



Teaching Guide				
Identifying Data			2019/20	
Subject (*)	Integral management of Safety and Security		Code	631510202
Study programme	Mestrado Universitario en Náutica e Transporte Marítimo			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	1st four-month period	First	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	
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Web				
General description	The objective of this matter is that the student purchase the necessary knowledges associated to the maritime safety for development of the profession. For this will study the methods of analysis of maritime accidents, will deepen in the mechanisms of search and rescue at sea, and will study in detail the rules about the management of the safety, the security and the quality in the maritime field.			

Study programme competences / results	
Code	Study programme competences / results
A4	Capacidade para coordinar as operacións de procura e salvamento.
A5	Capacidade para establecer os sistemas e procedementos do servizo de garda.
A9	Capacidade para analizar as medidas que procede adoptar en caso de emerxencia da navegación.
A16	Capacidade para vivir e controlar o cumprimento das prescricións lexislativas e das medidas para garantir a seguridade da vida humana no mar, a protección marítima e a protección do medio mariño.
A17	Capacidade para 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.
A18	Capacidade para elaborar plans para continxencias de control de avarías, e actuar eficazmente en tales situacións.
A19	Capacidade para a utilización das cualidades de liderado e xestión.
A20	Capacidade para organizar e administrar a atención médica a bordo.
B4	Capacidade para comunicarse de forma efectiva nunha contorna de traballo.
B5	Capacidade para traballar de forma efectiva nunha contorna de traballo.
B9	Capacidade de análise e síntese.
B11	Capacidade para organizar, planificar e resolver problemas relativos ao departamento de navegación
B12	CB6 -Posuír e comprender coñecementos que aporten unha base ou oportunidade de ser orixinais no desenvolvemento e/ou aplicación de ideas, a miúdo nun contexto de investigación
B13	CB7-Que os estudantes saiban aplicar os coñecementos adquiridos e a súa capacidade de resolución de problemas en contornas novas ou pouco coñecidas dentro de contextos máis amplas (ou multidisciplinares) relacionados coa súa área de estudo
B14	CB8-Que os estudantes sexan capaces de integrar coñecementos e enfrontarse á complexidade de formular xuízos a partir dunha información que, sendo incompleta ou limitada, inclúa reflexións sobre as responsabilidades sociais e éticas vencelladas á aplicación dos seus coñecementos e xuízos
B15	CB9-Que os estudantes saiban comunicar as súas conclusións e os coñecementos e razóns últimas que as sustentan a públicos especializados e non especializados dun xeito claro e sin ambigüidades
B16	CB10-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.
C2	Capacidade para dominar a expresión e a comprensión de forma oral e escrita nun idioma estranxeiro



C3	Capacidade para 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
C10	C10-Capacidade para aplicar os coñecementos adquiridos e a súa capacidade de resolución de problemas en contornas novas ou pouco coñecidas dentro de contextos máis amplos (ou multidisciplinares) relacionados coa súa área de estudo
C11	C11-Capacidade para integrar coñecementos e enfrontarse á complexidade de formular xuízos a partir dunha información que, sendo incompleta ou limitada, inclúa reflexións sobre as responsabilidades sociais e éticas vinculadas á aplicación dos seus coñecementos e xuízos

Learning outcomes			
Learning outcomes		Study programme competences / results	
Capacidad para utilizar las herramientas básicas de las tecnologías de la información y las comunicaciones (TIC) necesarias para el ejercicio de su profesión y para el aprendizaje a lo largo de su vida			CC3
Capacidad para aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos o poco conocidos dentro de contextos más amplos (o multidisciplinares) relacionados con su área de estudio.		BC13	
Capacidad para integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios		BC14	
Capacidad para comunicarse de forma efectiva en un entorno de trabajo.		BC4	
Capacidad para trabajar de forma efectiva en un entorno de trabajo.		BC5	
Capacidad de análisis y síntesis.		BC9	
Capacidad para organizar, planificar y resolver problemas relativos al departamento de navegación.		BC11	
Capacidad para coordinar las operaciones de búsqueda y salvamento.	AJ4		
Capacidad para establecer los sistemas y procedimientos del servicio de guardia.	AJ5		
Capacidad para analizar las medidas que procede adoptar en caso de emergencia de la navegación	AJ9		
Capacidad para vigilar y controlar el cumplimiento de las prescripciones legislativas y de las medidas para garantizar la seguridad de la vida humana en la mar, la protección marítima y la protección del medio marino.	AJ16		
Capacidad para mantener la seguridad y protección del buque, de la tripulación y los pasajeros, así como el buen estado de funcionamiento de los sistemas de salvamento, de lucha contra incendios y demás sistemas de seguridad.	AJ17		
Capacidad para elaborar planes para contingencias de control de averías, y actuar eficazmente en tales situaciones	AJ18		
Capacidad para organizar y administrar la atención médica a bordo.	AJ20		
Posuír e comprender coñecementos que aporten unha base ou oportunidade de ser orixinais no desenvolvemento e/ou aplicación de ideas, a miúdo nun contexto de investigación		BC12	



