		Teaching Guide				
	ldentifying D	Data		2022/23		
Subject (*)	Maritime Radiocommunications		Code	631G01307		
Study programme	Grao en Náutica e Transporte Marítimo			1		
		Descriptors				
Cycle	Period	Year	Туре	Credits		
Graduate	2nd four-month period	Third	Optional	6		
Language	SpanishGalicianEnglish	SpanishGalicianEnglish				
Teaching method	Face-to-face					
Prerequisites						
Department	Ciencias da Navegación e Enxeñaría	a Mariña				
Coordinador	López López, María Natividad	E-mail	natividad.lopez	:l@udc.es		
Lecturers	López López, María Natividad E-mail natividad.lopezl@udc.es					
Web						
General description	To train the students in all aspects re	elated to Maritime Communi	cations with the objectiv	e that they achieve the necess		
	capacity to handle all the equipment following the established procedures.					

	Study programme competences
Code	Study programme competences
A10	Redactar e interpretar documentación técnica e publicacións náuticas.
A11	Empregar o inglés, falado e escrito, aplicado á navegación e ao negocio marítimo.
A17	Adoptar as medidas axeitadas en casos de emerxencias.
A18	Responder a sinais de socorro no mar.
A19	Utilizar as frases normalizadas da OMI para as comunicacións marítimas, e emprego do inglés falado e escrito.
A20	Transmitir e recibir información mediante todo tipo de sinais.
A26	Operar os dispositivos de salvamento.
A29	Responder correctamente ás diferentes situacións de emerxencia.
A37	Usar correctamente os diferentes aparatos de navegación e radiocomunicacións.
B1	Aprender a aprender.
B2	Resolver problemas de xeito efectivo.
В3	Aplicar un pensamento crítico, lóxico e creativo.
В4	Comunicarse de xeito efectivo nun ámbito de traballo.
B5	Traballar de forma autónoma con iniciativa.
В6	Traballar de forma colaboradora.
В7	Comportarse con ética e responsabilidade social como cidadán e como profesional.
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.
B18	Dominar a expresión e a comprensión de forma oral e escrita dun idioma estranxeiro.
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.
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.
C9	Posuír e comprender coñecementos que aporten unha base ou oportunidade de ser originais no desenvolvemento e/ou aplicación de
	ideas, a miúdo nun contexto de investigación

Learning outcomes	
Learning outcomes	Study programme
	competences

1. To transmit and to receive information using the equipment of system GMDSS.	A10	B1	C3
	A11	В3	C9
	A17	B4	
	A18	B5	
	A19	В6	
	A20	B7	
	A26	B12	
	A29	B18	
	A37	B19	
2. To guarantee the service of radio communications in emergency.	A10	B2	C3
	A11	B4	
	A17	B12	
	A18		
	A19		
	A20		
	A26		
	A29		
	A37		
3. To use procedures to avoid transmissions involuntary and false alert to mitigate its consequences and effects.	A10	B1	СЗ
	A11	B2	C9
	A17	В3	
	A18	В4	
	A19	B5	
	A20	В6	
	A26	В7	
	A29	B11	
	A37	B12	
		B18	
		B19	
4. To know and to apply to the procedures of radio communications search and rescue.	A10	B1	СЗ
	A11	B2	C9
	A17	В3	
	A18	B4	
	A19	B11	
	A20	B12	
	A26	B18	
	A29	B19	
	A37		
5. To handle and to work with the new technologies of the information and their application in the systems and equipment used	A10	B1	СЗ
in the communications.	A11	B2	C9
	A17	В3	
	A18	B4	
	A19	B5	
	A20	В6	
	A26	В7	
	A29	B11	
	A37	B12	
	-	B18	
		B19	
		5.5	

6. To make work the rescue devices	A10	B1	СЗ
	A11	B2	C9
	A17	В3	
	A18	В4	
	A19	B5	
	A20	В6	
	A26	В7	
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		B18	
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	22.9 NICKEL-CADMIO BATTERIES.
	22.10 IRON-NICKEL BATTERIES
	22.11 UNINTERRUPTED POWER SUPPLY (UPS)
According to the STCW including the Amendments of Manila	Besides the named thing previously:
of 2010, column 2 (recognitions, understanding and	Knowledge of the operation of the radioelectric devices of rescue, satelitarias RLS and
sufficiency) of Picture A-II/1 (Specification of the minimum	RESAR.
norms of competition applicable to the commanders of the	
underway watch in ships of gross registered capacity the	
same or superior to 500).	
he development and overcoming of these contents, along with	Picture A-II/2 of Agreement STCW.
the corresponding ones to other matters that include the	Specification of the minimum norms of competition applicable to the Captains and
acquisition of specific competitions of the degree, guarantee	senior officers of bridge of ships of gross registered capacity the same or superior to
the knowledge, understanding and sufficiency of the	500 GT.
competitions picked up in picture AII/2, of Agreement STCW,	
related to the level of management of Senior officers of Bridge	
of Marina Mercante, without limitation of gross registered	
capacity and Captain of Marina Mercante until a maximum of	
3000 GT.	

