Faculty of
Information Technology

Eduvos
Your Education. Your Future

Higher Certificate in Information Systems (Cyber Security)

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

The Fourth Industrial Revolution, also referred to as industry 4.0, is a new phase in the industrial revolution that also focuses heavily on Cyber Security. Technology Security (also known as Cyber Security) is the protection of computer systems, networks, programs and data from unauthorised access or attacks that are aimed at exploitation. It also includes activities to protect the usability, reliability, integrity and safety of the network.

The Higher Certificate in Information Systems (Cyber Security) is a career-focused qualification that is intensive but also broad. It provides you with the fundamental and technical knowledge as well as the applicable skill set in Computer Hardware, Networking Technologies, Security, Penetration Testing, Cyber Security Analysis and Advanced Security Practices.

Possible career options

The career choices for you as a Higher Certificate in Information Systems (Cyber Security) graduate include junior positions in:

- CASP+ (Advanced Security Practitioner)
  - Security Architect, Technical Lead Analyst
  - Application Security Engineer
- CySA+ (Cyber Security Analysis)
  - Cyber Security Analyst, Vulnerability Analyst
  - Threat Intelligence Analyst, Security Engineer
  - IT Security Analyst, SOC Analyst
- Computer Technician
- Desktop Support Analyst
- Help Desk Technician
- IT Auditor, Security Specialist
- Network Administration
- Network Analyst
- Network Support Specialist
- PenTest+ (Penetration Testing)
  - Penetration Tester, Security Analyst
  - Vulnerability Assessment Analyst
  - Network Security Operations
- Security Engineer, Security Administrator
- Support Specialist
- Systems Administrator

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+ *
- CASP+ (Advanced Security Practitioner) **
- Computer Literacy (Microsoft)
- CySA+ (Cyber Security Analysis) ***
- Linux Administration
- Linux Operating System
- Network+ ****
- PenTest+ (Penetration Testing) *****
- Personal Skills Development
- Security+ ******
- Wireless Networks and Security

*A+ (CompTIA Certification Voucher)
** CASP+ (Advanced Security Practitioner) (Optional CompTIA Voucher)
*** CySA+ (Cyber Security Analysis) (Optional CompTIA Voucher)
**** Network+ (CompTIA Certification Voucher)
***** PenTest+ (Penetration Testing) (Optional CompTIA 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.

CASP+ (Advanced Security Practitioner)
This module enables students to figure out how to implement solutions within cybersecurity policies and frameworks. It validates advanced-level competency in risk management, enterprise security operations and architecture, research and collaboration, and integration of enterprise security.

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.

CySA+ (Cyber Security Analysis)
This module applies behavioural analytics to improve the overall state of IT security. It validates knowledge and skills that are required to prevent, detect and combat cybersecurity threats. In addition, this module covers the duties of those who are responsible for monitoring and detecting security incidents in information systems and networks, and for executing a proper response to such incidents.

Linux Administration
This module starts with the installation of Linux and many of the basic administrative tasks needed to manage a simple Linux system and users of the system. Realising that a Linux machine will usually be connected to a network, the module includes the basic tasks surrounding network connectivity and getting printers connected and working. Connectivity with Windows machines and networks, as well as the Internet, is also dealt with. As Linux is often used as a web and database server, the theory behind setting up and administering a web and database server is also covered.

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.

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.

PenTest+ (Penetration Testing)
Students will demonstrate the hands-on ability and knowledge to test devices in new environments such as the cloud and mobile, in addition to traditional desktops and servers. They will assess the most up-to-date penetration testing, and vulnerability assessment and management skills necessary to determine the resiliency of the network against attacks.

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Module Descriptors

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.

Wireless Networks and Security
This module will develop the student's understanding of the basics of wireless architecture. Students will learn the technologies, devices, standards, security and advancements to wireless technologies. Students will be able to identify wireless specifications and standards, and will be able to perform simple calculations and site surveys. The operation, configuration and installation of wireless equipment will help students gain a better understanding of today's wireless network requirements. Basic troubleshooting techniques will prepare the student for current and future wireless-related problem-solving scenarios. This module provides the knowledge for students to make appropriate judgements when planning and designing a new wireless network.