Executive Summary

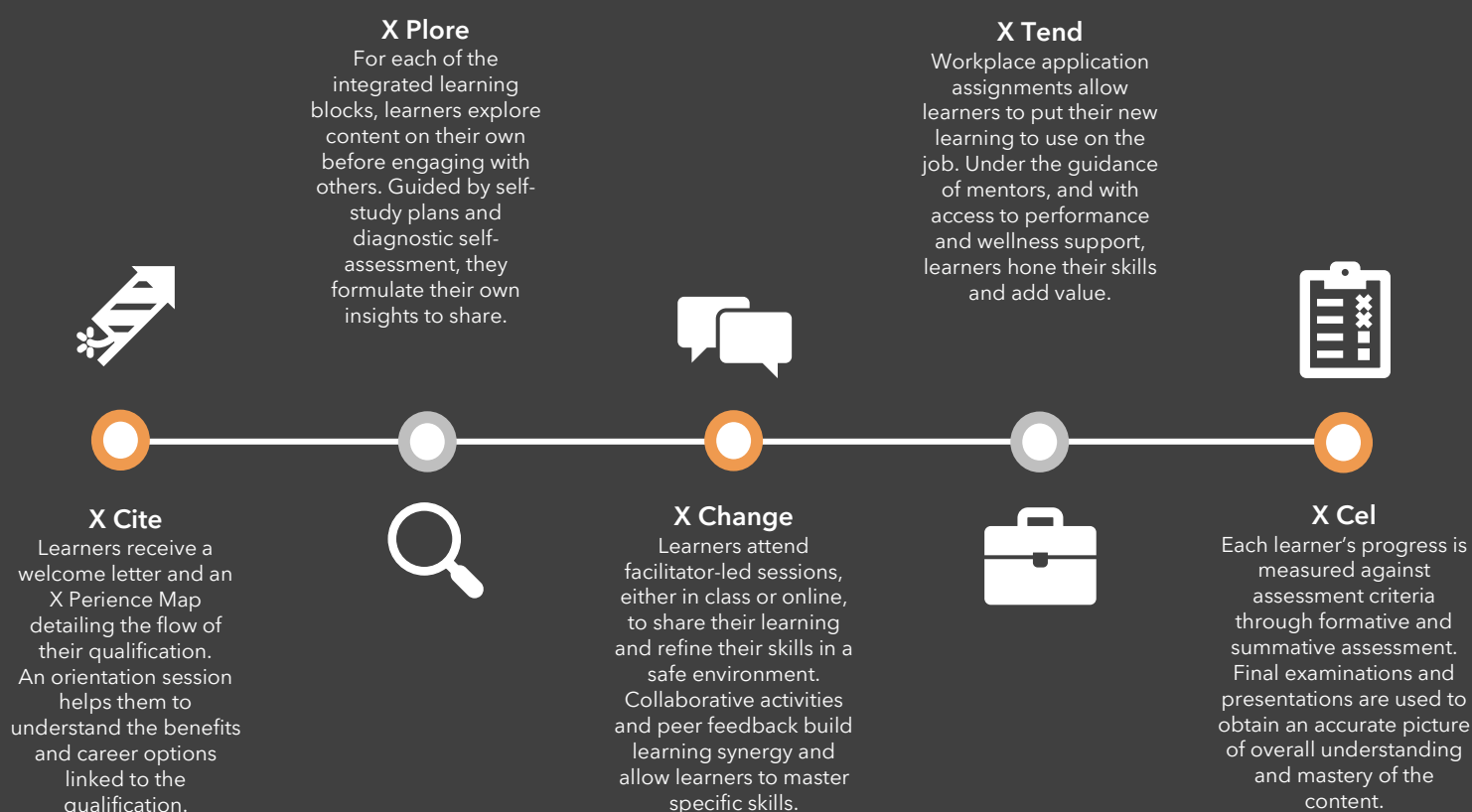| Qualification	Occupational Certificate: Cloud Administrator
Purpose	The purpose of this qualification is to prepare a learner to operate as a Cloud Administrator. Typical learners include school leavers and those currently in employment who seek formal recognition of their competence. Qualified learners will be able to configure, deploy, manage, maintain, and troubleshoot cloud ecosystems and network services in order to ensure the seamless delivery of all cloud services and maintain protocols to secure cloud environments against unauthorised access, threats and other risks.
Qualification ID	118699
NQF Level	4
Minimum Credits	149
Duration	One year
Field	Physical, Mathematical, Computer, and Life Sciences
Subfield	Information Technology and Computer Sciences
Quality Partner	MICT SETA
Entry Requirements	NQF Level 3 qualification

Qualification Overview

Cloud computing is the delivery of computing services, including servers, storage, databases, networking, software, analytics, and intelligence over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale. Rather than owning their own computing infrastructure or data centres, companies can rent access to anything from applications to storage from a cloud service provider.

