



BCONSULT

Occupational Certificate

ARTIFICIAL INTELLIGENCE SOFTWARE DEVELOPER

NQF Level 5 | SAQA ID 118792 | 209 Points | 12 Months

Occupational Certificate:

Artificial Intelligence Software Developer – NQF Level 5

SAQA ID: 118792 | Credits: 209 | Duration: 12-month | QCTO Learnership

1. Course Overview

The Occupational Certificate: Artificial Intelligence Software Developer is designed to equip learners with the foundational and practical skills required to develop, implement, test, and maintain Artificial Intelligence (AI) solutions within modern digital environments.

This qualification prepares learners to integrate AI functionality into software applications by applying machine learning, deep learning, data analysis, and programming techniques to solve real-world business and technological problems. Learners will gain competencies in Python programming, data visualisation, machine learning algorithms, neural networks, AI deployment, and ethical AI practices.

The programme responds directly to the increasing demand for AI and automation skills highlighted by the Fourth Industrial Revolution (4IR), enabling organisations to improve operational efficiency, innovation, and decision-making through intelligent technologies.

The qualification combines:

- Knowledge-based learning
- Practical skills development
- Structured workplace experience

The programme is suitable for school leavers, TVET graduates, aspiring AI professionals, and individuals seeking to formalise or expand their skills within the technology sector.

2. Learning Outcomes

Upon successful completion of this programme, learners will be able to:

- Gather, interpret, and analyse data from multiple sources to define AI-driven solutions.
- Design AI solutions using structured Software Design Documentation (SDD).
- Apply machine learning and deep learning techniques to solve real-world problems.
- Select and implement appropriate AI algorithms and learning models.
- Train, validate, and optimise AI models while maintaining model accuracy.
- Develop AI applications using Python, TensorFlow, databases, and machine learning libraries.

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- Deploy and maintain AI systems within operational environments.
- Apply ethical, governance, and innovation principles within AI development.
- Work effectively within multidisciplinary technology teams.

3. A Qualified Learner Will Be Able To:

A qualified learner will be able to:

- Interpret solution design documentation and develop AI solutions.
- Train AI models through machine learning processes while maintaining model accuracy within defined frameworks.
- Deploy, monitor, maintain, and improve AI solutions in real-world environments.
- Build intelligent systems using supervised, unsupervised, semi-supervised, and reinforcement learning techniques.
- Analyse structured and unstructured data using industry-standard tools and methodologies.
- Develop AI-powered applications using Python and modern AI frameworks.
- Implement deep learning and neural network architectures for advanced AI solutions.
- Participate effectively in innovation and design-thinking processes.

Entry Requirements

The minimum entry requirement for this qualification is:

- An NQF Level 4 qualification.

Recognition of Prior Learning (RPL) is available for:

- Access to the qualification
- Access to the External Integrated Summative Assessment
- Module credits through demonstrated competencies

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4. International Comparability

This qualification has been internationally benchmarked against recognised AI and machine learning programmes, including:

- IBM in collaboration with GreyCampus – Certificate Program in Artificial Intelligence
- Microsoft – Microsoft Certified: Azure AI Fundamentals

The qualification compares favourably with international standards in the following areas:

- Artificial Intelligence fundamentals
- Machine Learning
- Deep Learning
- Python programming
- Data analysis and visualisation
- Neural networks
- Practical AI implementation

Unlike many international foundational programmes, this qualification includes structured workplace learning and practical industry exposure, ensuring learners gain hands-on experience in real-world AI development environments.

5. Occupational Trainer – NQF Level 5 Certification

Occupational Certificate: Artificial Intelligence Software Developer

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NQF Level: 5

Credits: 209

This qualification serves as a foundational occupational certification for individuals entering the field of Artificial Intelligence, Machine Learning, and Intelligent Systems Development within the Information Technology sector.

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6. Potential Career Opportunities

Successful learners may pursue careers such as:

- Artificial Intelligence Software Developer
- Machine Learning Engineer
- AI Developer
- AI Technician
- AI Engineer
- AI Research Assistant
- Machine Learning Researcher
- Business Intelligence (BI) Developer
- Data Analyst
- AI Solutions Developer
- Intelligent Robotics Support Developer
- AI Systems Support Specialist
- Junior AI Architect

Learners may also articulate vertically into higher qualifications such as:

- Diploma in Information Technology (NQF Level 6)

7. Learning Options

This programme may be offered through:

- Full-time classroom learning
- Blended learning
- Online learning
- Workplace-based learning
- Skills development programmes
- Accredited occupational training providers

Training includes:

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- Knowledge modules
- Practical skills modules
- Workplace experience modules
- Integrated formative assessments
- External integrated summative assessment through the relevant Assessment Quality Partner (AQP)

The qualification is designed to ensure learners gain both theoretical understanding and practical workplace competence aligned with current industry requirements and emerging 4IR technologies.

Contact Details

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