Teaching Guide					
Identifying Data					2023/24
Subject (*)	Marine and atmospheric pollution			Code	631G01304
Study programme	Grao en Náutica e Transporte Marítimo				
Descriptors					
Cycle	Period	Year		Type	Credits
Graduate	1st four-month period	Third		Obligatory	6
Language	SpanishGalician				
Teaching method	Face-to-face				
Prerequisites					
Department	Ciencias da Navegación e Enxeñaría Mariña				
Coordinador	Cao Feijóo, Genaro		E-mail	genaro.cao@udc.es	
Lecturers	Cao Feijóo, Genaro		E-mail	genaro.cao@udc.es	
Web					
General description	This subject intends that future graduates in Nautical and Maritime Transport (both for those who will carry out their work as Merchant Marine professionals such as those dedicated to the management and maritime administration) are able to apply pollution legislation. essentially through the study of international conventions (MARPOL 73/78, OPRC 90, WBSS, etc.) and national regulations (RD 1695/2012, Directive 2000/59/CE, etc.). It also targets that students acquire the technical knowledge, with assurance, as a result in benefits, prevention, and preservation of the marine and atmospheric environment. Basically with the means at their disposal depending on the characteristics of the spilt or emitted substance. At the same time will reach the anti-pollution response depending on the scenario and circumstances.				

Study programme competences / results	
Code	Study programme competences / results
A54	RA1C-Write, explain and transmit the theoretical knowledge acquired both orally and in writing using scientific-technical language.
A55	RA2C-Identify and relate acquired knowledge to other disciplines
A57	RA4C-Collecting and interpreting relevant data
A58	RA5C-Identify ship components.
A59	RA6C-Identify critical situations and use available means in order to resolve them effectively.
B32	RA10H-Know, analyse, synthesise and apply the contents, fundamental concepts and applications of the subject.
B33	RA11H-Develop both individual and group work
B34	RA12H-Handle bibliographic material and computer resources.
B45	RA38H?Applying leadership and teamwork qualities
B54	RA53H?Transporting dangerous goods
B56	RA57H?Develop contingency plans for fault control, and act effectively in such situations.
B57	RA58H?Using leadership and management qualities
B66	RA67H?Take precautions to prevent pollution of the environment due to the discharge of oil or chemicals.
B72	RA73H?Take precautions to prevent pollution of the environment due to the release of liquefied gases.
B77	RA78H?Comply with emergency procedures.
B78	RA79H?Take precautions to prevent pollution of the marine environment.
C15	RA17X-Communicating effectively in a work environment.
C16	RA18X-Reviewing compliance with maritime legislative requirements
C20	RA25X?Respond to emergencies
C24	RA32X?Ensuring compliance with pollution prevention requirements
C27	RA37X?Monitoring compliance with legislative requirements
C30	RA48X?Take action in case of navigational emergencies
C33	RA52X?Assess reported failures and defects, in cargo spaces, hatch covers and ballast tanks, and take appropriate action

C34	RA55X?Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, maritime security and protection of the marine environment.

Learning outcomes			
Learning outcomes	Study programme competences / results		
RA1C-Write, explain and transmit the theoretical knowledge acquired both orally and in writing using scientific-technical language.	A54		
RA2C-Identify and relate acquired knowledge to other disciplines	A55		
RA4C-Collecting and interpreting relevant data	A57		
RA5C-Identify ship components.	A58		
RA6C-Identify critical situations and use available means in order to resolve them effectively.	A59		
RA10H-Know, analyse, synthesise and apply the contents, fundamental concepts and applications of the subject.		B32	
RA11H-Develop both individual and group work		B33	
RA12H-Handle bibliographic material and computer resources.		B34	
RA38H-Applying leadership and teamwork qualities		B45	
RA53H-Transporting dangerous goods		B54	
RA57H-Develop contingency plans for fault control, and act effectively in such situations.		B56	
RA58H-Using leadership and management qualities		B57	
RA67H-Take precautions to prevent pollution of the environment due to the discharge of oil or chemicals.		B66	
RA73H-Take precautions to prevent pollution of the environment due to the release of liquefied gases.		B72	
RA78H-Comply with emergency procedures.		B77	
RA79H-Take precautions to prevent pollution of the marine environment.		B78	
RA17X-Communicating effectively in a work environment.			C15
RA18X-Reviewing compliance with maritime legislative requirements			C16
RA25X-Respond to emergencies			C20
RA32X-Ensuring compliance with pollution prevention requirements			C24
RA37X-Monitoring compliance with legislative requirements			C27
RA48X-Take action in case of navigational emergencies			C30
RA52X-Assess reported failures and defects, in cargo spaces, hatch covers and ballast tanks, and take appropriate action			C33
RA55X-Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, maritime security and protection of the marine environment.			C34

