Functional Area: Network Infrastructure & Operation (Planning & Design)

1. Title	Perform end user network design	
2. Code	ITCSNO402A	
3. Range	This UoC concerns network design at end user site i.e. within a building complex or campus site of the client. Network in this context could be data and/or voice (VOIP), wireline or wireless.	
4. Level	4	
5. Credit	3	
6. Competency		Performance Requirement
	6.1 Possess the knowledge in the subject area	• Critically understand and follow SLA (Service Level Agreement), customer contracts or work orders • Experience in gathering network requirements effectively from customer and/or work associates • Extensive experience in network capacity planning (current and growth forecast) • Extensive experience in deploying popular types of wired and wireless local area network technologies • Extensive experience in local network infrastructure planning, rooftop structure and cable mapping/drawing, facility requirement, such as air-conditioning, power supply, cabling, termination systems, etc. • Possess extensive knowledge in network risks and contingency planning • Possess extensive experience in selecting and using appropriate tools for network design drawings • Fully comprehend the organisation policies and guidelines regarding services provisioning • Possess knowledge of network deployment regulatory requirements • Understand health and safety procedures and government regulations
	6.2 Perform end user network design	Be able to: • Comprehend the requirements and determine whether the work can be fulfilled • Work with stakeholders to clarify/confirm network requirements details, routing policies, securities, network reliabilities, performance, etc • Identify site or technical limitations which may affect the implementation of the network. Specify site structure alteration, and/or enforcement may be required • Formulate an initial proposal of the logical and physical design of the network describing layouts and connectivity • Review and agree with stakeholder on the proposal • Formulate several network design options, with network infrastructure drawings, topology design, routing specification, switching equipment locations, protocols to be used, addressing allocations, network access policy, security and contingencies, etc • Calculate cost of the design options with implementation schedules, if necessary • Manage the documentation of the detail design and present to stakeholders • Work with stakeholders until a design is selected and approved

	6.3 Exhibit professionalism	• Produce network designs that conforms to the organisation standards and meet regulatory requirements as well as the customers' requirements • Represent the organisation in a professional manner • Always take into consideration and strike a proper balance among all related technological, political, social, environmental and legal factors
7. Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to: i. work with stakeholders to understand the network needs and the technical requirements ii. analyse the site infrastructure to determine and resolve any possible implementation difficulties iii. propose a high level design of the network and agree on the technical requirements iv. perform detail network designs conforming to professional standards with network drawings, implementation details, topology, cabling details, equipment used, network protocols to use, routing strategies, addressing details, security implementation details, etc v. present designs with recommendation to stakeholders and seek approval	
Remark	Normally network design, as a service, requires several phases such as initial high level design, reviews and final detail design. This UoC treats this as a single task.	