Short Learning Programme in Basic Programming

Mode and duration

Contact

Full-Time (Campus)
- Minimum: 7 months
- Maximum: 3 years

Part-Time (Campus)
- Minimum: 14 months
- Maximum: 5 years

Part-Time (Online)
- Minimum: 14 months
- Maximum: 5 years

Programme description

Speak the language of tomorrow. The specialised Short Learning Programme in Basic Programming is intensive and career-orientated. It prepares you for the world of work and acts as a very effective stepping-stone to further studies in any of our Higher Certificates in Information Systems (IS). You will develop the knowledge and skills for work in the programming environment of the IT industry.

This Short Learning Programme provides you with a sound grounding of theoretical foundation of, and practical experience in the basics of one programming language, one database language and the use of one main operating system. The emphasis throughout is on application. The core subject areas include Program Design, Software Engineering, Database Design and Management, and either Basic Java or C# as the programming language. You also cover topics such as Computer Literacy, Personal Skills Development and Processing and Logic Concepts.

Much of the success of our Short Learning Programmes is due to our unique Mastery Learning Methodology (MLM). This modular self-directed learning approach gives you the flexibility to start and progress through the programme at a pace that best suits you. This learning methodology, together with our cutting-edge facilities such as computer labs, IS open learning areas and smart pods, will prepare you for the real IT work environment of the future.

Flexible learning. Limitless possibilities. Over and above this, you will start developing essential skills for the world of work, especially for the IT industry, such as analysing and solving real problems, applying logic, being innovative and adaptable, working in teams and communicating effectively.

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

Learn the language of computers.

The career choices for you, as a Short Learning Programme in Basic Programming graduate, include junior positions in:
- Programming
- Database Administration

Programme accreditation

- It is an Eduvos programme with modules that may articulate into the accredited Higher Certificates in Information Systems (Web Development, Engineering and Software Development), at NQF level 5.
- This Short Learning Programme is not accredited by the Higher Education Quality Committee (HEQC), nor is it registered with the South African Qualifications authority (SAQA). However, the modules within the Short Learning Programme contain the accredited NQF level 5 modules which allows for direct articulation into the full qualifications.

This programme is offered at the following campuses:

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

Short Learning Programme in Basic Programming

Programme structure

Year 1

- Computer Literacy (Microsoft)
- Database Design Concepts
- Mathematical Problem Solving and Reasoning
- Personal Skills Development
- Program Design
- Software Engineering
- Elective - Choose 1
  - Database Management (SQL Server)
  - Database Management (MySQL)
- Elective - Choose 1
  - Basic Java Programming
  - Basic C# Programming

Short Learning Programme in Basic Programming

Module Descriptors

Computer Literacy (Microsoft)
Computer literacy is the ability to effectively use technology to perform work. This skill is fundamental to successful employment within the knowledge economy. The purpose of this module is to prepare the student to use applications essential in the workplace. In addition, an information systems student must become familiar with the basic structure of a computer and how it works. This module will discuss how the Internet and personal portable computing have shaped the way in which work is performed today.

Basic C# Programming
This module will cover the basics of C#, which includes Procedural Programming with C#, Object-Oriented Programming with C# and Graphical User Interfaces design. The knowledge that students will gain will help them master, at an intermediate level, computer program development using C#.

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.

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. The module then looks at how to practically populate and implement the functions of a database.

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.

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.

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.