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O desenvolvemento e superación destes contidos, xunto cos correspondentes a outras materias que inclúan a adquisición de competencias específicas da titulación, garanten o coñecemento, comprensión e suficiencia das competencias recollidas no cadro AII/2, do Convenio STCW, relacionadas co nivel de xestión de Primeiro Oficial de Ponte da Mariña Mercante, sen limitación de arqueo bruto e Capitán da Mariña Mercante ata o máximo de 3.000 GT	Cadro A-II/2 del Convenio STCW. Especificación de las normas mínimas de competencia aplicables a Capitáns y primeiros oficiais de ponte de buques de arqueo bruto igual ou superior a 500 GT.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Objective test	A58 A59 B54 B56 B66 B72 B77 B78 C16 C20 C24 C27 C30 C33 C34	2	0	2
Supervised projects	A54 A55 A57 B32 B33 B34 B45 B57	8	16	24
Oral presentation	A54 B32 B33 C15	6	12	18

Guest lecture / keynote speech	A55 A58 A59 B32 B54 B56 B57 B66 B72 B77 B78 C16 C20 C24 C27 C30 C33 C34	34	68	102
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**
Objective test	Final exam
Supervised projects	Projects carried out by students (individuals and/or in groups) regarding two contents of the subject. Throughout the four-month period, one or several assignments will be provided around two contents of the agenda that must be based on the basic and complementary bibliography of the guide and with another selected by the teaching staff and/or student pole. Its realization will begin in the classroom and be completed through the autonomous work of the students, attending more indications provided through the differentiation of teachers. Through the exhibition in the classroom, the work done will be shared.
Oral presentation	On the supervised projects
Guest lecture / keynote speech	In the activity of the lecture guest, the contents that make up the theoretical framework will be worked on through oral presentation, guided by the use of presentations, audiovisual media and with the introduction of directed questions to the students with the purpose of favouring learning and the construction of knowledge. There will be an introductory general exposition of each one of the two different themes of which the program consists, indicating the aspects that the students should expand with their personal work, with the appropriate orientations bibliographic.

Personalized attention	
Methodologies	**Description**
Guest lecture / keynote speech Objective test Supervised projects Oral presentation	The personalized differentiation described in relation to these methodologies is conceived as moments of work with the subject teachers. The way and the moment in which it will be developed will be indicated in each activity throughout the course according to the plan of matter work. Students with recognition of part-time dedication as established by the "RULE THAT REGULATES THE REGIME OF DEDICATION TO THE STUDY OF UNDERGRADUATE STUDENTS AT UDC (Articles 2.3; 3.b and 4.5)(05/29/2012). These students will develop their activity with the assistance and participation in the dynamics collected in Step 4 "Planning" and in the one that concerns us "Personalized attention" described for the " Supervised projects", through the workgroups that are formed in the subject. The activity will be carried out according to the observations of the evaluation regarding the flexibility of attendance participation and the requirements for overcoming the subject.

Assessment

Methodologies	Competencies / Results	Description	Qualification
Guest lecture / keynote speech	A55 A58 A59 B32 B54 B56 B57 B66 B72 B77 B78 C16 C20 C24 C27 C30 C33 C34	STCW Convention 2010: The evaluation criteria referred to in Table A-II/1 of the STCW Code, and collected in the Quality Assurance System, will be taken into account when designing and carrying out the evaluation.	10
Objective test	A58 A59 B54 B56 B66 B72 B77 B78 C16 C20 C24 C27 C30 C33 C34	STCW Convention 2010: The evaluation criteria referred to in Table A-II/1 of the STCW Code, and collected in the Quality Assurance System, will be taken into account when designing and carrying out the evaluation.	70
Supervised projects	A54 A55 A57 B32 B33 B34 B45 B57	To evaluate the projects it will be taken into account: - Structure: presentation, content organization, clear explanation and grammar. - Content: Understanding of basic ideas, conceptual mastery, use of the sources worked on in the treatment of content throughout the semester and relationships between them.	10
Oral presentation	A54 B32 B33 C15	To evaluate the presentation, it will be evaluate: - Relevance and organization of the exposed contents. - Coordination of the presentation (reflecting collaborative work, not a sum of parts). - Level of understanding of the basic contents. - Clear explanation	10

