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| **MSA Unit 106** | **QCF Ref: R/505/9332**  |
| Title: | **Engineering Operations on Domestic Vessels in Non-Tidal Waters** |
| Level: | **2** |
| Credit value: | **3** |
| Learning outcomes - The learner will: | Assessment criteria - The learner can: |
| 1. Know vessel propulsion machinery, auxiliaries and services | 1.1 Describe the principles of small vessel propulsion machinery, auxiliaries and services systems operation1.2 Describe how to plan engineering practices and procedures for small vessel propulsion machinery, auxiliaries and services1.3 Describe how to implement a plan for engineering practices and procedures for small vessel propulsion machinery, auxiliaries and services1.4 Describe the preparation of machinery and auxiliaries according to plan1.5 Describe the causes of machinery malfunctions and actions to be taken1.6 Describe how to locate common machinery faults1.7 Describe how to operate control systems, including correction of minor deviations1.8 Describe common faults in control systems and actions to be taken1.9 Describe emergency shut down sequence, timing and hazards1.10 Describe how to adjust machinery operations to maintain safe operations1.11 Describe the relevant safety regulations, machinery operating instructions, conditions and manufacturer’s instructions |
| 2. Know vessel pumping and associated control systems | 2.1 Describe the principles of small vessel pumping systems equipment and machinery operation 2.2 Describe how to plan pumping operations2.3 Describe routine pumping operations, including bilge, ballast, fuel and water pumping systems2.4 Describe the causes of pumping system malfunctions and actions to be taken2.5 Describe how to use instruments to monitor conditions2.6 Describe relevant safety regulations, conditions, manufacturer’s instructions and maintenance schedules |
| 3. Know vessel electrical systems | 3.1 Describe the principles of small vessel electrical systems equipment and machinery operation3.2 Describe electrical systems protection arrangements, circuits and circuit breakers3.3 Describe how to use instruments to monitor conditions3.4 Describe the maintenance of electrical supply within given conditions, possible problems and irregularities that could occur3.5 Describe fault detection system operation and isolating procedures |
| Additional information about the unit | This unit is designed for study by those working towards meeting the requirements for BML Tier 1 Level 1 Generic Underpinning Knowledge |
| Unit aim(s) | The aim of the unit is to provide the knowledge underpinning proficiency (in part) for taking charge of a domestic vessel in non-tidal waters, including the requirements (in part) for BML Tier 1 Level 1 Generic Underpinning Knowledge |
| Unit expiry date |  |
| Details of the relationship between the unit and relevant national occupational standards (if appropriate) | MSA Marine NOS 2012: C03, C13, C61, C62 |
| Details of the relationship between the unit and other standards or curricula (if appropriate) | MCA syllabus for the BML Tier 1 Level 1 Generic Underpinning KnowledgeMaritime & Coastguard Agency Approved Engine Course (30 Hour Diesel Engine Course) |
| Assessment requirements specified by a sector or regulatory body (if appropriate) | Assessment will be by a combination of the following methods – assignment; knowledge based testing; project work; presentation; practical demonstration; other - as agreed in consultation with the external verifier |
| Endorsement of the unit by a sector or other appropriate body (if required) | Maritime Skills AllianceMaritime & Coastguard Agency |
| Location of the unit within the subject/sector classification system | Transportation Operations and Maintenance |
| Name of the organisation submitting the unit | Skills for Logistics, for Maritime Skills Alliance |
| Availability for use | Unrestricted |
| Availability for delivery |  |
| Guided Learning Hours | 28 |