280704 - Management of Integrated Systems. Safety, Environment and Quality

Coordinating unit: 280 - FNB - Barcelona School of Nautical Studies
Teaching unit: 742 - CEN - Department of Nautical Sciences and Engineering
Academic year: 2019
Degree: MASTER'S DEGREE IN NAUTICAL SCIENCE AND MARITIME TRANSPORT MANAGEMENT (Syllabus 2016). (Teaching unit Compulsory)
MASTERS DEGREE IN THE MANAGEMENT AND OPERATION OF MARINE ENERGY FACILITIES (Syllabus 2016). (Teaching unit Compulsory)
ECTS credits: 5
Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: SANTIAGO ORDAS JIMENEZ

Opening hours
Timetable: Tuesday: 10-12
Monday: 10-12
Thursday: 10-12

Degree competences to which the subject contributes

Specific:
CE14MEM. Apply the rules of classification, construction and inspection of vessels.
CE15MEM. Interpret all the ship's papers.
CE16MEM. Apply the principles of cogeneration in marine installations.

CE16MEM. Distinguish the scope of local, regional, central and international maritime administrations.

Transversal:
CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.
CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.
CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.
CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

Teaching methodology
Receive, understand and synthesize knowledge.
Set up and solve problems.
Develop critical thinking and reasoning and defend it orally or in writing.
Perform work and activities individually or in groups.
Learning objectives of the subject

At the end of the course the student can demonstrate that:

Knows Environmental Standards . ISO 14000/14001, EMAS Regulation. Has extensive knowledge of them and Modes Application and Implementation
Knows Quality Standards . ISO 9001. Has extensive knowledge of them and Modes Application and Implementation
Knows safety regulations
Knows The Standard OHSAS 18.001 on the management of Occupational Safety and Health.
Knows aspects of Corporate Social Responsibility
The student is capable of carrying an Audit Process

This course will evaluate the following STCW competences, according the Table A-II/2 & A-III/2

18. Develop emergency and damage control plans and handle emergency situation (A-II/2)

Ensure safe working practices (A-III/2)

Study load

<table>
<thead>
<tr>
<th>Total learning time: 45h</th>
<th>Hours large group: 45h</th>
<th>100.00%</th>
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#### Content

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<tr>
<th>ISO 9001. Management Quality Systems</th>
<th>Learning time: 18h 10m</th>
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</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 6h 30m</td>
</tr>
<tr>
<td>Evolution Systems Quality Management and its Principles.</td>
<td>Self study : 11h 40m</td>
</tr>
<tr>
<td>Requirements of a quality management system and the leadership and commitment of senior management.</td>
<td></td>
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<tr>
<td>Planning for the quality management system.</td>
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<tr>
<td>Resource Management-Support.</td>
<td></td>
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<tr>
<td>Requirements for Product Realization-operation.</td>
<td></td>
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<td>Performance Evaluation and Improvement Processes.</td>
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<table>
<thead>
<tr>
<th>ISO 14001 &amp; EMAS Regulation: Environmental Management Systems</th>
<th>Learning time: 18h 10m</th>
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</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 6h 30m</td>
</tr>
<tr>
<td>Environmental Management and ISO 14001.</td>
<td>Self study : 11h 40m</td>
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<tr>
<td>Special features of the Environmental Management System according EMAS Regulation.</td>
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<tr>
<td>Analysis and Environmental Statement.</td>
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<th>Advanced Tools for Sustainable Environmental Management</th>
<th>Learning time: 18h 10m</th>
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<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Theory classes: 6h 30m</td>
</tr>
<tr>
<td>Fundamentals of Ecodesign and Life Cycle of Products.</td>
<td>Self study : 11h 40m</td>
</tr>
<tr>
<td>What are the eco-labels.</td>
<td></td>
</tr>
<tr>
<td>Sustainable Management and Certification.</td>
<td></td>
</tr>
<tr>
<td>Ambientales.Análisis indicators and Environmental Risk Assessment.</td>
<td></td>
</tr>
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</table>
### corporate social responsibility

**Learning time:** 18h 10m  
Theory classes: 6h 30m  
Self study: 11h 40m

**Description:**  
Requirements and Implementation ISO 26000 and ISO CAP Evolution.  
Sustainability Reports. The Global Reporting Initiative (GRI).  
Requirements of AA1000.  
SA8000 requirements.  
Trends and Integration of Social Responsibility.  
Audits and Certification of Social Responsibility.

### Health & Safety at work

**Learning time:** 18h 10m  
Theory classes: 6h 30m  
Self study: 11h 40m

**Description:**  
Fundamentals of Occupational Safety.  
Application of Industrial Safety at Companies.  
Importance of Industrial Hygiene at Companies.  
Ergonomics.  
Psicosociological characteristics associated with Labour.

### OHSAS 18001: Safety and Health Management System

**Learning time:** 18h 10m  
Theory classes: 6h 30m  
Self study: 11h 40m

**Description:**  
Challenge of Safety and Health at Work.  
Documental Structure of Safety & Health Management Systems.  
General and Policy Requirements OHSMS.  
Planning Management System OHSAS.  
Implementation and operation of OHSMS.  
Testing and Management System Review OHSMS by management.
### Integration of Management Systems Audit and Certification

**Description:**
- International Standardization and Industrial Safety.
- Main aspects of IMS Audits.
- Auditor IMS profile.
- Audit Process.
- Audit Report Preparation of a IMS.
- Integration of Management Systems.

**Learning time:** 18h 10m  
- Theory classes: 6h 30m  
- Self study: 11h 40m

### Safety Management System (ISM Code)

**Description:**
- Background and the vision of the ISM Code
- Introduction to the 16 elements of the ISM Code
- Functional requirements for a SMS
- System of internal and external verification
- Interpretations and requirements of major flag States

**Specific objectives:**
- This knowledge is necessary in accordance with STCW Code A-II/2 and A-III/2 and it's developed according to 
  MASTER AND CHIEF MATE (Model course 7.01) (2014 Edition) and CHIEF ENGINEER OFFICER AND SECOND  
  ENGINEER OFFICER  
  (Model course 7.02) (2014 Edition)
- 18.1 Preparation of contingency plans for response to emergencies 
- 18.2 Ship construction, including damage control 
- 18.3 Methods and aids for fire prevention, detection and extinction 
- 18.4 Functions and use of life-saving appliances

- Ensure safe working practices
The final score is the sum of the following partial grades:
\[ N_{\text{final}} = 0.5 \, N_{\text{pf}} + 0.3 \, N_{\text{act}} + 0.2 \, N_{\text{aca}} \]

- \( N_{\text{final}} \): final grade.
- \( N_{\text{pf}} \): final test score.
- \( N_{\text{act}} \): continuous assessment work.
- \( N_{\text{aca}} \): continuous assessment activities rating.

The final test consists of a part with issues related to the learning objectives of the course in terms of knowledge or understanding concepts, and a set of application exercises. Continuous assessment consists of different activities, both individual and group, summative and formative, made during the course (in the classroom and outside of it). The reassessment of the course will consist of a final exam that will include all the contents of the subject.

**Regulations for carrying out activities**

If not any of the ongoing evaluation activities performed, shall be deemed not scored.
Be deemed not submitted the student / a not present at the final test or have not submitted at least 50% of the work and activities.

**Bibliography**

**Basic:**