



Teaching Guide				
Identifying Data				2018/19
Subject (*)	Tankers	Code	631G01308	
Study programme	Grao en Náutica e Transporte Marítimo			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Third	Obligatory	6
Language	SpanishGalician			
Teaching method	Face-to-face			
Prerequisites				
Department	Ciencias da Navegación e Enxeñaría Mariña			
Coordinador	Louro Rodríguez, Julio	E-mail	julio.louro@udc.es	
Lecturers	Louro Rodríguez, Julio	E-mail	julio.louro@udc.es	
Web				
General description	It treats to give fulfillment to the formative requirements of the STCW Convention about professional courses of tanker ships (basic and specialized)			

Study programme competences	
Code	Study programme competences
A1	Controlar as boas prácticas de seguridade e saúde no traballo.
A10	Redactar e interpretar documentación técnica e publicacións náuticas.
A12	Navegar, con seguridade e respecto ao medioambiente, en Buques Tanque.
A17	Adoptar as medidas axeitadas en casos de emerxencias.
A22	Cargar, manipular e estibar do xeito axeitado as diferentes mercadorías transportables nun buque.
A23	Asegurar o cumprimento das prescricións sobre prevención da contaminación.
A25	Operar os sistemas de Prevención, control e loita conra incendios a bordo.
A29	Responder correctamente ás diferentes situacións de emerxencia.
A33	Protexer o medio mariño e aplicar criterios de sostibilidade ambiental ao transporte marítimo.
A35	Organizar e dirixir a tripulación.
B1	Aprender a aprender.
B2	Resolver problemas de xeito efectivo.
B3	Aplicar un pensamento crítico, lóxico e creativo.
B4	Comunicarse de xeito efectivo nun ámbito de traballo.
B5	Traballar de forma autónoma con iniciativa.
B6	Traballar de forma colaboradora.
B7	Comportarse con ética e responsabilidade social como cidadán e como profesional.
B8	Aprender en ámbitos de teleformación.
B11	Capacidade de adaptación a novas situacións.
B12	Uso das novas tecnoloxías TIC, e de Internet como medio de comunicación e como fonte de información.
B13	Comunicar por escrito e oralmente os coñecementos procedentes da linguaxe científica.
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.
B20	Desenvolverse para o exercicio dunha cidadanía aberta, culta, crítica, comprometida, democrática e solidaria, capaz de analizar a realidade, diagnosticar problemas, formular e implantar solucións baseadas no coñecemento e orientadas ao ben común.
B22	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
B23	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.



B24	Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.
C6	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.
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		
Sailing, with safety and respect to the environment protection, in tanker ships	A1	B1	C6
	A10	B2	C7
	A12	B3	C13
	A17	B4	
	A22	B5	
	A23	B6	
	A25	B7	
	A29	B8	
	A33	B11	
	A35	B12	
		B13	
		B14	
		B15	
		B16	
		B19	
		B20	
		B22	
		B23	
		B24	
The result of the learning: Sailing with safety and respect to the environment protection on tanker ships, fulfils with the obtaining of the competitions established in the Column 1 of the Tables STCW: A-V/1-1-1; A-V/1-2-1; A-V/1-1-2; A-V/1-1-3; A-V/1-2-2.			

Contents	
Topic	Sub-topic



<p>Basic Training for Oil and Chemical Tanker Cargo Operations. Table A-V/1-1-1, STCW. IMO Model Course 1.01.</p> <p>Basic Training for Liquefied Gas Tanker Cargo Operations. Table A-V/1-2-1, STCW. IMO Model course 1.04.</p> <p>Specialized Training for Oil Tankers. Table A-V/1-1-2, STCW. IMO Model course 1.02.</p> <p>Specialized Training for Liquefied Gas Tankers. Table A-V/1-2-2, STCW. IMO Model course 1.05</p> <p>Specialized Training for Chemical Tankers. Table A-V/1-1-3 STCW. IMO Model course 1.03.</p>	<p>FOR OIL, GAS AND CHEMICAL PRODUCTS:</p> <ol style="list-style-type: none"><li>1.- Regulations and Codes of practices</li><li>2.- Tankers ships equipment and Project</li><li>3.- Cargo properties.</li><li>4.- Ship?s operations</li><li>5.- Risks prevention.</li><li>6.- Occupational Safety and Health</li><li>7.- Closed spaces</li><li>8.- Measures Equipments</li><li>9.-a Emergency operations</li><li>10.- Fire prevention and fire fighting</li><li>11.- Pollution prevention.</li></ol>
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O desenvolvemento destes subtemas(1) cumpre coa columna 2, Coñecementos, Comprensión e Suficiencia, do Convenio STCW, modificado por Manila 2010, dos seguintes Cadros:

Cadro A-V/1-1-1. Especificación das normas mínimas de competencia en formación básica para operacións de carga en petroleiros e quimiqueros.