The Occupational Qualification: Cloud Administrator speaks to the increasingly technology-driven economy. Cloud Computing is one of the Fourth Industrial Revolution drivers of change in the economy and is also aligned to the development of human capital as described in the future of work by the Presidential Commission on the 4th Industrial Revolution (PC4IR).

Qualifying learners will be able to:

- Implement cloud solutions and services related to cloud computing, networks, security, and storage
- Monitor and maintain servers and networks for optimal performance and seamless delivered of services
- Monitor on-demand availability of data and data storage in line with the data life cycle
- Apply security configurations and compliance controls

The KLM Empowered Learning X Perience

X Plore
For each of the integrated learning blocks, learners explore content on their own before engaging with others. Guided by self-study plans and diagnostic self-assessment, they formulate their own insights to share.

X Tend
Workplace application assignments allow learners to put their new learning to use on the job. Under the guidance of mentors, and with access to performance and wellness support, learners hone their skills and add value.

X Cite
Learners receive a welcome letter and an X Perience Map detailing the flow of their qualification. An orientation session helps them to understand the benefits and career options linked to the qualification.

X Change
Learners attend facilitator-led sessions, either in class or online, to share their learning and refine their skills in a safe environment. Collaborative activities and peer feedback build learning synergy and allow learners to master specific skills.

X Cel
Each learner's progress is measured against assessment criteria through formative and summative assessment. Final examinations and presentations are used to obtain an accurate picture of overall understanding and mastery of the content.

Qualification Outline

- The Occupational Certificate: Cloud Administrator is presented over SIX learning blocks – three Knowledge Modules (KM) and three Practical Modules (PM).

- Workplace Modules are completed throughout the learning journey and assessed every quarter.

- Formative and summative assessments are conducted at regular intervals to prepare learners for the External Integrated Summative Assessment (EISA).

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INTRODUCTION TO CLOUD COMPUTING (16 credits)

ID	Title	Level	Credits
KM-01	Introduction to Cloud Computing	4	8
KM-02	Cloud Computing Elements	4	8

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FUNDAMENTALS OF CLOUD ADMINISTRATION (16 credits)

ID	Title	Level	Credits
KM-03	Containers, Cloud Native, and Kubernetes	4	4
KM-04	Cloud Security, Risks, Vulnerabilities, and Mitigation	4	3
KM-05	Data and Databases in the Cloud	4	6
KM-06	Fundamentals of Cloud Computing Platforms	4	3

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THE CLOUD COMPUTING ENVIRONMENT (6 credits)

ID	Title	Level	Credits
KM-07	Introduction to Cloud Computing Governance, Legislation, and Ethics	4	1
KM-08	4th Industrial Revolution (4IR) and Future Skills	4	4
KM-09	Design Thinking Principles for Innovation	4	1

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SERVERS AND DATA STORAGE (16 credits)

ID	Title	Level	Credits
PM-01	Conduct Effective Server Maintenance and Optimisation	4	8
PM-02	Monitor On-demand Availability of Data Storage, Storage Capacity, and Storage Services over the Internet	4	8

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NETWORK ADMINISTRATION AND SUPPORT (16 credits)

ID	Title	Level	Credits
PM-03	Provide Cloud Network Administration and Support for Optimal Performance	4	16

CLOUD ADMINISTRATION ESSENTIALS (23 credits)

ID	Title	Level	Credits
PM-04	Ensure Integrity of the Cloud Ecosystem by Implementing Security Measures	4	8
PM-05	Access and Visualise Structured Data Using Spreadsheets	4	8
PM-06	Participate in a Design Thinking Innovation Workshop	4	3
PM-07	Function Ethically and Effectively in the Workplace	4	4

Work Experience Modules

The focus of the work experience modules is to provide the learner an opportunity to implement cloud solutions and services under authentic working conditions and to develop confidence by working under the supervision of a workplace mentor. This also provides for the exposure of learners to the complexities of dealing with workplace demands, the pressures of work, and the dynamics of stakeholder management.

ID	Title	Level	Credits
WM-01	On-demand Availability of Server Resources and Services over the Internet	4	20
WM-02	On-demand Availability of Data Storage, Storage Capacity, and Storage Services over the Internet	4	16
WM-03	Ensure Availability and Reliability of Network Connection According to Workflow and Security Protocols	4	20

The Greatness Effect