



**Australian Government**

# **MAR60313 Advanced Diploma of Maritime Operations (Marine Engineering Class 1)**

**Release 1**

# MAR60313 Advanced Diploma of Maritime Operations (Marine Engineering Class 1)

## Modification History

|           |                                                                                                                                                                                                                       |
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| Release 1 | <p>This is the first release of this qualification in the MAR13 Maritime Training Package.</p> <p>This qualification replaces TDM60207 Advanced Diploma of Transport Distribution (Marine Engineering - Class 1).</p> |
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## Description

This qualification is suitable for people who work as an Engineer Class 1 in the maritime industry on ships powered by main propulsion machinery of any propulsion power in any operating area.

## Pathways Information

### Pathways into the qualification

MAR60113 Advanced Diploma of Maritime Operations (Marine Engineering Class 2)

### Pathways from the qualification

Not applicable

## Licensing/Regulatory Information

This qualification is currently cited as meeting some of the requirements for certification as an Engineer Class 1 as described in Marine Orders Part 3: Seagoing Qualifications under the Navigation Act 2012 by the Australian Maritime Safety Authority (AMSA).

Certification will require achievement of the MAR60313 Advanced Diploma of Maritime Operations (Marine Engineering Class 1) and other requirements; people seeking certification should check with AMSA.

## Entry Requirements

There are no entry requirements for this qualification.

## Employability Skills Summary

The following table contains a summary of the employability skills as identified by the maritime industry for this qualification. This table should be interpreted in conjunction with the detailed requirements of each unit of competency packaged in this qualification. The outcomes described here are broad industry requirements that may vary depending on packaging options.

| <b>Employability Skill</b> | <b>Industry/enterprise requirements for this qualification include:</b>                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication              | Prepare incident reports<br>Prepare required documentation and verify accuracy<br>Read and interpret written information needed to perform complex calculations                                                                                                                                                                                                     |
| Teamwork                   | Ascertain chain of command of designated personnel<br>Identify and follow appropriate actions for maintaining security and safety of self, others and the vessel<br>Make contributions to risk assessments                                                                                                                                                          |
| Problem-solving            | Check vessel for hazards using itemised checklists according to the safety management system<br>Evaluate viability and potential problems of new systems and advanced specialist vessels<br>Identify, interpret and process complex numerical and graphical information required to analyse marine engineering functions and shipboard engineering related problems |
| Initiative and enterprise  | Identify and interpret numerical and graphical information, and perform mathematical calculations to perform tasks<br>Improvise treatment and associated resources<br>Provide suggestions to improve future operations                                                                                                                                              |
| Planning and organising    | Evaluate factors involved in commissioning new electrical plant<br>Identify, collate and process information required to perform complex calculations<br>Plan an appropriate first aid response in line with established first aid principles, policies and procedures                                                                                              |
| Self-management            | Interpret and fulfil individual rights and responsibilities on board a vessel<br>Recognise own role and responsibilities<br>Undertake WHS/OHS housekeeping in own work area                                                                                                                                                                                         |

|            |                                                                                                                                                                                                                                                                                                                                                                   |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning   | <p>Analyse Standards of Training, Certification &amp; Watchkeeping (STCW) crew training requirements and implications for emergency response, administration, operation and maintenance</p> <p>Assess own work outcomes and maintain knowledge of current codes, standards, regulations and industry practices</p> <p>Identify WHS/OHS training needs of crew</p> |
| Technology | <p>Operate location devices, including radio equipment</p> <p>Use calculators to perform complex mathematical calculations</p> <p>Use electrical measuring and testing instruments</p>                                                                                                                                                                            |

## Packaging Rules

**Total number of units = 17 units**

17 core units

| Core units |                                       |           |                                                                |
|------------|---------------------------------------|-----------|----------------------------------------------------------------|
| Field      |                                       |           |                                                                |
| <b>F</b>   | <b>Operational Quality and Safety</b> | MARF1003A | Follow vessel security procedures                              |
|            |                                       | MARF3002A | Observe personal safety and social responsibility              |
|            |                                       | MARF3005A | Prevent and fight fires on board a vessel                      |
|            |                                       | MARF3006A | Survive at sea in the event of vessel abandonment              |
|            |                                       | MARF3007A | Work safely in confined spaces on a vessel                     |
|            |                                       | MARF5002A | Provide medical first aid on board a vessel                    |
| <b>L</b>   | <b>Marine Engineering</b>             | MARL6005A | Apply advanced principles of marine electrotechnology          |
|            |                                       | MARL6006A | Apply advanced principles of marine engineering thermodynamics |
|            |                                       | MARL6007A | Apply advanced principles of marine mechanics                  |
|            |                                       | MARL6008A | Apply advanced principles of naval architecture                |
|            |                                       | MARL6017A | Demonstrate advanced knowledge of marine auxiliary boilers     |

|  |  |           |                                                                          |
|--|--|-----------|--------------------------------------------------------------------------|
|  |  | MARL6018A | Demonstrate advanced knowledge of marine auxiliary machinery and systems |
|  |  | MARL6019A | Demonstrate advanced knowledge of marine control systems and automation  |
|  |  | MARL6020A | Demonstrate advanced knowledge of marine diesel engines and systems      |
|  |  | MARL6021A | Demonstrate advanced knowledge of marine electrical systems              |
|  |  | MARL6022A | Demonstrate advanced knowledge of marine steam turbines and main boilers |
|  |  | MARL6023A | Demonstrate advanced knowledge of ship operation and maintenance         |

## Custom Content Section

Not applicable.