Cadro A-V/1-2-1. Especificación das normas mínimas de competencia en formación básica para as operacións de carga en buques tanque para o transporte de gas licuado.

Cadro A-V/1-1-2. Especificación das normas mínimas de competencia en formación avanzada para operacións de carga en petroleiros.

Cadro A-V/1-1-3. Especificación das normas mínimas de competencia en formación avanzada para operacións de carga en quimiqueros

Cadro A-V/1-2-2. Especificación das normas mínimas de competencia en formación avanzada para operacións de carga en buques tanque para o transporte de gas licuado.

(1): A obtención das competencias establecidas na Columna 1 dos respectivos Cadros STCW, complétanse coa superación dos contidos relacionados nas materias complementarias a esta:

? Hixiene Naval e Riscos Laborais.

? Química

? Seguridade Marítima

? Sistemas enerxéticos e auxiliares do buque



	<p>The development of these sub-topics (1) fulfils with the column 2, Knowledge, Understanding and Proficiency, of the STCW Convention, modified by Manila 2010, of the following Tables:</p> <p>Table A-V/1-1-1. Specification of minimum standard of competence in basic training for oil and chemical tanker cargo operations</p> <p>Table A-V/1-1-2. Specification of minimum standard of competence in advanced training for oil tanker cargo operations</p> <p>Table A-V/1-1-3. Specification of minimum standard of competence in advanced training for chemical tanker cargo operations</p> <p>Table A-V/1-2-1. Specification of minimum standard of competence in basic training for liquefied gas tanker cargo operations</p> <p>Table A-V/1-2-2. Specification of minimum standard of competence in advanced training for liquefied gas tanker cargo operations</p> <p>(1): The obtaining of the competences established in the Column 1 of the respective Tables STCW, complete with overcoming of the contents related in the complementary matters to this:</p> <p>? Higiene Naval y Riesgos Laborales.</p> <p>? Química</p> <p>? Seguridad Marítima</p> <p>? Termodinámica y Termotecnia</p>
<p>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 arqueado bruto e Capitán da Mariña Mercante ata o máximo de 3.000 GT.</p>	<p>Cadro A-II/2 del Convenio STCW.</p> <p>Especificación de las normas mínimas de competencia aplicables a Capitáns y primeiros oficiais de ponte de buques de arqueado bruto igual ou superior a 500 GT.</p>
<p>The development and overcoming of these contents, together with those corresponding to other subjects that include the acquisition of specific competencies of the degree, guarantees the knowledge, comprehension and sufficiency of the competencies contained in Table AII / 2, of the STCW Convention, related to the level of management of chief mates of the Merchant Navy, on ships without gross tonnage limitation and Master up to a maximum of 3.000 GT.</p>	<p>Table A-II / 2 of the STCW Convention.</p> <p>Mandatory minimum requirements for certification of masters and chief mates on chief on ships of 500 gross tonnage or more.</p>

Planning

Methodologies / tests	Competencies	Ordinary class hours	Student's personal work hours	Total hours
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Laboratory practice	A1 A10 A12 A25 B1 B6 B8 B12 B16 B19	8	7	15
Objective test	A10 B1 B2 B3 B4 B13 B14 B15 B16 B22 C6	9	54	63
Guest lecture / keynote speech	A1 A10 A12 A17 A22 A23 A25 A29 A33 A35 B1 B3 B4 B5 B6 B7 B8 B11 B12 B13 B15 B16 B19 B20 B22 B23 B24 C6 C7 C13	35	35	70
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
Laboratory practice	They will realise practices with safety and rescue equipments used in this type of tanker ships. Likewise, they will realise operational practices in the simulator. A1, A10, A12, A23, A25, A27, B1, B6, B8, B11, B12, C1 and C2.
Objective test	They will realise partial exams of each one of the four subjects and a final exam of all the matter. So much the ordinary examinations like the extraordinary will regulate by the same format. B2, B3, B5, B7, B13, B14, B15, B16, C1 and C2. In this context will apply the specific competences of the degree purchased from practices of laboratory and guest lecture / keynote speech sessions.
Guest lecture / keynote speech	They will realise guest lecture / keynote speech., including professionals of recognised prestige. A1, A10, A12, A17, A22, A23, A25, A27, A29, A33, A35, B1, B7, B8, B11, B12, C1 and C2.

Personalized attention	
Methodologies	Description
Laboratory practice Guest lecture / keynote speech	In addition to the hours of tutorials established for all the students of the matter, establish 2 hours for students with needs.

