Functional Area: Network Infrastructure & Operation (Operation / Support & Maintenance)

1.	Title	Perform network optimisation
2.	Code	ITCSNO520A
3.	Range	This UoC concerns managing the network to operate at most efficient mode by reviewing and adjusting quality of voice, speed, routing, antenna alignment, security, etc. Networks can be voice, data, T1, T3/DS3, backbone, fibre connections, FTTB, FTTH, mobile network, etc.
4.	Level	5
5.	Credit	4
6.	Competency	<table><tr><td colspan="2">Performance Requirement</td></tr><tr><td>6.1 Possess the knowledge in the subject area</td><td> - Possess extensive experience in network architecture, diagrams, network operating capacity, demographic layout of networks, performance characteristics of network components - Capable of determining when, where, how to setup tools to collect statistics for analysis - Possess experience with analysing current and historical network statistics reports from network monitoring tools, logs, or from other departments, etc. - Knowledgeable of the organisation's performance pledge and quality policy, customer SLA, etc - Experienced with the steps in performing optimisation: Assess, Structure, Accelerate, Operate and Scale - Possess extensive experience in network traffic management, queuing analysis, traffic modelling, traffic flow control, network medium access control (MAC) protocol, etc </td></tr><tr><td>6.2 Perform network optimisation</td><td>Be able to: - Determine the objective of performing network optimisation: relief of rogue traffic, customer complaints, increased traffic loading as well as adjustment of network characteristic (routing, bandwidth and latency). - Analyse current network traffics from reports, monitoring statistics, logs. Review and plan the desired network performance with consideration for new projects and service growth - Structure the network traffic with tools, technologies and policies to meet the needs of projects, services, etc. - Perform adjustment to accelerate (or improve quality of) certain traffics within the network using newer optimisation technologies. Testing and simulation procedures may be applied to ensure desired quality or performance achieved with minimal network disruptions - Resume service with the optimised setting. Continue to monitor network traffic and adjust performance setting if required - Scale (extend) the optimisation to other networks or services to reap the benefits - Document and report to stakeholders (customers or internal departments) of actions, adjustments, improvements made to the network or components of the network </td></tr><tr><td>6.3 Exhibit professionalism</td><td> - Follow health and safety procedures while using tools and electrical equipment to perform network optimisation - Ensure all reports are documented in the format conformed to the organisation standards and policies - Always take into consideration and strike a proper balance among all related technological, environmental and legal factors </td></tr></table>

7. Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to: i. study network infrastructure and communicate with users, colleagues to identify where and what type of network optimisation is required. ii. verify that network does required optimisation by using various tools and logs iii. plan and perform network optimisation by replacing equipment, adjusting network configurations until the target optimised result is achieved
Remark	