Faculty of
Information Technology

Eduvos
Your Education. Your Future

Higher Certificate in Information Systems (Web Development)

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

Kickstart your IT career. This Higher Certificate prepares you for work in a range of areas in the IT web environment. Although you will acquire a broad range of IT-related knowledge and skills, it is primarily a comprehensive and career-focused qualification that prepares you for work as an IT professional in the web environment.

The Higher Certificate in Information Systems (Web Development) provides you with solid theoretical and practical skills in web programming and database use and development. It also offers you intensive experience in the main web standard programming languages such as HTML5 and CSS3. The core subject areas include Creating Web Pages and Web Design, Content Management Systems and Basic PHP Programming. Other topics covered include Computer Literacy, Program Design, Mathematical Problem Solving and Reasoning. Throughout the qualification, you will complete technical projects so that you are able to design and create websites.

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

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)

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.

Possible career options

Do you have a flair for technology and design?
The career choices for you, as a Higher Certificate in Information Systems (Web Development) graduate, include junior positions in:
- Database Administration
- Web Development

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

- Basic PHP Programming
- Computer Literacy (Microsoft)
- Content Management Systems
- Creating Web Pages
- Database Design Concepts
- Database Management (MySQL)
- Introduction to JSON
- Mathematical Problem Solving and Reasoning
- Personal Skills Development
- Program Design
- Software Engineering

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Module Descriptors

Year 1

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 (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.

Content Management Systems
Students are shown how to set up and configure their choice of CMS, including the required databases. Students will understand how to use the administration interface as well as manipulate the content, layouts and design of a CMS template. This forms the basis for students to host their own websites with minimal knowledge of HTML or CSS.

Creating Web Pages
Students will create and use HTML components (i.e. images, symbols, headings, lists and tables) and also use new features from HTML5 Document Object Model (DOM) and DOM API created with CSS3 accompanied by JavaScript. HTML5 elements are designed to make it easier to include and handle multimedia and graphical content on the web. Students will also learn to create forms that are used to send information between pages.

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

Database Management (SQL Server)
The module starts with the fundamentals of database design concepts. These consist of creating a database, altering a database and creating tables, which have certain constraints, such as primary keys and foreign keys. Th module then looks at how to practically populate and implement the functions

Introduction to JSON
Students will understand that JSON is used to serialise and transfer data over a network connection. JSON (JavaScript Object Notation) refers to an open standard file format that is used to represent simple data objects and structures in web-based code. JSON is a very commonly used file format for browser-server communications as it is relatively quick and easy to understand. JSON was derived from JavaScript and is a file format that is considered to be language independent. JSON is mainly used as an alternate for XML in internet-based applications to organise data. Documents in JSON are easy and quick to execute in web servers as they are extremely lightweight to send back and forth in HTTP requests and responses due to the small file size.

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.

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.

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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.

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. The unit also explores the use of state, sequence, collaboration, activity and deployment diagrams.