

1. Title	Formulate maintenance instructions for mechanical equipment and train air-conditioning systems	
2. Code	EMRAMA501A	
3. Range	Formulate maintenance instructions for mechanical equipment and train air-conditioning systems by referring to their design and the repairing guidelines provided by the manufacturer, and considering the overall operational performance of trains and their repair arrangements and history.	
4. Level	5	
5. Credits	9	
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Design, structure and working principles of mechanical equipment and train air-conditioning systems</p> <ul style="list-style-type: none"> <li>◆ Be familiar with the design, structure and working principles of mechanical equipment and train air-conditioning systems</li> <li>◆ Apply the repairing guidelines provided by the manufacturer</li> <li>◆ Master the techniques in calculating the standard for maintaining mechanical equipment and train air-conditioning systems</li> <li>◆ Master the applications of instrument and tools commonly used for repairing and checking mechanical equipment and train air-conditioning systems</li> </ul> <p>6.2 Method and procedures of formulating maintenance instructions for mechanical equipment and train air-conditioning systems</p> <ul style="list-style-type: none"> <li>◆ By referring to the design of train bogies, gangways and couplers and the repairing guidelines provided by the manufacturer, and considering the overall operational performance of trains and their repair arrangements and history, capable to draft maintenance instructions for the train bogies, gangways and couplers, including: <ul style="list-style-type: none"> <li>• Maintenance procedures</li> <li>• Maintenance standards</li> <li>• Adjustments, setting and preliminary function tests</li> <li>• Points to note during maintenance</li> </ul> </li> <li>◆ Capable to test the draft maintenance instructions</li> <li>◆ Capable to analyze data, amend and formulate maintenance instructions for train bogies, gangways and couplers</li> <li>◆ Capable to draft, test, analyze data and formulate maintenance instructions for the friction brake system and control and protection devices of trains</li> <li>◆ Capable to draft, test, analyze data and formulate maintenance instructions for the wheel slide protection devices of trains</li> <li>◆ Capable to draft, test, analyze data and formulate maintenance instructions for the train door mechanical devices of trains</li> <li>◆ Capable to draft, test, analyze data and formulate maintenance instructions for train door control and protection devices of trains</li> </ul>	

	<ul style="list-style-type: none"> <li>◆ Capable to draft, test, analyze data and formulate maintenance instructions for air-conditioners</li> <li>◆ Capable to draft, test, analyze data and formulate maintenance instructions for air-conditioning control equipment</li> </ul> <p>6.3 Professionalism in formulating maintenance instructions for mechanical equipment and train air-conditioning systems</p> <ul style="list-style-type: none"> <li>◆ Capable to formulate maintenance instructions and standards for mechanical equipment and train air-conditioning systems according to the standards and requirements for work safety, health, environmental protection and quality management of railway works</li> <li>◆ Understand the safety guidelines as required by the law and codes of practice in formulating maintenance instructions for mechanical equipment and train air-conditioning systems</li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> <li>(i) Capable to draft maintenance instructions for specified mechanical equipment and train air-conditioning systems in compliance with the maintenance requirements for train equipment; and</li> <li>(ii) Capable to test the effectiveness of the draft maintenance instructions, analyze data and make amendments effectively.</li> </ul>
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses professional knowledge of mechanical engineering and air-conditioning equipment and is familiar with the mechanical equipment and train air-conditioning systems.</p>