



# Higher Certificate in Information Systems (Network Engineering)

SAQA ID 120688 NQF Level 5

## 🕒 Mode and duration

### Contact

Full-Time (Campus)

- Minimum: 1 year
- Maximum: 3 years

Part-Time (Campus)

- Minimum: 2 years
- Maximum: 5 years

## ☰ Qualification description

Develop the sought-after skills that will power the next industrial revolution. The Higher Certificate in Information Systems (Network Engineering) is a broad yet intensive and career-focused qualification that prepares you for work as a technical professional in a range of jobs in the IT engineering environment.

The Higher Certificate in Information Systems (Network Engineering) qualification provides you with diverse hardware skills. You will also develop theoretical and technical skills in computer networking and server administration. The emphasis throughout is on practical application. Some of the core subjects in the area of this qualification are A+, Network+, Security+ and Cloud Foundations.

The core topics in the area of server knowledge include Windows Server, Network Infrastructure and Hyper-V Fundamentals. You will also cover topics such as Computer Literacy, Personal Skills Development and Azure Fundamentals. Throughout the qualification, you will complete technical practicals so that you are able to repair and troubleshoot hardware problems.

Over and above this, you will develop essential skills for the world of work, such as analysing and solving real problems, thinking logically, being innovative, being adaptable and self-disciplined working in teams and communicating effectively.

## 📁 Possible career options

Do you have a logical mind and love to solve complex IT problems?

The career choices for you, as a Higher Certificate in Information Systems (Network Engineering) graduate, include junior positions in:

- Hardware Technician
- IT Support
- Network Administration
- Server Administration

## ✅ Entry requirements

1. South African National Senior Certificate (NSC) with Bachelor's degree, Diploma or Higher Certificate endorsement.
2. Or a National Certificate (Vocational) level 4 issued by the Council of General and Further Education and Training with Bachelor's degree, Diploma or Higher Certificate endorsement.
3. Or a Certificate of evaluation on a minimum NQF level 4 for foreign qualification confirmed by SAQA.
4. Or a letter or certificate confirming an exemption from Universities South Africa (USAf) for any other school-leaving results.
5. Or completion of a Bachelor's degree, Diploma, Higher Certificate or equivalent.

## 📄 Qualification accreditation

- Accredited by the Higher Education Quality Committee (HEQC) of the Council on Higher Education (CHE)
- Registered with the South African Qualifications Authority (SAQA)
- Eduvos is a proud CompTIA (Computing Technology Information Association) partner. Due to this partnership with CompTIA, students who opt for the Cloud Computing stream, will qualify to attempt the A+, Network+ and Security+ CompTIA certification exam at partner pricing\*

\* This is applicable only for the first sitting and the CompTIA certification exam fees are added to the course fee.

## This qualification is offered at the following campuses:

- Bedfordview
- Bloemfontein
- Claremont
- Durban
- East London
- Mbombela
- Nelson Mandela Bay
- Potchefstroom
- Pretoria
- Tyger Valley
- Vanderbijlpark



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## Qualification structure

### Year 1

- A+ \*
- Cloud Foundations (AWS)
- Computer Literacy (Microsoft)
- Domain Servers
- Linux Operating System
- Hyper-V Fundamentals
- Network+ \*\*
- Personal Skills Development
- Security+ \*\*\*
- Server: Network Infrastructure
- Windows Server

\* A+ (CompTIA Certification Voucher)

\*\* Network+ (CompTIA Certification Voucher)

\*\*\* Security+ (CompTIA Certification Voucher)



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## Module Descriptors

Year 1

### **A+**

The module provides students with a foundation for building, supporting, and upgrading computer hardware devices, peripherals and basic networks and an understanding of how to provide customer support. Students will be able to describe the function of and identify all the internal and external components of desktop and portable computers, recommend and build a custom computer system for end users, disassemble, and reassemble a computer system, set up a printer, perform common maintenance procedures, practise proper safety procedures, and interact with customers in a professional manner. The fundamental principles of networking and the internet will also be explored.