Que os estudantes saiban comunicar as súas conclusións e os coñecementos e razóns últimas que as sustentan a públicos especializados e non especializados dun xeito claro e sin ambigüidades		BC15	
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.		BC16	
Capacidade para dominar a expresión e a comprensión de forma oral e escrita nun idioma estranxeiro			CC2
Capacidade para aplicar os coñecementos adquiridos e a súa capacidade de resolución de problemas en contornas novas ou pouco coñecidas dentro de contextos máis amplos (ou multidisciplinares) relacionados coa súa área de estudo			CC10
Capacidade para integrar coñecementos e enfrontarse á complexidade de formular xuízos a partir dunha información que, sendo incompleta ou limitada, inclúa reflexións sobre as responsabilidades sociais e éticas vinculadas á aplicación dos seus coñecementos e xuízos			CC11
Capacidade para a utilización das cualidades de liderado e xestión	AJ19		

Contents	
Topic	Sub-topic
Topic 1: Investigation of maritime accidents and incidents	1.1. Report and analysis of maritime accidents and casualties following the ISM code. 1.2. Accident investigation in IMO legislation: The Code for the Investigation of Marine Casualties and Incidents as amended. 1.3. Methods and tools to maritime accidents and incidents investigation
Topic 2: Search and rescue. IAMSAR code	A thorough knowledge of the contents of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual and ability to apply its procedures. 1.1. Responsibility and obligation to render assistance. SAR Organization and coordination. Ship report systems. Airplanes report systems. 1.2. Assistance rendering. 1.3. Scene coordination 1.4. On board emergencies
Topic 3: Management systems introduction	3.1.- Quality management 3.2.- Environmental management 3.3.- Labour health and safety management 3.4.- Other management systems. 3.5.- Management system framework
Topic 4: Peculiarities of the management in shipping companies.	4.1.- International Management Code for the safe operation of ships and for pollution prevention [International Safety Management (ISM) Code]. 4.2.- Pollution prevention management. MARPOL Convention. 4.3.- Labour health and safety management (prevention of labour risks) 4.4.- Staff management. International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978 4.5.- Ship security management. International Ship and Port Facility Security. (ISPS) Code
Topic 5: Introduction to ship protection management	5.1. Course overview 5.2. Current piracy threats and patterns 5.3 IMO, 1MB and other organizations and their role 5.4. Limitations of protection forces
Topic 6: Preparations prior transit through high risk areas	6.1. Information gathering. Risk assessment through available information 6.2. Passage planning and reporting including planning for convoys/group transit 6.3. Planning defensive measures



Topic 7: Threat recognition and response	7.1. In transit operations 7.2. Suspected piracy/armed robbery vessel detected 7.3. Being certain that piracy/armed robbery will be attempted 7.4. Pirate/armed robbery vessel in proximity to, or in contact with, own ship 7.5. Pirates/armed robbers start to board ship 7.6. Pirates/armed robbers have succeeded in entering ship 7.7. Pirates/armed robbers gain control of ship/one or more of the crew 7.8. Pirates/armed robbers disembark from ship 7.9. Surviving as a hostage 7.10. In the event of military action
Topic 8: Management during and post incident	8.1. Surviving as a hostage. 8.2. Debrief and incident reporting after attack 8.3. Ships' message formats. Formats for reporting to IMO through maritime administrations or international organizations. 8.4. Getting information. Alerts
Topic 9: Spanish State action against piracy and terrorism	9.1. The crime of piracy in our legal system 9.2. The crime of terrorism in our legal system 9.3. Intelligence services
Topic 10: The shipping company measures against piracy	10.1. Piracy as psychosocial risk factor 10.2. Humanitarian response. Assistance to victims and their families.
Topic 11: Application of CollRegs at management level	Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended
Topic 12: control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment	Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment Regard shall be paid especially to the following subjects: .1 certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity .2 responsibilities under the relevant requirements of the International Convention on Load Lines, 1966, as amended .3 responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea, 1974, as amended .4 responsibilities under the International Convention for the Prevention of Pollution from Ships, as amended .5 maritime declarations of health and the requirements of the International Health Regulations .6 responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo .7 methods and aids to prevent pollution of the marine environment by ships .8 national legislation for implementing international agreements and conventions
Topic 13: Maintenance of safety and maritime protection	Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea) Organization of fire drills and abandon ship drills Maintenance of operational condition of life-saving, fire-fighting and other safety systems Actions to be taken to protect and safeguard all persons on board in emergencies Actions to limit damage and save the ship following a fire, explosion, collision or grounding



Topic 14: Develop emergency and damage control plans and handle emergency situations	Preparation of contingency plans for response to emergencies Ship construction, including damage control Methods and aids for fire prevention, detection and extinction Functions and use of life-saving appliances
Topic 15: Leadership and management	Knowledge of shipboard personnel management and training A knowledge of related international maritime conventions and recommendations, and national legislation
Topic 16: Management of medical care on board	A thorough knowledge of the use and contents of the following publications: .1 International Medical Guide for Ships or equivalent national publications .2 medical section of the International Code of Signals

