

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

1. Title	Define software application requirements for Network Operating Centre (NOC) use	
2. Code	ITCSNO521A	
3. Range	NOC is the heart of network operations, with 24x7 monitoring and fault detection of a network (voice, data, mobile). It is equipped with tools to help full management of day-to-day operation. Many of these tools are internally developed software to form a “unified management system” which can cater for network configuration, alarm collection, management, and performance measurement. This UoC concerns about defining OSS (Operation Support System) application for NOC use.	
4. Level	5	
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"> • Critically knowledgeable of the objectives of defining new tools/applications to be used in NOC (i.e. to assist the staff efficiency, add new operational features for efficient NOC, additional functions to support the new or existing networks, etc.) • Extensively experienced with the NOC’s day-to-day duties and may include first tier support of the OSS applications • Extensively experienced with NOC operational management systems. Note: For ease of operation, most NOCs will prefer to use a single unified management system which monitors all network activities and configures network components, etc • Possess extensive knowledge of software development processes (i.e. translate the needs of NOC to software requirements and assimilate multivendor products to a unified management system) • Knowledgeable of the “Green” NOC concept • Experienced with software engineering and system analysis (i.e. from requirement gathering to development and operation) <p>6.2 Define software application requirements for Network Operating Centre use</p> <p>Be able to:</p> <ul style="list-style-type: none"> • Gather all operational factors concerning the networks and NOC, such as connection point of access network to CPE (Customer Premises Equipment), what is monitored, what alarms, types of alarms, level of automation required, types of user interfaces, types of operational tools used to assist staff, etc • Gather functional requirements of new tools or applications from colleagues of NOC. If a completely new NOC is to be set up, use existing sites as a reference and add new functional applications to improve efficiency • Analyse and prioritise the requirements and translate human requirements to non-functional requirements (GUI, usability, performance, etc.) and functional requirements (traffic monitoring, alarm configuration, routing function, etc.). During the analysis stage, Green elements should be considered as a higher priority • Document the application requirements conforming to the organisation standards and policies and distribute to appropriate people for agreement, approval and development. This document will also need to define how the application be interfaced with existing NOC applications or monitoring equipment. It may need to recommend how this application be developed (i.e. purchase (“off-the-shelf”), in-house development, completely outsourced, or partially outsourced, etc.) <p>6.3 Exhibit professionalism</p> <ul style="list-style-type: none"> • Ensure requirements are acquired by following software engineering practices • Ensure all reports and documents are created in the formats 	

	<p>conformed to the organisation standards and policies</p> <ul style="list-style-type: none"> • Always take into consideration and strike a proper balance among all related technological, environmental and legal factors
7. Assessment Criteria	<p>The integrated outcome requirements of this UoC are the ability to:</p> <ol style="list-style-type: none"> i. identify what applications (enhanced or new) are needed in the NOC ii. use software engineering techniques to work with colleagues to gather and document the requirements accurately iii. specify how these applications be integrated with the existing NOC systems iv. study the requirements and recommend how these applications be implemented (internally developed, purchased, outsourced)
Remark	