

1. Title	Use programmable logic controller (PLC) to upgrade control equipment
2. Code	EMCUDE502A
3. Range	For electrical and mechanical engineering design, use PLC human-machine interface software, groupware and PLC network system to write monitoring and management system programmes for electrical and mechanical equipment and production; and integrate PLC systems of different levels into a large PLC integrated production control, operation control, monitoring and management system.
4. Level	5
5. Credits	9
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Operating principles of PLC software system ♦ Understand the operating principles of PLC software system</p> <p>6.2 Use PLC to upgrade control equipment ♦ Use PLC human-machine interface software to set up the production control system</p> <ul style="list-style-type: none"> • Use PLC human-machine interface software, processor emulation software, programmable/testing software and communication software to write programmes and set up human-machine interface PLC electrical and mechanical equipment and production control system • Test and debug the PLC human-machine interface control system • Modify and rationalize the PLC human-machine interface control system <p>♦ Use PLC human-machine interface groupware to set up the monitoring, alarm and management system</p> <ul style="list-style-type: none"> • Use PLC human-machine interface groupware to set up label database and information list, and use the database to set up the alarm and management system • Use groupware to save group data record, and use the analytical function to analyze group data trend to achieve the alarm and management functions • Manage the safety of groupware data system <p>♦ Integrate PLC systems of different levels into a large PLC integrated monitoring and management system</p>

	<ul style="list-style-type: none"> • Use large PLC software and network software to integrate PLC systems of different levels into a large integrated production control, operation control, monitoring and management system • Use PLC software to help analyze data • Use information technology and network to transfer PLC data and information • Test and debug the large integrated PLC system
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) Capable to use PLC human-machine interface software to set up a safe, reliable, accurate, convenient and direct operation monitoring, alarm and management system for electrical and mechanical equipment; and</p> <p>(ii) Capable to integrate different levels individual PLC systems of the same production line of a plant into a large integrated monitoring, alarm and management system.</p>
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses basic computer knowledge.</p>