Course guide
280620 - 280620 - Maritime Safety & Security

Last modified: 24/11/2023

Unit in charge: Barcelona School of Nautical Studies
Teaching unit: 742 - CEN - Department of Nautical Sciences and Engineering.

Degree: BACHELOR'S DEGREE IN NAUTICAL SCIENCE AND MARITIME TRANSPORT (Syllabus 2010). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Spanish

LECTURER

Coordinating lecturer: ANTONI MORRAL OYAMBURU

Others: Primer quadrimestre:
FRANCISCO JAVIER MARTINEZ DE OSÉS - GNTM
JORDI MATEU LLEVADOT - GNTM
ANTONI MORRAL OYAMBURU - GNTM

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Knowledge, use and application of the ship from the principles of safety and security of the ship, fire fighting and survival, preventing and combating pollution.
4. Knowledge, use and application of the principles of the ship systems and quality management applied to the vessel and safety management audits of the ship.

Generical:
CG8.GEN. ABILITY TO IDENTIFY AND SOLVE PROBLEMS IN THE FIELD OF ENGINEERING

Transversal:
2. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

This course will evaluate the following STCW competences:Respond to emergencies, prevent, control and fight fires on board, operate life-saving appliances.
To assume ship safety depends not only on her equipment but also her construction and those associated (crews, designers, companies, inspection bodies, ...).
To understand, interpret and use international conventions and other regulations in regard to maritime safety and security.
To distinguish the concept of Safety from Security and recognize onboard equipment, procedures or facilities relating to one or the other.

Competencies
The ones corresponding to especific 11 and 12 together with the ones in chart A-II/1 of the STCW convention: "Respond to emergencies", "Prevent, control and fight fires on board", "Operate life-saving appliances", part of "Monitor compliance with legislative requirements" and "Contribute to the safety of personnel and ship".

STUDY LOAD

Type	Hours	Percentage
Hours large group	54,0	36.00
Hours medium group	6,0	4.00
Self study	90,0	60.00

Total learning time: 150 h

CONTENTS

(ENG) 1.- International Maritime Organization.

Description:
What is and how IMO is organized, its committees and its strategic plan. Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment.
(These skills are required by the STCW Convention)

Full-or-part-time: 4h
Theory classes: 3h
Guided activities: 1h

(ENG) 2.- Introduction to the Solas convention. Definitions and general provisions.

Description:
The Solas Convention: versions, structure, content. Solas I and Solas II-1 -. Definitions, surveys and safety certificates, unattended machinery spaces.

Full-or-part-time: 4h
Theory classes: 3h
Guided activities: 1h

(ENG) 3.- Fire prevention and Firefighting.

Description:
The marine casualty. Fire. Fire prevention. Fire detection. Methods of protection. Firefighting. Maintenance of equipment. The fire drill and operational issues.

Related activities:
Structural fire protection.
Fixed fire fighting system.
Fire drill.

Full-or-part-time: 12h
Theory classes: 5h 30m
Laboratory classes: 1h 30m
Guided activities: 1h
Self study : 4h

(ENG) 4.- Life saving equipment and instalations.

Description:
Number and arrangement of the life saving devices on board. Individual devices. Visual cues. Survival craft and rescue boats. Launching and embarkation. Abandon ship drill.

Related activities:
Survival crafts.
Abandon ship drill.

Full-or-part-time: 12h
Theory classes: 5h
Guided activities: 2h
Self study : 5h

(ENG) 5.- Global Maritime Distress and Safety System.

Description:
Organization. Components and equipment. Maritime safety information. Radio (Solas IV).

Full-or-part-time: 4h
Theory classes: 3h
Guided activities: 1h

(ENG) 7.- Evaluation.

Description:
Doing exercises review. Presentations.

Full-or-part-time: 8h
Practical classes: 2h
Self study : 6h

(ENG) 6.- Safety of navigation.

Description:
Solas V. - routeing, bridge, navigational equipment, the establishment of minimum safe manning, working language. International Convention for Preventing Collisions at Sea: - Rules of maneuvering, navigation lights and shapes.

Full-or-part-time: 8h
Theory classes: 5h
Laboratory classes: 1h
Self study : 2h

(ENG) 8.- Safety management on board.

Description:
The International Safety Management Code for the Safe Operation of Ships and for Pollution Prevention (Solas Solas IX and XI-1). Risk management.

Related activities:
Exercise on risk management.

Full-or-part-time: 8h
Theory classes: 2h
Laboratory classes: 1h
Guided activities: 1h
Self study : 4h

(ENG) 9.- Maritime security.

Description:
Ship security. Protection of the port facility. Security officers. Assessment for protection. Equipment and protective systems. Threats. Piracy.

Related activities:
Exercise on ship security.

Full-or-part-time: 12h
Theory classes: 6h
Guided activities: 1h
Self study : 5h

(ENG) 10.- Maritime safety warranty.

Description:
The Spanish Directorate General of Merchant Marine. Flag surveys. Classification societies. The PSC inspections. Vetting.

Full-or-part-time: 4h
Theory classes: 2h
Guided activities: 1h
Self study : 1h

(ENG) 11.- The human factor.

Description:
Fatigue. The International Labour Organization and the Maritime Labour Convention.

Full-or-part-time: 4h
Theory classes: 2h
Self study : 2h

Visit on board.

Description:
Recognition of equipment and facilities. Knowledge of operations.

