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**MARITIME FACULTY**

**Faculty of Navigation**

**Navigation Engineering Department**

**Course Catalogue Form**

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| **Issue Date :**  | **Revision Date :-** | **Revision Number: -** | **Faculty Board Decision Number:**  |

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| --- | --- |
| **Course Name**: Cargo Operation (Simulator Practice) | **Degree:** Bachelor |
| **Code** | **Year/Semester** | **Local Credits** | **ECTS Credits** | **Course Implementation, Hours/Week** |
| **Course** | **Tutorial**  | **Workshop** |
|  | **2/1 (Fall)** | **2** | **5** | **1** | - | **1** |
| **Department** | **Navigation Engineering** |
| **Instructors** |  |
| **Contact Information** |  |
| **Office Hours** |  |
| **Web page**  | <https://www.marplat.eu>  |
| **Course Type** |  Elective | **Course Language** | English |
| **Course Prerequisites** |  At discretion of each partner university |
| **Course Category by Content, %** | **Basic Sciences** | **Engineering Science** | **Engineering Design** | **Humanities** |
|  |  | - |  |
| **Course Description** | The course provides training for watch officers at the operational level on monitoring the loading, stowage, securing, and unloading of cargoes and their care during the voyage. Those who have successfully completed the course will be able to demonstrate knowledge and understanding of the basic rules and duties involving loading, transport Those who have successfully completed the course will be able to demonstrate knowledge and understanding of the basic rules and duties involving loading, transport and discharge and discharge of cargo as well as MAR&SOPEP application, Cargo Emergencies and Draft Survey |
| **Course Objectives**  | The student knowledge shall include the following:1. Understand and apply Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules/regulations, equipment operating instructions, and shipboard stowage limitations
2. Understand and apply The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized standards and codes of safe practice
3. Understand and apply procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed
4. Cargo Emergencies and Basic Risk Assessment
5. Draft Survey
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| **Course Learning Outcomes**  | Those who have successfully completed the course shall demonstrate the following skills:I. Prepare and apply cargo plans for liquid and dry bulk shipsII. Revise Cargo plan in according to changing conditionIII. Conduct MARPOL/SOPEP application IV. Cargo Emergencies and Risk AssessmentV. Making Draft Survey |
| **Instructional Methods and Techniques** | Lectures and Simulator scenarios |
| **Tutorial Place** | Classroom and Simulator Stand-alone computers uploaded with cargo loading and draft survey program are advised |
| **Co-term Condition** | **---** |
| **Textbook** | Unit handout, Powerpoint slides, Draft Survey Handouts.  |
| **Other References** | 1. SOLAS 1974 Consolidated Edition 2009
2. STCW 78 as amended, including the amendments from Manila 2010,

(Table A/II-1 Function: Cargo handling and stowage at the operational level)1. MARPOL 73/78 Consolidated Edition 2011,
2. IMO Modal Course 1.37 and 2.06
3. Cargo Stowage and Securing A Guide To Good Practice, Second Edition,

 North of England P&I Association Limited 200ISBN 978-0-9546537-8-1 6. House D. J., 2005, Cargo Work (KEMP&YOUNG- Revised by HOUSE), Elsevier Butterworth Heinmann, Oxford, ISBN 0 7506 6555 6 7. SOPEP 8. ISM Code |
| **Homework & Projects** | Each group to prepare cargo handling procedure on the simulator exercise as directed by the lecturer |
| **Laboratory Work** | Simulator Exercise |
| **Computer Use** | Power point for lectures, Cargo simulator – IMO Model Courses 1.37; 2.06 |
| **Other Activities** | Five video tutorials to be recorded in the simulator from the selected practical training activities |

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| **Assessment Criteria** | **Activities** | **Quantity** | **Effects on Grading, %** |
| Attendance |  |  |
| Midterm | **1** | **30** |
| Quiz | **2** | **10** |
| Homework | **2** | **4** |
| Term Paper/Project |  |  |
| Laboratory Work | **1** | **2** |
| Practices | **1** | **4** |
| Tutorial  |  |  |
| Seminar |  |  |
| Presentation |  |  |
| Field Study |  |  |
| Final Exam | **1** | **50** |
| **TOTAL** |  | **100** |
| Effects of Midterm on Grading, % |  | **50** |
| Effects of Final on Grading, % |  | **50** |
| **TOTAL** |  | **100** |