Assessment comments

- STCW Convention 2010: The evaluation criteria referred to in Table A-II/1 of the STCW Code, and collected in the Quality Assurance System, will be taken into account when designing and carrying out the evaluation.
- To pass the
subject following the continuous evaluation it is necessary to pass each
methodology. in-session lecture, at the same time as class attendance (minimum
of 80%), the student participation will be valued too.
Students who do
not follow the continuous assessment will always have the option of taking the
objective test. Consequently, under this circumstance, this will have a value
in the evaluation of 100%.
- Students with
recognition of part-time dedication and the corresponding academic waiver that
provide the assistance exemption, as established in the "RULE THAT
REGULATES THE DEDICATION REGIME TO THE STUDY OF UNDERGRADUATE STUDENTS AT UDC
(Articles 2.3; 3. b; 4.3; 6. b and 7.5) (05/04/2017) may carry out the partial
tests, if any, without the need to attend 80% of the face-to-face classes, as
long as the teacher is duly informed at the beginning of the course.
Notwithstanding the foregoing, the professor can entrust these students with
different works (individual and/or in groups) throughout the course to be
presented in the tutorial schedule in order to score in the continuous
evaluation the proportional part of the value of the master session.
- About the sanctions applicable for de commission of
serious offenses, article 11 of the Disciplinary Regulations of de student body
of the University of A Coruña, approved by the Governing Council on 27/02/2023,
point b) was amende in june 2023, to read:
b) Qualification of suspense in the call in wich the
fault it was commited, the student will be graded with ?fail? (numerical grade
0) in the corresponding call of the academic year, wheter the commission of the
fault occurs at the first opportunity or at the second. For this, we will
proceed to modify his qualification in the minutes of the first opportunity, if
necessary.

Sources of information

Basic	- RAFAEL GARCÍA MÉNDEZ (). La Contaminación del Mar. Universidad de Oviedo - R. B. CLARK (). Maritime Pollution. Clarendon Press ? Oxford - IMO (). Manual sobre la Contaminación ocasionada por Hidrocarburos. LONDRES - ITOPF (). ITOPF HANDBOOK. - ITOPF (). Reacción ante derrames de hidrocarburos. - IMO (). MARPOL 73/78. - IMO (2011). Manual sobre la contaminación ocasionada por hidrocarburos. LONDRES - IMO (2009). Manual sobre contaminación química. LONDRES - Silos Rodríguez, José María (2008). Manual de lucha contra la contaminación por hidrocarburos . Servicio de Publicaciones de la Universidad de Cádiz - IMO (2007). Directrices relativas al Convenio sobre la prevención de la contaminación del mar por vertimiento de desechos y otras materias, 1972. LONDRES - IMO (2007). Equipo de prevención de la contaminación conforme al MARPOL . LONDRES - Acinas García, Juan R (2003). Puertos de refugio y contaminación accidental en el mar . UDC - Oviedo : Universidad, Servicio de Publicaciones (1996). La contaminación del mar fuentes, toxicidad, degradación y eliminación de contaminantes. OVIEDO - Boat Books Australia (2010). Response to marine oil spills. Livingston : Witherby Seamanship International Ltd. Australia
Complementary	

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
?As stated in the different regulations of application for university teaching, the gender perspective must be incorporated in this matter (Non-sexist language will be used, bibliography of authors of both sexes will be used, te intervention in class of students will be encouraged.Work will be done to identify and modify prejudices and sexist attitudes and will influence the environment to modify them and promote values of respect and equality.Situations of discrimination based on gender should be detected and actions and measures proposed to correct them?.