

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

1. Title	Identify power requirements
2. Code	ITCSNO301A
3. Range	Electric power is an integral need of modern network equipment. Without the proper implementation of correct power supply, network products will not perform to their maximum and may have reliability issues. This UoC concerns identifying power requirements at “Access Network” design. For power budgeting, we have to consider the current as well as estimated future number of PSE (Power Sourcing Equipment) and PD (Power Device). The type of network can be data and/or voice (VOIP) wireline or mobile.
4. Level	3
5. Credit	3
6. Competency	<p style="text-align: center;"><u>Performance Requirement</u></p> <p>6.1 Possess the knowledge in the subject area</p> <ul style="list-style-type: none"> • Possess extensive experience in network capacity planning (current and growth forecast) • Be aware of the current and emerging network power management technologies such as PoE (Power over Ethernet) • Comprehend network structure plans and building infrastructure plans • Extensive experience in deploying various network architectures, network technologies and network PSEs such as hubs, switches, patch panel, network closets, etc, PD such as video IP phones, wireless Access Points, security cameras, workstations, printers, etc. • Possess extensive knowledge of power standards such as IEEE 802.3at and supporting cable requirements such as Category 5 or higher is needed for PoE • Extensive experience in operating power measurement and calculation tools • Understand health and safety procedures and government regulations <p>6.2 Identify power requirements</p> <p>Be able to:</p> <ul style="list-style-type: none"> • Comprehend the network diagram and determine Access Network location points • Identify the number of PSE and PD in the local network infrastructure • Classify the PD into different power supply format: <ul style="list-style-type: none"> ○ Endspan (direct power) ○ Midspan (direct power) ○ External power • Itemise PSE and PD and document the quantity and power usage of each PSE and PD at different locations within the local network infrastructure • Submit the report to appropriate stakeholders or network designers/planners <p>6.3 Exhibit professionalism</p> <ul style="list-style-type: none"> • 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: <ol style="list-style-type: none"> i. determine the location of Access Network connection point and the type of connection equipment as located from the network diagram/map ii. accurately document where, what, types of power supply used and the amount of power needed per component iii. produce the document in stakeholder’s required format which can assist in the network design/planning or management
Remark	<ul style="list-style-type: none"> • Endspan are power transmitted on data cable direct with on pin pair 1&2 and 3&6 • Midspan are power transmitted on data cable direct with on pin pair 4&5 and 7&8