

1. Title	Formulate maintenance plans for trains
2. Code	EMRAMA601A
3. Range	Calculate the wear rates of different spare parts of train equipment, compare the cost of the spare parts with the maintenance cost and consider the inspection cycle for the equipment, identify the critical factors in order to calculate the maintenance cycle and formulate maintenance plans for trains.
4. Level	6
5. Credits	20
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Studies and techniques of formulating maintenance cycles for train equipment</p> <ul style="list-style-type: none"> <li>◆ Select the best way of train maintenance such as regular maintenance, monitoring of operation condition, regular replacement, etc. by applying maintenance knowledge of electrical and mechanical engineering and considering the operation mode of trains</li> <li>◆ Master information about review, integration and development of the functional performance of train equipment and the wear of consumable parts so as to apply the information in formulating maintenance cycles</li> <li>◆ Master the calculation of the wear rate of equipment including the consideration of environmental factors</li> <li>◆ Calculate, analyze and assess the cost effectiveness of adopting different maintenance cycles</li> </ul> <p>6.2 Method and procedures of formulating maintenance cycles for trains</p> <ul style="list-style-type: none"> <li>◆ Capable to identify the critical factors for maintenance cycles of trains and calculate maintenance cycles for trains by fully considering factors like performance of train equipment, wear rates of critical spare parts, wear cost and maintenance cost</li> <li>◆ Capable to identify equipment parts of higher wear rates, and monitor and calculate their wear rates by applying knowledge and experience in maintaining electrical and mechanical equipment</li> <li>◆ Capable to calculate the cost of spare parts and the maintenance cost based on the equipment parts of higher wear rates</li> <li>◆ Capable to formulate basic maintenance plans based on the critical factors and the maintenance cycle calculated for the train</li> <li>◆ Capable to identify other factors of consideration and calculate the cycles for different levels of maintenance</li> <li>◆ Capable to formulate a comprehensive plan for different levels of train maintenance and formulate the basic content for the respective maintenance levels according to their maintenance cycles</li> </ul>

	<p>6.3 Professionalism in formulating maintenance plans for trains</p> <ul style="list-style-type: none"> <li>◆ Formulate maintenance plans for trains according to the standards and requirements for 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 plans for trains</li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <p>(i) Capable to formulate maintenance cycles for different levels of train maintenance and the basic content of maintenance of related equipment effectively and accurately based on data about the wear of train equipment parts and some other critical factors.</p>
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses professional knowledge of electrical and mechanical engineering and train maintenance.</p>