER 2.5. MACRO RECORDER OPTIONS 2.6. RECORDING THE MACRO 2.7. RUNNING THE MACRO 2.8. EDITING THE MACRO
3. VBA BASICS	3.1. LANGUAGE 3.2. VBA EDITOR 3.3. EXCEL VBA OBJECTS 3.4. VARIABLES 3.5. CONSTANTS 3.6. DIALOG BOXES
4. PROGRAMMING	4.1. THE CODE 4.2. CONTROLLING CODE EXCECUTION 4.3. MANIPULATING OBJECTS & COLLECTIONS 4.4. USEFUL APPLICATION PROPERTIES 4.5 RANGE OBJECTS

5. PROCEDURES	5.1. SUB PROCEDURES 5.2. FUNCTION PROCEDURES 5.3. PROCEDURE ARGUMENTS
6. USER FORMS	6.1. ALTERNATIVES 6.2. CREATING A USERFORM
7. EXCEL & ACCESS INTEGRATION	7.1. INTRODUCTION 7.2. ADO 7.3. FROM ACCESS TO EXCEL 7.4. FROM EXCEL TO ACCESS 7.5. SQL 7.6. RECORDSET OBJECT
8. CUSTOMIZE	8.1. EXCEL RIBBON 8.2. ADD-IN
9. BLOGS	9.1 INTRODUCTION 9.2. PUBLICATION 9.3. MARINA MERCANTE BLOG 9.4. WORDPRESS
10. SOCIAL NETWORKS	10.1 INTRODUCTION 10.2. LINKEDIN
The development and improvement of these contents, together with those corresponding to other subjects that include the acquisition of specific competences of the degree, guarantee the knowledge, understanding and sufficiency of the competences contained in table AII / 2, of the STCW Convention, related to the level of management of First Officer of the Merchant Marine Bridge, without limitation of gross tonnage and Captain of the Merchant Marine up to a maximum of 3000 GT.	Table A-II / 2 of the STCW Convention. Specification of the minimum standards of competence applicable to Captains and first deck officers of ships with a gross tonnage equal to or greater than 500 GT.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Problem solving	B2 B5 B8 B10 B12 B15 B16 B19 B22 C3	8	16	24
Mixed objective/subjective test	B2 B5 B10 B12 B14 B16 B19 B22 C3	2	10	12
Supervised projects	A22 A31 A32 B2 B5 B8 B10 B12 B15 B16 B19 C3	26	52	78
Collaborative learning	B6 B8 B12 B19 B22 C3 C7 C8 C13	4	8	12
Guest lecture / keynote speech	A14 A34 A36 B8 B12 B14 B19 B22 C3 C7 C8 C13	10	10	20
Personalized attention		4	0	4
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description

Problem solving	Master classes will be combined with problem solving by the students. This will be the most potentiated methodology during the course, and it will be used during the personal work of the students. The proposed problems will be related to the previous master class. The exercises that the students solve must be delivered to the Virtual Campus before the deadline for delivery. For those exercises of greater difficulty for the students, a much longer period can be provided, which will end near the end of the semester.
Mixed objective/subjective test	Students who do not achieve a minimum grade of 5 with the problems and assignments proposed throughout the semester will have the right to be evaluated by means of a mixed test, in which they will have to solve problems similar to those proposed throughout the course. The test will be developed using the Virtual Campus and Teams
Supervised projects	Students will be proposed to create a loading application for a ship that they can develop throughout the semester, incorporating the knowledge acquired during the master classes.
Collaborative learning	Students will use cloud storage to share class materials, and will have to create a profile on a social network that can facilitate job search and professional contacts. They will also have to contribute to a blog with a contribution of their own
Guest lecture / keynote speech	The sessions will take place in the classroom or through Teams and will be complemented with videos on Sharepoint. The week prior to the presentation of a topic, the teacher will post the contents on the Virtual Campus, providing the students with either materials or instructions on how to consult additional sources to deepen their study of the topic. After the presentation of the topic, the basic concepts will be worked individually on the computer by the students with the assistance of the teacher, being able to make use of the VDI virtual desktops.

