

1. Title	Design computer simulated tests for train operation and assess the performance of train equipment
2. Code	EMRADE602A
3. Range	Design and undertake simulated tests for train operation and assess the performance of train equipment based on the testing data.
4. Level	6
5. Credits	20
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Technology and working principles of computer simulated tests for train operation</p> <ul style="list-style-type: none"> <li>◆ Be familiar with train operation and its performance requirements</li> <li>◆ Master the special technology involved in computer simulated tests for train operation</li> <li>◆ Be familiar with the working principles of computer simulated tests for train operation</li> <li>◆ Master the techniques of analyzing train performance data</li> </ul> <p>6.2 Methods and procedures of designing computer simulated tests for train operation and assessing the performance of train equipment</p> <ul style="list-style-type: none"> <li>◆ Design computer simulated tests for train operation with the following procedures: <ul style="list-style-type: none"> <li>• Setting the scope for simulated tests, and specifying the information to be input and the specifications to be followed</li> <li>• Selecting appropriate performance simulation programs for the equipment and systems, such as the traction control performance simulation program \and the brake performance simulation program\</li> <li>• Identifying the discrepancies between the result from the program and the actual performance of the equipment/system</li> <li>• Compiling the whole set of programs and procedures for computer simulated tests for train operation</li> </ul> </li> <li>◆ Test the computer simulated tests with the following procedures: <ul style="list-style-type: none"> <li>• Undertaking thoroughly the whole set of procedures for computer simulated tests for train operation</li> <li>• Modifying the procedures for computer simulated tests for train operation according to observation and test results</li> </ul> </li> <li>◆ Undertake computer simulated tests for train operation with the following procedures: <ul style="list-style-type: none"> <li>• Undertaking computer simulated tests for train operation according to procedures</li> <li>• Managing the whole testing process so that it is completed under controlled environment</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• Recording the information from computer simulated train operation</li> <li>• Recording the conditions which are different from those of the preset procedures and environment</li> <li>• Recording the factors which may lead to data discrepancies</li> <li>◆ Analyze and assess the performance of computer simulated train operation, including: <ul style="list-style-type: none"> <li>• Analyzing the information collected from simulated tests</li> <li>• Assessing the performance of relevant train equipment</li> </ul> </li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <p>(i) Capable to design a set of effective and accurate programs and procedures for computer simulated tests for train operation according to the topography of railway sections and the specifications of electric trains; and</p> <p>(ii) Capable to analyze and assess the performance of relevant train equipment according to the information collected from a set of computer simulated tests for train operation.</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 computer programmes.</p>