



## Teaching Guide

Identifying Data					2018/19
<b>Subject (*)</b>	**Special Maritime Transports and dangerous shipment		<b>Code</b>	631G02358	
<b>Study programme</b>	Grao en Tecnoloxías Mariñas				
Descriptors					
<b>Cycle</b>	<b>Period</b>	<b>Year</b>	<b>Type</b>	<b>Credits</b>	
Graduate	2nd four-month period	Third	Obligatory	6	
<b>Language</b>	SpanishGalician				
<b>Teaching method</b>	Face-to-face				
<b>Prerequisites</b>					
<b>Department</b>	Ciencias da Navegación e Enxeñaría Mariña				
<b>Coordinador</b>	Louro Rodríguez, Julio	<b>E-mail</b>	julio.louro@udc.es		
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<b>Web</b>					
<b>General description</b>	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 / results

Code	Study programme competences / results
A3	CE3 - Capacidade para o manexo de especificacións, regulamentos e normas de obrigado cumprimento.
A4	CE4 - Capacidade de analizar e valorar o impacto social e ambiental das solucións técnicas, así como a prevención de riscos laborais no ámbito da súa especialidade.
A10	CE10 - Observar os procedementos de emerxencia, no ámbito da súa especialidade.
A11	CE11 - Observar prácticas de seguridade no traballo, no ámbito da súa especialidade.
A18	CE18 - Redacción e interpretación de documentación técnica.
A21	CE37 - Capacidad para ejercer como Oficial de Máquinas de la Marina Mercante, una vez superados los requisitos exigidos por la Administración Marítima.
A33	CE25 - Saber especificar os parámetros de operación dos sistemas de seguridade a bordo e os relacionados coa protección ambiental.
A34	CE26 - Asegurar o cumprimento das prescricións sobre prevención da contaminación.
A41	CE48 - Operar os sistemas de bombeo e de control correspondentes.
A43	CE31 - Prevención, control e loita contra incendios a bordo.
B5	CT5 - Traballar de forma colaboradora.
B6	CT6 - Comportarse con ética e responsabilidade social como cidadán e como profesional.
C1	C1 - Expresarse correctamente, tanto de forma oral coma escrita, nas linguas oficiais da comunidade autónoma.
C2	C2 - Dominar a expresión e a comprensión de forma oral e escrita dun idioma estranxeiro.
C3	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.
C11	CB3 - Ter a capacidade de reunir e interpretar datos relevantes para emitir xuícios que inclúan unha reflexión sobre temas relevantes de índole social, científica ou ética
C12	CB4 - Poder transmitir información, ideas, problemas e solucións a un público tanto especializado como non especializado.
C13	CB5 - Ter desenvolvido aquelas habilidades de aprendizaxe necesarias para emprender estudos posteriores con un alto grao de autonomía.

## Learning outcomes

Learning outcomes	Study programme competences / results



Sailing, with safety and respect to the environment protection, in tanker ships	A3 A4 A10 A11 A18 A21 A33 A34 A41 A43	B5 B6	C1 C2 C3 C11 C12 C13
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.			
O resultado da aprendizaxe: Navegar con seguridade e respecto ao medioambiente en buques tanque, cumpre coa obtención das competencias establecidas na Columna 1 dos Cadros 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
Basic Training for Oil and Chemical Tanker Cargo Operations.  Table A-V/1-1-1, STCW. IMO Model Course 1.01.	FOR OIL, GAS AND CHEMICAL PRODUCTS:  1.- Regulations and Codes of practice.s 2.- Tankers ships equipment and Project. 3.- Cargo properties. 4.- Ship?s operations. 5.- Risks prevention.
Basic Training for Liquefied Gas Tanker Cargo Operations.  Table A-V/1-2-1, STCW. IMO Model course 1.04.	6.- Occupational Safety and Health 7.- Closed spaces 8.- Measures Equipments 9.- Emergency operations 10.- Fire prevention and fire fighting 11.- Pollution prevention.
Specialized Training for Oil Tankers.  Table A-V/1-1-2, STCW. IMO Model course 1.02.	
Specialized Training for Liquefied Gas Tankers.  Table A-V/1-2-2, STCW. IMO Model course 1.05.	
Specialized Training for Chemical Tankers.  Table A-V/1-1-3 STCW. IMO Model course 1.03.	



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:

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

(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:

? Higiene Naval y Riesgos Laborales.

? Química

? Seguridad Marítima

? Termodinámica y Termotecnia

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 A-III/2, do Convenio STCW, relacionadas co nivel de xestión de Oficial de Máquinas de Primeira da Mariña Mercante, sen limitación de potencia da planta propulsora e Xefe de Máquinas da Mariña Mercante ata o máximo de 3000 kW.

Cadro A-III/2 del Convenio STCW.

Especificación de las normas mínimas de competencia aplicables a los Jefes de máquinas y Primeros Oficiales de máquinas de buques cuya máquina propulsora principal tenga una potencia igual o superior a 3000 kW



<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 AIII / 2, of the STCW Convention, related to the level of management of First Engineer Officer of the Merchant Navy, on ships without power limitation of the main propulsion machinery and Chief Engineer officer of the Merchant Navy up to a maximum of 3000 kW.</p>	<p>.Table A-III / 2 of the STCW Convention. Specification of the minimum standard of competence for Chief Engineer Officers and First Engineer Officers on ships powered by main propulsion machinery of 3000 kW or more.</p>
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Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Laboratory practice	A3 A21 B5 C3	8	7	15
Objective test	A21 A33 A34 C1 C2 C11 C12	9	54	63
Guest lecture / keynote speech	A3 A4 A10 A11 A18 A21 A34 A41 A43 B6 C3 C11 C12 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 / Results	Description	Qualification
Laboratory practice	A3 A21 B5 C3	It will value the assistance to practices.	10
Objective test	A21 A33 A34 C1 C2 C11 C12	It Will value with a maximum of 80% the written exams	80
Guest lecture / keynote speech	A3 A4 A10 A11 A18 A21 A34 A41 A43 B6 C3 C11 C12 C13	It will value the assistance to guest lecture / 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

## 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



Chemistry/631G02157

Naval Hygiene and Risks at Work/631G02255

Maritime Safety and Pollution/631G02259

Subjects that are recommended to be taken simultaneously

Subjects that continue the syllabus

Thermodynamics and Engineering Thermodynamics/631G02254

Other comments

To achieve these certificates:

- Basic Training for Oil and Chemical Tanker Cargo Operations.
- Basic Training for Liquefied Gas Tanker Cargo Operations.
- Specialized Training for Oil Tankers.
- Specialized Training for Liquefied Gas Tankers.
- Specialized Training for Chemical Tankers.

It is necessary to pass these subjects.

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.

(\*)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.