

Occupational Certificate: **SOFTWARE DEVELOPER**

NQF: 5

SAQA ID 118707

CREDIT: 220

Description

The Occupational Certificate in Software Development is a comprehensive education program designed to prepare students for successful careers in the rapidly evolving technology industry. It equips students with skills, knowledge, and practical experience in various aspects of software development, including programming, web development, database management, mobile app development, and software engineering principles.

Software developers analyze requirements and convert them into functional software solutions, testing, implementing, and maintaining software programs to satisfy functional and technical requirements and customer specifications. The program emphasizes practical hands-on experience, with students working on real-world projects to build a portfolio of work.

Career Fields

With this qualification, successful learners could pursue a career as a:

- Software Developer/Engineer
- Web Developer
- Software Architect
- Front-End Development
- Back-End Development
- Systems Architecture
- Business Analyst
- System Engineer
- Software Implementation Specialist
- Software Engineer
- Information Systems Manager
- Applications Development

Programme Outline

Knowledge Modules

- Computers and Computing Systems
- Desktop and Professional Software to Communicate and Visualise Information
- Automated Web Scraping as a Data Source
- Logical Thinking and Basic Calculations
- Computing Theory,
- Software Development with HTML5, Opensource Frameworks and Libraries
- UML as Standard Modelling Language for Software and Systems Development
- Obtaining, Querying, Manipulating and Presenting Data with and without MVC
- Software Development Life Cycle, Programming Languages, Algorithms and Security
- Introduction to Governance, Legislation and Ethics
- 4IR and Future Skills
- Design Thinking Principles for Innovation

Practical Skill Modules

- Use Software to Communicate and Visualise Information
- Use and Manage Spreadsheets and Workbooks
- Use Desktop Applications to Analyse, Visualise and Report on Data
- Use a Visual Analytics Platform and Visualisation Tools to Analyse, Visualise and report on Data
- Query and Massage Data
- Apply Logical Thinking and Maths
- Apply Code to use a Software Toolkit/Platform in the Field of Study or Employment
- Develop Software using HTML5, Opensource Frameworks and Libraries
- Design and Build Web Applications, Desktop Graphical User Interfaces or Mobile Apps

- Use a Cloud Automation Platform to Create Solutions
- Develop Software using Python
- Apply the Development Cycle when Developing Software
- Participate in a Design Thinking for Innovation Workshop
- Function Ethically and Effectively in a Team

Work Experience Modules

- Technical Requirement Analysis and Refinement
- Modelling Processes
- Programming for Software Solution Development
- Capstone project

Type of programme

The programme duration is 2 years on a full-time basis. Tuition is face to face and is scheduled per campus. Programmes are offered during the week on a full-time and part-time basis. Part-time tuition is scheduled as per the stipulated planner.

Admission requirements

The minimum entry requirement for this qualification is:

- Any NQF Level 4 qualification

Integrated Assessment

Integrated Formative Assessment: The skills development provider will use the curriculum to guide them on the stipulated internal assessment criteria and weighting. They will also apply the scope of practical skills and applied knowledge as stipulated by the internal assessment criteria.

This formative assessment together with work experience leads to entrance in the integrated external summative assessment. Integrated Summative Assessment: An external integrated summative assessment, conducted through the relevant QCTO Assessment Quality Partner is required for the issuing of this qualification.

The external integrated summative assessment will focus on the exit level outcomes and associated assessment criteria. The assessment will be conducted through written assessment and the evaluation of practical tasks at decentralised approved assessment sites by a panel of assessors evaluated by assessor(s) registered with the AQP within a period of 1 day.

EISA is a single, national assessment which leads to competent learners being awarded Occupational Certificates. It is an integral and critical component of QCTO's quality assurance system, as it ensures that the assessment of occupational qualifications, part-qualifications and trades is standardised, consistent and credible. Qualifying for External Assessment: To qualify for an external assessment, learners must provide proof of completion of all required knowledge and practical modules by means of statements of results and a record of completed work experience.

Articulation

This qualification provides opportunities for horizontal and vertical articulation options.

Horizontal Articulation:

- Occupational Certificate: Computer Technician; NQF Level 5.

Vertical Articulation:

- Advanced Certificate in Information Technology Governance, NQF Level 6.

