1. Title	Analyze quality of electricity data and design suitable device to improve electricity quality
2. Code	EMCUDE504A
3. Range	For electrical and mechanical engineering design, understand crucial electricity quality data, such as power factor, weights of different harmonic waves and total harmonic distortion in order to design electricity quality improvement devices and circuits.
4. Level	5
5. Credit	6
6. Competency	Performance Requirements 6.1 Electricity quality principles and operating principles of electricity quality improvement equipment ♦ Understand factors affecting electricity quality and reasons why electricity quality is becoming more and more important ♦ Understand the operating principles of various electricity quality improvement equipment, such as star-delta transformer, isolating transformer, filter and active filter 6.2 Design electricity quality improvement device ♦ Design suitable electricity quality improvement devices according to different electricity quality requirements ♦ Analyze data related to electricity quality, such as power factor and total harmonic distortion, etc.
7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to analyze correctly various electricity quality data, design suitable improvement devices according to different electricity quality requirements and power supply arrangements, and analyze the pros and cons of different improvement devices.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses knowledge of power supply system.