According to the STCW including the Amendments of Manila of 2010, column 2 (recognitions, understanding and sufficiency) of picture A-IV/2.

Besides the stipulated one in the Regulation of Radio communications, knowledge of:

- 1. radio communications search and rescue, including the procedures of the international Manual of the aeronautical and marine services search and rescue (IAMSAR).
- 2. average ones to prevent the transmission of false alert of aid and procedures to mitigate the consequences of the alert happiness.
- 3. systems of notification for ships.
- 4. radiomédicos services
- 5. use of the International signal code and the standard Phrases of the OMI for the sea communicationses.
- 6. English spoken and written to communicate information related to the security of the human life in the sea.

Note: This prescription could be more flexible in the case of the title of restricted radio operator.

	Planning			
Methodologies / tests	Competencies	Ordinary class	Student?s personal	Total hours
		hours	work hours	
Guest lecture / keynote speech	A10 A11 A17 A18	24	36	60
	A19 A20 A26 A29			
	A37 B1 B2 B3 B4 B5			
	B6 B7 B11 B12 B18			
	B19 C3 C9			
Objective test	A10 A11 A17 A18	3.5	0	3.5
	A19 A20 A26 A29			
	A37 B1 B2 B3 B4 B5			
	B6 B7 B11 B12 B18			
	B19 C3 C9			
_aboratory practice	A11 A17 A18 A19	27	40.5	67.5
	A20 A29 A37 B1 B2			
	B3 B5 B6 B7 B11 B12			
	B18 B19 C3 C9			
ntroductory activities	A10 A11 A17 A18	1	1	2
	A19 A20 A29 A37 B1			
	B2 B3 B4 B5 B6 B7			
	B11 B12 B18 B19 C3			
	C9			
Summary	A10 A11 A17 A18	2	0	2
	A19 A20 A29 A37 B1			
	B2 B3 B4 B5 B6 B7			
	B11 B12 B18 B19 C3			
	C9			
Personalized attention		15	0	15

(*)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 /	The exhibition of each one of the subjects is formed that conform the program taking like reference basic the Manual of Radio
keynote speech	communications recommended.
	NOTE: With this Methodology, the student acquires the competitions of the degree: A11, A17, A18, A19, A20, A26,A29, C2,
	C3.
Objective test	The objective test will consist of either concept development questions and short development questions; multiple choice
	questions or both types of test. Students will be informed in advance of the type of test and the relative score of the different
	types of questions in each exam. The content of the questions will deal with the subjects taught in class and on which the
	student will be provided with sufficient material to pass.
	A series of tasks will have to be carried out in relation to the given subject, whose mark will be added to that of the objective
	test.
Laboratory practice	The students are divided in reduced groups to realise the obligatory practices in the Simulator of Communications YOU
Laboratory practice	COMPROMISE where they take to end scenes that allow to assimilate of practical way the referring theoretical concepts to
	matter.
	NOTE: With this Methodology, the student acquires the competitions of the degree: A11, A17, A18, A19, A20,A26, A29, A37,
	B2, B4, B11, B12, C2, C3.
Introductory activities	The first class of the academic course will dedicate a series of activities in which will appear the matter to the students and it
	will be to determine the competitions, I interest and motivations that the pupils for the profit of the objectives own to reach.
Summary	Towards the end of the course one actual class of synthesis of the main contents will be realised. With this resource it is tried
	to help the pupils to understand of global to matter by means of it review of or studied form, pausing of particular form in those
	aspects that could give rise to confusion or whose content was not assimilated suitably.