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Problem solving	A4 A9 A18 A20 B4 B11 B12 B13 C3 C10	10	10	20
Case study	A5 A9 A18 B5 B12 B13 B14 C11	10	10	20
Supervised projects	A18 B9 B13 B16 C2	1	30	31
Oral presentation	B4 B9 B15	1	4	5
Objective test	A9 A16 A17 B9 B14	2	0	2
Guest lecture / keynote speech	A4 A16 A19 B13 B14	34	34	68
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	Individual practical work in the classroom, which may require the use of ICT and/or prior or subsequent self-study/work of the student
Case study	Practical group work in the classroom, which may require prior or subsequent self-study/work of the student.
Supervised projects	Self-study/work that will require general classroom guidance and personalized tutoring.
Oral presentation	It will consist of the oral presentation in the classroom of the tutored work assigned to the student
Objective test	Exam in which the student will show the knowledge and skills acquired.
Guest lecture / keynote speech	Face-to-face theoretical classes, which may require the student's prior and/or subsequent self-study/work

Personalized attention	
Methodologies	Description



Supervised projects	To the student, will be assigned one or more tutored works that will be exhibited in the classroom according to the calendar and the contents of the subject. For the realization of these works the student will have the advice of the teacher through personalized tutorials. Regarding the "Students with part-time dedication and academic attendance waiver" the Teacher makes available to the student the updated notes of the Subject in reprography room, does not require class attendance for evaluation on both occasions in January and July and with regard to the Professor's tutoring, not only will you be willing to resolve the doubts presented to these types of students in the hours established for this purpose by the Professor; but also in any other where you are in the office and the other activities you are developing allow it. As regards the content of the objective test on both occasions, this will be the one generally established in the description of it.
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Assessment			
Methodologies	Competencies / Results	Description	Qualification
Guest lecture / keynote speech	A4 A16 A19 B13 B14	Attendance and use of face-to-face classes will be evaluated by the teacher.	10
Problem solving	A4 A9 A18 A20 B4 B11 B12 B13 C3 C10	Attendance, participation and use of problem-solving classes will be positively evaluated by the teacher	10
Case study	A5 A9 A18 B5 B12 B13 B14 C11	Attendance, participation and use of case study classes will be positively evaluated by the teacher	10
Supervised projects	A18 B9 B13 B16 C2	Evaluation of the process of carrying out the tutored work and the final result of it.	20
Oral presentation	B4 B9 B15	Oral face-to-face test in which the student will present the results of the assigned tutored work/s.	10
Objective test	A9 A16 A17 B9 B14	It will consist of a written face-to-face test in which the student will demonstrate the knowledge acquired.	40

Assessment comments
This subject consist on three different and independent parts, each of them is going to be assessed in and independent way, and the final mark will be the average mark of these three parts. The assessment criteria reflected on table A-II/2 of the STCW Code, and also reflected in the Quality System, are taken into account to design and perform the assessment.

Sources of information



Basic	Tráficos ilícitos, piratería y terrorismo en la mar. José Carlos Moreno Torres. Piratería y terrorismo en el mar. Sobrino Heredia, José Manuel. El código PBIP. Ricard Mari Sagarra. Actions to be taken to prevent acts of piracy and armed robbery. Model course 3.23. IMO 2011 Edition. Inteligencia y seguridad. Revista de análisis y prospectiva. Universidad Rey Juan Carlos. Reglamento (CE) No 725/2004 DEL PARLAMENTO EUROPEO Y DEL CONSEJO de 31 de marzo de 2004 relativo a la mejora de la protección de los buques y las instalaciones portuarias. ANEXO II. ENMIENDAS AL ANEXO DEL CONVENIO. INTERNACIONAL PARA LA SEGURIDAD DE LA VIDA HUMANA EN EL MAR, 1974. ANEXO III CÓDIGO INTERNACIONAL PARA LA PROTECCIÓN DE LOS BUQUES Y DE LAS INSTALACIONES PORTUARIAS (CÓDIGO PBIP). OMI; Código Internacional de Gestión de la Seguridad (Código IGS) y Directrices revisadas para la implantación del Código IGS. Segunda edición. Londres: OMI. OMI; Código Internacional para la Protección de los Buques y de las Instalaciones Portuarias. Londres: OMI. OMI; Convenio Internacional sobre Normas de Formación, Titulación y Guardia para la Gente de Mar de 1978 en su forma enmendada en 1995 (STCW 95). Londres: OMI. Tercera edición (refundida). Londres: OMI. Cuarta edición (refundida). Londres: OMI. Normativa UE. Normas UNE-EN-ISO Modelo EFQM de Excelencia. Reglamento europeo EMAS. OHSAS 18001. Directrices relativas a los sistemas de gestión de la seguridad y la salud en el trabajo, ILO-OSH. La Ley 31/1995, de Prevención de Riesgos Laborales, y su normativa de desarrollo. Código IAMSAR Código para la investigación de siniestros y sucesos marítimos Marine accident and incident investigation manual, OMI The field guide to human error investigations Manual práctico para la investigación de accidentes e incidentes laborales. Código IGS y directrices para su implantación. Edición de 2018. OMI
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.