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| **ECTS/****WORKLOAD TABLE** | **Activities** | **Count**  | **Hours** | **Total** **Workload** |
| Lecture  | **7** | **2** | **14** |
| Midterm | **1** | **10** | **10** |
| Quiz | **2** | **5** | **10** |
| Homework | **2** | **10** | **20** |
| Term Paper/Project |  |  |  |
| Laboratory Work |  |  |  |
| Practices | **7** | **5** | **35** |
| Tutorial  | **7** | **2** | **14** |
| Seminar |  |  |  |
| Presentation | **5** | **2** | **10** |
| Field Study |  |  |  |
| Final Exam | **1** | **10** | **10** |
| **Total Workload** |  |  | **123** |
| **Total Workload/25** |  |  | **123/25** |
| **Course ECTS Credits** |  |  | **5** |

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| **Week** | **TOPICS** | **Course Outcomes** |
| **1** | **Basic knowledge of Cargo Loading and Discharging** * Introduction
* Protection of Ship Strength, and Ship Stability
* Visibility, Propeller, (Feasibility), Accessibility
* Loading
* Discharging
 | I |
| **2** | **EXERCISE I (Based on the application of basic cargo principals)** | I |
| **3** | **Preparing a Cargo Plan** - Basics of Cargo Plan - Cargo Properties- Material Safety Data Sheet - Stowage and Securing- Limits of SF and BM | II |
| **4** | **EXERCISE II (Based on a plan for dry bulk loading)** | II |
| **5** | **EXERCISE III (Based on a plan for liquid bulk loading** | II |
| **6** | **Revising Cargo Plan according to changing conditions**- Draft change- Substance change- Amount change- SF **change**- Hold/tank change | II |
| **7** | **EXERCISE IV (Based on Revising Cargo Plan in according to changing conditions)** | II |
| **8** | **Pollution prevention*** Effect of oil and chemical pollution on the human and marine environment
* Basic knowledge of ship’s procedures for pollution prevention
* SOPEP; SMPEP – measures taken in case of oil spill including:
1. *Information report to responsible officers*

 *2. Participation in ship’s oil spill procedures* | III |
| **9** | **EXERCISE V (Based on SOPEP Application)** | III |
| **10** | **Cargo Emergencies and Basic methods for risk assessment and control** | IV |
| **11** | **EXERCISE VI (Based on Case Studies)**1. *Explosion during slop tank discharging*
2. *Tank overflow on a chemical tanker after partial discharging*
 | IV |
| **12** | **Draft survey** | V |
| 13 | **EXERCISE VII (Draft Survey Calculation for each student)**- Manual Calculation- Computer-Assisted | V |
| **14** | **FINAL EXAM (Written Exam and Practical Study)** | I-V |

**Relationship between the Course and the Curricula of Maritime Transportation Management Engineering and Marine Engineering**

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| --- | --- | --- |
|  | **Program Outcomes** | **Level of Contribution** |
| **1** | **2** | **3** |
| **a** | An ability to apply knowledge of mathematics, science, and engineering |  | X |  |
| **b** | An ability to design and conduct experiments, as well as to analyse and interpret data |  |  | X |
| **c** | An ability to design a system, component or process to meet desired needs |  |  |  |
| **d** | Ability to function on multi-disciplinary teams | X |  |  |
| **e** | An ability to identify, formulate, and solve engineering problems |  | X |  |
| **f** | An understanding of professional and ethical responsibility |  |  | X |
| **g** | An ability to communicate effectively |  | X |  |
| **h** | The broad education necessary to understand the impact of engineering solutions in a global and societal context |  |  |  |
| **i** | A recognition of the need for, and an ability to engage in life-long learning |  |  |  |
| **j** | A knowledge of contemporary issues |  |  | X |
| **k** | An ability to use the techniques, skills and modern engineering tools necessary for engineering practice |  |  |  |
| **l** | An ability to apply legal, societal and environmental knowledge in maritime transport and in all respective modes of transport operations. | X |  |  |
| **m** | An ability to interpret and analysis of the data regarding maritime management and operations, recognition and solution of problems for decision making process. | X |  |  |

 **1: Small, 2: Partial, 3: Full**

**Programme Outcomes & Course Outcomes Connectivity Matrix**

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| **Course****Outcomes** | **I** | **II** | **III** |  |  |  |  |
| **Programme Outcomes** |
| **a** |  |  |  |  |  |  |  |
| **b** |  |  |  |  |  |  |  |
| **c** |  |  |  |  |  |  |  |
| **d** |  |  |  |  |  |  |  |
| **e** |  |  |  |  |  |  |  |
| **f** |  |  |  |  |  |  |  |
| **g** |  |  |  |  |  |  |  |
| **h** |  |  |  |  |  |  |  |
| **i** |  |  |  |  |  |  |  |
| **j** |  |  |  |  |  |  |  |
| **k** |  |  |  |  |  |  |  |
| **l** |  |  |  |  |  |  |  |
| **m** |  |  |  |  |  |  |  |

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| ***Prepared by*** | **Date** | Signature |