### **Cloud Foundations (AWS)**

This module will provide students with a detailed overview of cloud concepts, AWS core services; and the pricing, security including the controls in the AWS environment and some of the products and features available with AWS to meet security objectives, architectural best practices for designing and operating reliable, secure, efficient and cost-effective systems in the cloud, and support for these core services.

### **Computer Literacy (Microsoft)**

The module teaches students how to use Microsoft Office applications such as Word, Excel, PowerPoint, Access and Outlook. This is intended to strengthen students' computer application skills as students will use Microsoft Office and fundamental computer operations for documentation and data management throughout the qualification. These skills also assist students in the preparation of design documents, presentations, budgeting spreadsheets, and other administrative tasks.

### **Domain Servers**

This module prepares the student for the server administrator role in a Domain environment. The administrator is responsible for the operations and day-to-day management of the domain infrastructure for an enterprise organisation. The server administrator uses scripts and batch files written by others, or those that they occasionally write themselves, to accomplish tasks on a regular basis.

### **Linux Operating System**

In this module students will examine the origins of the Linux operating system. They will look at the procedures necessary to install and configure Linux onto a computer, as well as logging in and out of Linux. In addition, students will be introduced to and become familiar with the GNOME desktop environment. They will develop skills and knowledge to enable them to use the powerful command line interface and explore files and directories. This module also deals with the role and function of the text editor, as well as working with directories and files using the Linux operating system terminal and commands. The final section of the module looks at developing skills to redirect input and output as well as controlling Linux operating system processes.

### **Hyper-V Fundamentals**

This module teaches the student to access either desktop-based virtualisation or server-based virtualisation. As technology has evolved, the need to create virtual systems to simulate the behaviour of a real environment has become a primary objective. In having a virtual environment, an information technology professional may use virtualisation to plan a server deployment, test an application or operating system update, as well as test software created in a development environment.

### **Network+**

This module explores the diverse subject of networking, looking at types of networks, the structure of networks, how models explain how data travels over networks, the different media used to carry data, the different devices used to move data, the underlying principles of protocols, addressing schemes, services and standards, and the tools and techniques used to manage, monitor, troubleshoot and secure networking systems.



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### **Personal Skills Development**

Personal Skills Development implies professional and personal growth in knowledge and skills. Personal Skills Development embraces a range of practical and transferable skills that can be applied within higher education and in the workplace. By conducting case studies, role play and real-life activities, the student should be able to improve their own learning, be involved in team work and be more capable of solving problems. The rationale behind this module is to expose the student to softer skills that are critical in the workplace and in higher education. This module attempts to encapsulate a range of key and common skills and deliver this information in a dynamic learning environment.

### **Security+**

This module explores the diverse subject of security, looking at general security principles and terms, common security issues and the procedures for correcting them, as well as how attacks against systems and networks are carried out, their symptoms and their impact on individuals and organisations, as well as the countermeasures that can be implemented to mitigate them. Wired, wireless and virtualised communication and network infrastructure security, cloud computing security, organisational and operational security, cryptography techniques and physical and environmental controls will also be explored, along with how an organisation would manage and improve their security.

### **Server: Network Infrastructure**

This module specifically focuses on configuring a server for networking and covers networking aspects such as network addressing, name resolution, network access and authentication, providing network services, and monitoring and maintaining the network infrastructure.

This hands-on module is designed for individuals with computer hardware and networking experience who wish to further their skills in the installation, configuration and administration of computer networks and the Microsoft Windows Server operating system. It is particularly beneficial to those students who wish to pursue a career as a Network Administrator, Local Area Network (LAN) Administrator or Network Specialist.

### **Windows Server**

This module is for the student who wants to start a career as a junior network administrator and wants to operate and manage a given network and its systems, and is seeking a grounding in the fundamentals of using and managing Windows Servers, or is already working as a network administrator and wants to fill in some gaps on fundamental Windows Server topics.