Assessment			
Methodologies	Competencies	Description	Qualification
Objective test	A10 B1 B2 B3 B4 B13 B14 B15 B16 B22 C6	It will value with a maximum of 80% the written exams	80
Laboratory practice	A1 A10 A12 A25 B1 B6 B8 B12 B16 B19	It will value the assistance to practices.	10
Guest lecture / keynote speech	A1 A10 A12 A17 A22 A23 A25 A29 A33 A35 B1 B3 B4 B5 B6 B7 B8 B11 B12 B13 B15 B16 B19 B20 B22 B23 B24 C6 C7 C13	It will value the assistance to guest lectura / Keynote speech	10
Others			

Assessment comments



The system of evaluation fulfils with the assessment criteria of the competence collected in the Column 4 of the following Tables of the STCW Convention, modified by Manila 2010:

Table A-V/1-1-1. Specification of minimum standard of competence in basic training for oil and chemical tanker cargo operations

Table A-V/1-1-2. Specification of minimum standard of competence in advanced training for oil tanker cargo operations

Table A-V/1-1-3. Specification of minimum standard of competence in advanced training for chemical tanker cargo operations

Table A-V/1-2-1. Specification of minimum standard of competence in basic training for liquefied gas tanker cargo operations

Table A-V/1-2-2. Specification of minimum standard of competence in advanced training for liquefied gas tanker cargo operations

The assessment criteria contemplated in the Tables A-III/1 of the STCW Code, and collected in the System of Guarantee of Quality, will take into account to design and realise the evaluation.

The partial exams form part of the continuous evaluation, therefore to be able to take part of them, the assistance to the guest lectura / Keynote speech and practices must be of 90%.

Practices includes, whenever it was possible, the visit in the sailboats to tanker ships berthed at terminal: oil, gas and chemicals tankers or vessels berthed.

### Sources of information

<b>Basic</b>	BIBLIOGRAFÍA BÁSICA DA MATERIA: BUQUES TANQUES PETROLEIROS Manual de Carga y Seguridad para Buques Tanques IMO Guía Internacional para Petroleros y Terminales, IMO Lavado con crudo y Empleo del Gas Inerte. Moreno Isaac. Tanker Handbook for Deck. Officers. Batist, G. Supertankers, Anatomy; Operations. Solly Raymond. Practical Petroleum Tables for ship use. ASTM Código para la construcción y equipo de Buques Tanques Petroleros. Tanker Cargo Handling. R Terford. SOLAS IMO. MARPOL. IMO. Safety in Oil Tankers International Chamber of Shipping, Carthusian Court, 12 Carthusian Street, London, ICS/OCIMF/IAPH, International Safety Guide for Oil Tankers and Terminals Witherby and Co. Ltd., 32/36 Aylesbury Street, London International Chamber of Shipping/Oil Companies International Marine Forum, Ship to Ship Transfer Guide (Petroleum) Witherby and Co. Ltd., London (ISBN 0-948691-49-2) International Chamber of Shipping Oil Companies International Marine Forum Seas Guide for Oil Tankers (Retention of oil residuos on board) (Witherby and Co. Ltd., London) (ISBN 0-948691-15-8) Guide to Helicopter/Ship Operations Contaminación Marina. Instituto Marítimo Español. 2008. Revista Naval, Carlos Rodríguez Vidal, 2003 Manual de Lavado con crudo y gas inerte. José Luís Chinea López, Vicente Hernández Santaella. COMME. Gas inerte, limpieza de tanques y desgasificación en buques petroleros. David Dios Lustres. El buque tanque. Capitán I.G. Reigadas. >Manual del buque tanque. José Eloy García Tobío. Los buques tanque y su clasificación. Guillermo Ricardo Gadea.> Gestión técnica de superpetrolero tipo. Nuria Vázquez Couso. Gas inerte, limpieza de tanques y desgasificación en buques petroleros
<b>Complementary</b>	- ( ) . Apuntes del profesor. Apuntes del profesor.

### Recommendations

#### Subjects that it is recommended to have taken before

Naval Hygiene and Risks at Work/631G01104  
Chemistry/631G01107  
Maritime Safety /631G01211



Subjects that are recommended to be taken simultaneously
Ship's Energy and auxiliary systems/631G01204
Subjects that continue the syllabus
Other comments
<p>To achieve these certificates:</p> <ul style="list-style-type: none"><li>- Basic Training for Oil and Chemical Tanker Cargo Operations.</li><li>- Basic Training for Liquefied Gas Tanker Cargo Operations.</li><li>- Specialized Training for Oil Tankers.</li><li>- Specialized Training for Liquefied Gas Tankers.</li><li>- Specialized Training for Chemical Tankers.</li></ul> <p>It is necessary to pass these subjects.</p> <p>In addition, and due to Amendments of Manila, from course 2015-2016, the student will have to testify the fulfillment of 7,5 hours in simulator in each one of the parts: Specialized Training for oil, gas and chemical tankers.</p>

(\*)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.