

1. Title	Formulate an overall railway system design plan	
2. Code	EMRADE701A	
3. Range	Use the expertise in railway system and its development to formulate an overall railway system design plan according to the corporate direction and strategy of operation as well as the social requirements and standard for railway transportation.	
4. Level	7	
5. Credits	20	
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Basis and skills for an overall railway system design</p> <ul style="list-style-type: none"> ◆ Be familiar with the corporate direction, long-term and short-term strategies for development, and economic resources ◆ Master the skills in studying, analyzing and judging the social expectation, requirements and standard for railway transportation ◆ Be familiar with the concept, performance requirements and standard of overall railway system design ◆ Master the expertise, including electrical and mechanical knowledge, in railway works in various disciplines, and apply the expertise in design concept and operation by putting forward innovative ideas and transforming them into useful information ◆ Master the knowledge and skills in studying, analyzing and judging the concept, information and performance requirement data of overall railway system design; and calculate, consolidate and expand such data and information to become the basis and standard of the overall railway system design ◆ Master the skills in studying, reviewing and judging the application of new technologies and equipment <p>6.2 Methods and procedures of formulating overall railway system design solution and standard</p> <ul style="list-style-type: none"> ◆ Follow the corporate direction and strategy of operation as well as the social requirements and standard for railway system, use the expertise in railway system, and study and analyze relevant data, to draft the overall design requirements for the railway system ◆ Capable to review and approve the draft overall design requirements for the railway system ◆ Capable to formulate an overall railway system design plan, including the requirements and standards of various systems in the railway system, according to the overall design requirements for the railway system, including the expected passenger volume, distribution, train frequency, journey time, route environment and station, as well as the requirements on safety, reliability, comfort, environmental protection and efficiency, and with economic constraints 	

	<ul style="list-style-type: none"> ◆ Lay down design standard for the design plan as the basis to coordinate the design of various systems in the railway system equipment <p>6.3 Professionalism in formulating overall railway system design solution and standard</p> <ul style="list-style-type: none"> ◆ Formulate the overall railway system design solution and standard according to the standards and requirements for safety, health, environmental protection and quality management of railway works ◆ Understand the safety guidelines as required by the law and codes of practice when formulating the overall railway system design solution and standard
<p>7. Assessment Criteria</p>	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> (i) Capable to analyze effectively requirements for railway transportation and to draft the overall design requirements for railway system accordingly; and (ii) Capable to draft the overall railway system design plan according to the overall design requirements for railway system.
<p>8. Remarks</p>	<p>The credit value of this unit of competency is set on the presumption that the person already possesses the expertise in electrical and mechanical works in various disciplines and railway operation.</p>