Personalized attention	
Methodologies	**Description**
Problem solving Supervised projects	Personalized attention is essential to direct the students in carrying out the proposed work, trying to provide solutions to the problems and doubts that arise throughout its development, as well as to guide students in solving the problems that created the most difficulties for them. It will be carried out in the teachers' 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 platform. In addition, the teacher will also be able to resolve the doubts received by electronic means such as e-mail, forums created for this purpose in the Virtual Campus, or videoconferences through Teams

Assessment			
Methodologies	**Competencies**	**Description**	**Qualification**
Problem solving	B2 B5 B8 B10 B12 B15 B16 B19 B22 C3	The resolution of computer problems related to the contents of the lectures will be valued up to a maximum of 30 points. Exercises delivered after the deadline will be valued at 50%	30
Supervised projects	A22 A31 A32 B2 B5 B8 B10 B12 B15 B16 B19 C3	The development of a loading application will be valued up to a maximum of 50 points.	50
Collaborative learning	B6 B8 B12 B19 B22 C3 C7 C8 C13	Active participation in a professional social network will be valued up to a maximum of 10 points. Participation in a blog on the subject will be valued up to a maximum of 10 points	20

Assessment comments

O alumnado ten dúas posibilidades de avaliación:
1. AVALIACIÓN CONTINUA. Mediante esta via, o alumnado ten a posibilidade de superar a materia por curso mediante a presentación dunha aplicación de carga, a resolución de problemas, a participación nunha rede social e nun blog. No caso de acadar máis de 50 puntos, non terá que facer a proba mixta final da 1ª oportunidade.2. PROBA MIXTA FINAL. Esta via aplicarase cando o alumno non acade un mínimo de 50 puntos ao longo do cuatrimestre. Neste caso o alumno examinarase do temario completo, e o 100% da nota virá de esta proba obxectiva.Para o alumnado con recoñecemento de dedicación a tempo parcial e dispensa académica de exención de asistencia, segundo establece a "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):- Asistencia/participación nas actividades de clase mínima: pode ser compensada co desenvolvemento a distancia (embarcado) da aplicación de carga, realizando as titorías por videoconferencia con Teams e facendo uso do Campus Virtual e os escritorios virtuais VDI
- Para a resolución de problemas e participación na rede social e no blog se ampliarán os prazos de entrega.
- Cualificación: aplicaranse os mesmos criterios.
Os criterios de avaliación contemprados no cadro A-III/6 do Código STCW e recollido no Sistema de Garantía de Calidade teránse en conta á hora de deseñar e realizar a avaliación.

OBSERVACIONS:
Para o alumnado con recoñecemento de dedicación a tempo parcial e dispensa académica de exención de asistencia, segundo establece a "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):
- Asistencia/participación nas actividades de clase mínima: pode ser compensada co desenvolvemento a distancia (embarcado) da aplicación de carga, realizando as titorías por videoconferencia con Teams e facendo uso do Campus Virtual e os escritorios virtuais VDI
- Para a resolución de problemas e participación na rede social e no blog se ampliarán os prazos de entrega.
- Cualificación: aplicaranse os mesmos criterios.
Os criterios de avaliación contemprados no cadro A-II/1 do Código STCW e recollido no Sistema de Garantía de Calidade teránse en conta á hora de deseñar e realizar a avaliación.

Sources of information	
Basic	- McFedries, Paul (2010). Excel 2010: fórmulas y funciones. Madrid: Anaya Multimedia - Jeschke, Egbert (2011). Microsoft Excel 2010, Formulas & Functions Inside Out. Hoboken, N.J,: Microsoft Press - Carbonell, Lorenzo (1997). Introducción práctica a las bases de datos. Alicante: Universidad de Alicante - Teaching Soft Group (2011). Access 2010: curso práctico. Paracuellos de Jarama, Madrid: Ra-Ma - Walkengach, John (2007). Excel 2007 power programming with VBA. Hoboken, N.J.: Wiley - Martin iglesias, Joaquín P. (2011). Manual imprescindible de servicios Google como herramienta educativa. Madrid: Anaya Multimedia - Sanchez, Yoani (2011). Wordpress: un blog para hablar al mundo. Madrid: Anaya Multimedia - Derrett, D.R. (2006). Ship Stability for Masters and Mates. Oxford: Butterworth-Heinemann Manuais en de carga e estabilidade en formato PDF específicos para o buque de traballo.Apuntes e transparencias elaboradas polo profesor.
Complementary	- Bottfried, Byron S. (1998). Spreadsheet tools for engineers. Boston: McGraw-Hill - Alexander, Michael (2007). Microsoft Excel & Access integration with Office 2007. Indianapolis: Wiley - Bovey, Rob (2009). Professional Excel development: the definitive guide to developing applications using Microsoft Excel, VBA and .NET. Upper Saddle River (New Jersey): Addison-Wesley - Monk, Ellen F (2012). Problem solving cases in Microsoft Access & Excel. Boston, MA: Course Technology

Recommendations
Subjects that it is recommended to have taken before

Naval Construction/631G01105 Informatics/631G01110 Ship's Theory I/631G01208 Cargo Stowage/631G01301
Subjects that are recommended to be taken simultaneously
Ship's Theory II/631G01404
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.