Full-or-part-time: 8h
Theory classes: 1h
Practical classes: 4h
Self study : 3h

GRADING SYSTEM

The marks in the subject will be based in the following rates:
Attendance (compulsory): 10%
Activities: 30%
Partial exam: 30%
Final exam: 30%

BIBLIOGRAPHY

Basic:
- Organización Marítima Internacional. Código PBIP : edición del 2003 : Código internacional para la protección de los buques y de las instalaciones portuarias. Londres: OMI, 2003. ISBN 9280135686.
- Código IGS : código internacional de gestión de la seguridad i directrices para la implantación del Código IGS. 3a ed. Londres: Organización Máritima Internacional, 2010. ISBN 9280135694.
- Organització Internacional Marítima. SOLAS : edición refundida de 2020 : texto refundido del Convenio internacional para la seguridad de la vida humana en el mar, 1974, y su protocolo de 1988 : artículos, anexos y certificados. Londres: IMO, 2020. ISBN 9789280131253.
- Organización Marítima Internacional. COLREG : Convenio internacional sobre la revisión del reglamento internacional para prevenir los abordajes. 4a ed. Londres: OMI, 2004. ISBN 9280100971.
- Convenio Marpol : artículos, protocolos, anexos e interpretaciones unificadas del Convenio internacional para prevenir la contaminación por los buques, 1973, modificado por el Protocolo de 1978 y 1997. Ed. refundida. Londres: Organización Marítima Internacional, 2011. ISBN 9789280131031.
- Organización Marítima Internacional. Código SSCI : código internacional de sistemas de seguridad contra incendios : resolución MSC.98(73). Londres: Organización Marítima Internacional, 2007. ISBN 9789280101676.
- Resolution A.952(23) adopted on 5 December 2003 graphical symbols for ship board fire control plans [on line]. Londres: International Maritime Organization, 2003 [Consultation: 19/07/2017]. Available on: http://www.imo.org/blast/blastDataHelper.asp?data_id=27129&filename=A952(23).pdf.
- Dispositivos de salvamento : edición de 2010 ; incluido el Código IDS. Londres: Organización Marítima Internacional, 2010. ISBN 9789280101744.
- Resolution A.760(18) adopted on 4 November 1993 symbols related to live-saving appliances and arrangements [on line]. Londres: International Maritime Organization, 1993 [Consultation: 19/07/2017]. Available on: http://www.imo.org/blast/blastDataHelper.asp?data_id=22605&filename=A760(18)E.pdf.

Complementary:
- Directrices sobre criterios ergonómicos para el equipo y la disposición del puente (MSC/circ.982) [on line]. Londres: Organización Marítima Internacional, 2000Available on: http://www.imo.org/blast/blastDataHelper.asp?data_id=1878&filename=982.pdf.
- Paris MoU on Port State Control. The Paris Memorandum of Understanding on Port State Control [on line]. The Paris MoU Advisory Board (MAB), [Consultation: 19/07/2017]. Available on: https://www.parismou.org/inspections-risk/library-faq/memorandum.
- MSC/Circ.1014, 12 June 2001 : Guidance on fatigue mitigation and management [on line]. Londres: International Maritime Organization, 2001 [Consultation: 19/07/2017]. Available on: http://www.imo.org/OurWork/HumanElement/VisionPrinciplesGoals/Documents/1014.pdf.
- Convenio relativo a las horas de trabajo a bordo y la dotación de los buques (convenio O. I. T. 180) [on line]. Ginebra: Organización Internacional del Trabajo, 1996 [Consultation: 09/10/2018]. Available on: http://www.fomento.es/NR/rdonlyres/C3DE3517-7544-4840-85E3-B79EDF3ECD93/121746/CONVENIO180OIT.pdf.
- Código de investigación de siniestros. Londres: Organización Marítima Internacional, 2008. ISBN 9789280101973.

- "Orden de 10 de junio de 1983 sobre normas complementarias de aplicación al Convenio Internacional para la Seguridad de la Vida Humana en el Mar ...". Boletín Oficial del Estado BOE [on line]. Núm. 233, (29 de setembre de 1983), p.26531-26582 [Consultation: 19/07/2017]. Available on: http://www.boe.es/diario_boe/txt.php?id=BOE-A-1983-26065.- "Real Decreto 1837/2000, de 10 de noviembre, por el que se aprueba el Reglamento de inspección y certificación de buques civiles". Boletín Oficial del Estado BOE [on line]. Núm. 285, (28 de novemdre de 2000), p.41142-41164 [Consultation: 19/07/2017]. Available on: https://www.boe.es/buscar/doc.php?id=BOE-A-2000-21432.- Código PEF : código internacional para la aplicación de procedimientos de ensayo de exposición al fuego, 2010. 4a ed. Londres: Organización marítima internacional, 2012. ISBN 9789280131079.
- Disposiciones generales sobre organización del tráfico marítimo (resol. A.572 (14)) [on line]. Londres: Organización Marítima Internacional, 1985Available on: http://www.imo.org/blast/blastDataHelper.asp?data_id=22369&filename=A572(14).pdf.
- Resolution A.890 (21) adopted on 25 November 1999 principles of safe manning [on line]. Londres: International Maritime Organization, 1999 [Consultation: 19/07/2017]. Available on: http://www.imo.org/OurWork/HumanElement/VisionPrinciplesGoals/Documents/890.pdf.

RESOURCES

Hyperlink:
- www.imo.org
- www.wikipedia.com