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**MARITIME FACULTY**

**Marine 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**: **ENGINE ROOM WATCHKEEPING** | **Degree:** Bachelor |
| **Code** | **Year/Semester** | **Local Credits** | **ECTS Credits** | **Course Implementation, Hours/Week** |
| **Course** | **Tutorial**  | **Workshop** |
| **MEE 001S** | **2/1 (Spring)** | **2** | **5** | **1** | - | **1** |
| **Department** | **Marine 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** |
| 20 | 50 | - | 30 |
| **Course Description** | This course covers all the requirements concerning maintenance of a safe engineering watch such as precautions before undertaking the watch duties, the tasks to be done during the watch, how to address an emergency or malfunctions and others including Engine Room Resource Management (ERM) to fulfil the safe engineering watch in the competence table A-III/3 of the STCW Code. ERM must be applied to all procedures/processes concerning these precautions and tasks including personnel management, equipment management and information management which contain many human elements. There are guidelines for watchkeeping and ERM principles in the STCW Code and these are also learned in this course, and it should be identified what the most important thing is during the engineering watch. In addition to the issue concerning the engineering watch, a noon report, watch report/log, and functions of a data logger as a monitoring system are also included in this course  |
| **Course Objectives**  | 1. To enable trainees to understand the requirements for maintaining a safe engineering watch stipulated in the STCW Convention and Code.
2. To enable trainees to understand precautions and preparations before undertaking the watch
3. To enable trainees to understand how to maintain the watch including tasks/duties to be done during the watch
4. To enable trainees to understand correlations between engine output, speed, fuel consumption and distance run
5. To enable trainees to understand the meaning of ERM and ERM principles
6. To enable trainees to understand human elements concerning ERM
7. To enable trainees to fill in noon log and watch report/log
8. To enable trainees to understand configuration, functions and system components of a data logger
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| **Course Learning Outcomes**  | Trainees who successfully pass the course will acquire knowledge and skills as listed below.1. Requirements necessary for maintaining a safe engineering watch. Precautions and preparation for undertaking the watch duties. Tasks/duties to be done during the watch
2. Correlation between engine output, fuel consumption, speed and distance run. Meaning of ERM and ERM principles
3. Human elements concerning ERM
4. Noon log and watch report/log. Configuration, functions and system components of a monitoring system
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| **Instructional Methods and Techniques** | Lecturing and Simulator Practices |
| **Tutorial Place** | Classroom and Simulator |
| **Co-term Condition** | **---** |
| **Textbook** | Unit Handout, Power Point SlidesIMO Model Course 7.04 |
| **Other References** | The international convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 as amended (STCW Convention and Code) |
| **Homework & Projects** | A report/Homework will be assigned accordinglyThe report will be graded as submitted and effected in the final grade |
| **Laboratory Work** | Simulator Exercise |
| **Computer Use** | - |
| **Other Activities** | 5 video tutorials shall be recorded in the simulator/lab 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** | **10** |
| Term Paper/Project |  |  |
| Laboratory Work |  |  |
| Practices |  |  |
| 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** | **Course overview**Fundamental knowledge on watchkeeping (Meaning of an engineering watch, watch arrangement and responsibility of watch officer) | I |
| **2** | **Competencies necessary for an engineering watch**STCW Convention and Code and the recent amendments | I |
| **3** | * Provisions for watchkeeping described in the STCW Convention and Code
* Code of conducted to be observed by engineer officers
 | I |
| **4** | Code of conduct to be observed by engineer officers (Cont.)  | I |
| **5** | * Tasks to be done during the watch
* Items to be reported or notified
 | I |
| **6** | Response to power failure | I |
| **7** | Response to urgentstandby and other emergencies | I |
| **8** | * Precautions under heavy weather
* Response to malfunctions
 | II |
| **9** | * Chief engineer’s log
* Noon log
 | II |
| **10** | * Application of ERM
* Application of ERM principles
 | III |
| **11** | Human elements in practicing ERM | III |
| **12** | Case study on ERM  | III |
| **13** | * Functions and configuration of monitoring system
* Operation and mechanism of components constructing monitoring system
 | IV |
| **14** | General review and major exercise | I - IV |

**Relationship between the Course and the Curricula of Maritime Transportation 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 |  | X |  |
| **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 |  | X |  |
| **i** | A recognition of the need for, and an ability to engage in life-long learning | X |  |  |
| **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 basic knowledge in fluid mechanics, structural mechanics, material properties, and energy/propulsion systems in the context of marine vehicles | X | X |  |
| **m** | An ability to interpret and analysis of the data regarding maritime management and operations, recognition and solution of problems for the decision-making process. |  | X |  |

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

**Program Outcomes & Course Outcomes Connectivity Matrix**

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| **Course****Outcomes** | **I** | **II** | **III** | **IV** |  |  |  |
| **Program Outcomes** |
| **a** |  |  |  |  |  |  |  |
| **b** |  |  |  |  |  |  |  |
| **c** |  |  |  |  |  |  |  |
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| ***Prepared by*** | **Date** | Signature |