1. Title	Design and analyze electronic control circuits
2. Code	EMRADE502A
3. Range	Fully master the electronic control theory to design and analyze the functions and performance of electronic switch control circuits, logic circuits and operational amplifier control circuits and apply to the design of electronic control equipment of trains.
4. Level	5
5. Credits	6
6. Competency	Performance Requirements 6.1 Design and analyze electronic control circuits ♦ Master the theory and techniques of calculating data of typical electronic control circuits, including • Switch circuits • Logic control circuit • Amplifier circuits and their reaction to frequency ♦ Analyze and assess the functions and performance of electronic control circuits 6.2 Methods and procedures of designing electronic control circuits ♦ Use diodes, transistors and controllable silicon rectifiers to design switch circuits ♦ Use logic circuits to design control circuits ♦ Design digital differential and integral circuits ♦ Design electric current/voltage and electric voltage / current converters ♦ Design instrument amplifiers ♦ Design electronic control equipment circuits of trains
7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to design electronic control equipment circuits of trains efficiently, including logic switch and control circuits, digital and electric current/voltage converters and amplifier circuits, according to the functional requirements of the equipment.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses knowledge of electronic control circuits.