1. Title	Formulate an overall railway signal and control system design plan and standard	
2. Code	EMRADE608A	
3. Range	Formulate a new plan and standard to improve the safety and increase the frequency of operation, according to the overall railway system design and the latest development of the railway signal and control system.	
4. Level	6	
5. Credits	10	
6. Competency		Performance Requirements
	6.1 Basis and skills for overall railway signal and control system design	♦ Be familiar with the concept, performance requirements and standard of the overall railway signal and control 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 the overall railway signal and control system design; and calculate, consolidate and expand such data and information to become the basis and standard of the overall railway signal and control system design ♦ Master the skills of analyzing, reorganizing and evaluating performance data of the railway signal and control system equipment and the peripheral equipment so as to apply in judging, formulating and reviewing the overall railway signal and control system design solution and standard ♦ Master the skills in analyzing, reviewing and judging the application of new technologies and equipment
	6.2 Methods and procedures of formulating overall railway signal and control system design plan and standard	♦ Formulate a design plan and standard, and manage and coordinate works of different group leaders and department heads according to the overall railway signal and control system design concept and the requirements for railway system and design of trains as well as the requirements on safety, reliability, environmental protection and efficiency ♦ Base on the passenger volume along the railway line, the design of tracks and geographical factor to formulate a new railway signal and control system plan and standard to improve the safety of operation and, with the help of the automatic train control system, increase the frequency of operation, and strengthen the communication between the train, the station and the control room

	6.3 Professionalism in formulating overall railway signal and control system design solution and standard	♦ Formulate the overall railway signal and control system design plan 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 signal and control system design plan and standard
7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to use the overall railway system design concept to draft a new design solution and standard for the railway signal and control system, including the guidelines for the overall design of signal system, the control system, the interlock system and information display system, so as to improve the safety and frequency of train operation.	
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses the expertise in railway, including railway signal engineering.	