Faculty of
Information Technology

Eduvos
Your Education. Your Future

Higher Certificate in Information Systems (Open Source)

SAQA ID 120688 NQF Level 5

Qualification duration

Contact
Full-Time (Campus)
- Minimum: 1 year
- Maximum: 3 years

Full-Time (Online)
- Minimum: 1 year
- Maximum: 3 years

Part-Time (Online)
- Minimum: 2 years
- Maximum: 4 years

Qualification description

Future-proof your IT skills. The Higher Certificate in Information Systems (Open Source) is a rigorous, comprehensive and career-focused qualification that prepares you for working across the software environment as an open-source database developer or administrator.

Given that many IT companies are now using open-source software, this higher certificate is highly relevant to the information technology space.

The Higher Certificate in Information Systems (Open Source) provides you with a solid theoretical and intensive practical foundation in the basics of two programming languages and one database language, where the emphasis is on application. The core subject areas are development and administration of the open-source database MySQL and developing programming skills in the two languages: Choice of PHP / Java and Python. You also cover topics such as Computer Literacy and Database Design, Personal Skills Development, Mathematical Problem Solving and Reasoning, and using the Linux Operating System.

Over and above this, you will develop essential skills for the world of work, such as analysing and solving real problems, exploring new ideas, being adaptable and self-disciplined, working in teams and communicating for results.

Entry requirements

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

Possible career options

Do you think in code?

The career choices for you, as a Higher Certificate in Information Systems (Open Source) graduate, include junior positions in:
- Database Administration
- Linux Administration
- Programming

This qualification is offered at the following campuses:

- Bedfordview
- Bloemfontein
- Cape Town: Mowbray
- Cape Town: Tyger Valley
- Durban
- East London
- Mbombela
- Midrand
- Nelson Mandela Bay
- Potchefstroom
- Pretoria
- Vanderbijlpark

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Qualification structure

Year 1

- Computer Literacy (Open Source)
- Database Design Concepts
- Database Management (MySQL)
- Linux Administration
- Linux Operating System
- Mathematical Problem Solving and Reasoning
- Personal Skills Development
- Program Design
- Python Programming
- Software Engineering
- Elective - Choose 1
  - Basic Java Programming
  - Basic PHP Programming

Partnerships and Memberhips

Eduvos is proud to announce the following memberships and/or partnerships with the following:

- Computing Technology Information Association (CompTIA) *
- Amazon Web Services (AWS) Academy **
- The Institute of IT Professionals South Africa (IITPSA)
- Institute of Chartered IT Professionals (ICITP) South Africa
- South African Artificial Intelligence Association (SAAIA)
- Integrated Electronics Corporation (Intel)

* Eduvos is a proud CompTIA partner. Through this partnership, students who opt for streams incorporating CompTIA modules, will qualify to attempt certification exams at partner pricing. Some streams include mandatory vouchers, while others offer them as optional. You may also inquire about additional CompTIA certifications that are available at our institution. All vouchers are applicable only for the first sitting and the certification exam fees are added to the course fee.

** Eduvos is an AWS Academy member institute and is authorised to teach AWS Academy courses.

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Module descriptors

Year 1

Basic Java Programming
This module is aimed at teaching students the fundamentals of Java and its object-oriented features. Students will also learn to create robust console and GUI applications and store and retrieve data from relational databases.

Basic PHP Programming
Students will be introduced to core PHP scripts and how to implement these. PHP is also an object-oriented language. Students will understand how object-oriented scripting functions as well as classes and methods fit into the PHP scripting language.

Computer Literacy (Open Source)
The module teaches students how to use Libre Office applications such as Writer, Calc and Impress. This is intended to strengthen students' computer application skills as students will use Libre 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.

Database Design Concepts
This module focuses on systems analysis, entity relationship diagrams, data normalisation and mapping a database's design to tables.

Database Management (MySQL)
Students will be introduced to core MySQL scripts used for creating a database and how to implement these. Students will use MySQL scripts to add tables to the database. These tables are created with certain constraints such as primary keys, foreign keys, etc.

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.

Mathematical Problem Solving and Reasoning
The aim of this module is to provide students with a strong foundation in essential mathematical concepts, techniques, and their applications, enabling them to effectively solve computational problems and enhance their problem-solving skills in computer science and related fields.

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Year 1

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 teamwork 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.

Program Design
This module will introduce basic concepts of programming logic using control structures. More advanced topics, such as arrays, file handling and functions are covered later in the course. The knowledge that students will gain will initiate the students to master, at a basic level, the process to develop computer program algorithms using Python.

Python Programming
This module is aimed at teaching the student how to create applications using the Python programming language. Students would gain an understanding of Python's interpreter. Variables and constants/literals are also discussed, and the differences between them.

Software Engineering
Students are then given a practical introduction to UML for use as a tool in the system development process. More specifically, students will familiarise themselves with use cases and scenarios, identify different actors that play a role in a system, and learn to draw using case diagrams.