

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

1. Title	Identify internal software development needs
2. Code	ITCSNO522A
3. Range	More and more software is being used in NOC to support networks and many of the network infrastructure components are software based. It is essential to have the right development so that new programs are developed or existing programs are maintained with speed and quality. This UoC concerns identifying the right environment for software development. The concerned software is those that are used internally, either as supporting tools or enhancements of vendors' telecom equipment like software switches.
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"> • Possess extensive experience with software engineering and software development life cycle, in particular knowing to have the right person performing the requirement gathering, producing the right design to produce high quality software (three elements of software development: people, process and design) • Possess extensive experience with NOC operation management systems i.e. knowing what operational functions are required to keep the NOC running smoothly and what software is required for monitoring, alarm detection, statistics gathering, network configuration, etc. • Extensively experienced with project management and resource planning, understanding project documents such as requirement specifications, design specifications, etc. • Knowledgeable with the organisation policies associated with software development and performance pledge <p>6.2 Identify internal software development needs</p> <p>Be able to:</p> <ul style="list-style-type: none"> • Estimate the magnitude of the software development from functional specifications, design documents and overall project timeline • Analyse each function and estimate the resources required to develop and test the associated software. Resources mean people, hardware (computers and network components), software (OS, IDE, and compiler), API (Application Programming Interfaces) to vendor products, and network testing tools like simulators, etc. • Define the level of technical skills required from the development team, such as programming language skills, program and unit testing skills, document writer skills, etc • Document the resource needed in accordance with the organisation format and policies and present to stakeholders <p>6.3 Exhibit professionalism</p> <ul style="list-style-type: none"> • Apply software development life cycle and other software engineering techniques throughout the project • Ensure all documents produced follow the organisation required formats and standards • 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. work with colleagues or study from documentations to determine and understand the magnitude of the software project being developed ii. break large software developments into units of programs and categorise these programs into different types iii. determine the resources required for different categories of programs and calculate the total resource required for the software project iv. document the resources requirements, with justification in format which can be understood by non technical readers
Remark	