Personalized attention		
Methodologies	Description	
Guest lecture /	The teacher of the subject will attend any consultation of the students in their tutorial schedule and additionally, in the dates	
keynote speech	near the objective tests, at any other time that is available in the email, moodle and / or teams.	
Laboratory practice		

		Assessment	
Methodologies	Competencies	Description	Qualification
Objective test	A10 A11 A17 A18	The student will have the option of passing this part of the course provided that he or	80
	A19 A20 A26 A29	she attends 80% of the master classes.	
	A37 B1 B2 B3 B4 B5	Those students who have the GMDSS General Operator's Certificate are considered	
	B6 B7 B11 B12 B18	to have passed the subject with a grade of 5.0. However, any student in this situation	
	B19 C3 C9	can attend the class and take the exams to raise this minimum grade.	
		The objective test will consist of a series of short concept questions, a multiple choice	
		test, or a combination of the two test systems mentioned above, in which case the	
		teacher will set the specific assessment criteria for each of the parties in advance.	
		It will be necessary to carry out different tasks related to the subject, the mark	
		achieved will be added to the mark achieved in the objective test.	
		To pass by course, it will be necessary to obtain an average mark of 5.0	
Laboratory practice	A11 A17 A18 A19	COMMUNICATIONS SIMULATOR: In order to pass this part of the course, a	20
	A20 A29 A37 B1 B2	minimum attendance of 80% of the simulation classes will be required. The	
	B3 B5 B6 B7 B11 B12	qualification of each student will be based on the continuous evaluation of the Teacher	
	B18 B19 C3 C9	in what he will take into account the skill and interest of the student in each of the proposed exercises.	
Others			



Assessment comments

The contemplated criteria of evaluation in pictures A-II/1, La-III/1 and La-III/2 of Code STCW and its amendments related to this matter will consider at the time of designing and realising their evaluation. This matter includes the contents corresponding to the course of General Operating specialty (132h) established in the Section To II/1 and La-II/2 of the STCW 78/95/10, in accordance with the course model OMI 1,25.

For the obtaining of the certificate of General Operating specialty it is necessary the overcoming of this matter.

Evaluation observations:

For full-time students, part-time students, requirements to pass the subject, conditions of the evaluation at the 2nd opportunity, etc.)

Continuous evaluation: a "pre-final exam" will be done, agreed with the students, for the realization of the @dito test it is essential to deliver the proposed tasks

1st opportunity: continuous evaluation as indicated in section 4 (adding practices+tasks+test)

2nd opportunity: practices that will count 20% (having to deliver a task that is proposed to more than the practices that could be performed in the simulator) and the test that will count the remaining 80%.

The) students with full dedication:

attendance/participation in the tasks corresponding to the practices minimum 80%

B) students with recognition of part-time dedication and academic dispensation from attendance, secondly, establishes the "RULE REGULATING THE DEDICATION REGIME FOR GRADUATE STUDENTS AT THE UDC (arts. 2.3;3. b and 4.5)(29/5/212):

assistance/participation in tasks corresponding to the internship minimum 80%. Passing the objective test. If they are unable to attend the lectures, arrangements will be made with the tutor.

"The fraudulent performance of the evaluation tests or activities, once verified, will directly imply the qualification of failing "0" in the subject in the corresponding call, thus invalidating any qualification obtained in all the evaluation activities for the extraordinary call".

	Sources of information
Basic	BIBLIOGRAFÍA BÁSICA DA MATERIA - LOUZÁN LAGO, F.; IGLESIAS BANIELA, S. (2009). Manual de
	Comunicaciones Marítimas Admiralty List of Radio Signals, Vol 5 Ed. 2012 BREHAUT, DENISE (2009). GMDSS A
	User?s Handbook 4th Ed. Adlard Coles Nautical, London IMO (2011). GMDSS Manual, London INMARSAT (2011).
	The SafetyNET Users Handbook, 5th Ed., London IMO (2011). International SafetyNet Manual, London IMO
	(2010). Manual on Maritime Safety Information (MSI Manual). London LEES, GRAHAM and WILLIAMSON, WILLIE
	(2009). Handbook for Marine Radio Communications, 5th Ed. L.L.P. London.· IMO (2010). International Aeronautical
	and Maritime Search and Rescue (IAMSAR) Manual. London IMO (2001). GMDSS Handbook on CD-ROM (v. 2.0),
	IMO IMO (2005). NAVTEX Manual, London ORGANIZACIÓN MARITIMA INTERNACIONAL. ?SOLAS, Edición
	refundida, 2001 OMI, Londres 2001 ITU (2011). Manual para uso de los servicios móvil marítimo y móvil marítimo
	por satélite, ITU WAUGH IAN (2007). The Mariner?s Guide to Marine Communication, 2nd. Ed. The Nautical
	Institute. AISM-IALA. ?Manual on Radio Aids to Navigation?, 2nd edition, 1993.
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

(*)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.