AUTO DIGITID AFRICA

ACADEMIC PATHWAYS · 2026 EDITION

University and TVET pathways in AIDC

Where AIDC belongs in higher and technical education - and how academic study and professional certification fit together without replacing one another.

FOR STUDENTS · PARENTS · FACULTY · INSTITUTIONS

Somebody has to design the systems

Deploying an AIDC system is a skill. Deciding what should be built, why, at what cost and under what governance is a discipline - and it takes a degree to develop it properly.

Architecture

Designing the full identification and automation stack, not configuring one part of it

Standards literacy

GS1, EPC, ISO, digital product passports and digital identity as design constraints

Economic reasoning

Building and defending ROI and business cases to executive audiences

Governance and ethics

Privacy, accountability and AI oversight designed in, not bolted on

This curriculum produces architects, systems thinkers and intelligent-automation strategists. It is intentionally separated from the certification programmes, which own deployment, configuration and tooling.

The university teaches design, architecture and decision-making. The certifications teach deployment, configuration and execution.

University and TVET at a glance

	UNIVERSITY BTech · architecture-first	TVET Technical and vocational
ORIENTATION	Design, architecture, research and strategic decision-making	Equipment-rich workshop practice, maintenance and workplace competence
THE LEARNER	School leavers and professionals building toward architect, consultant and strategy roles	Learners building hands-on trade and technical capability, often alongside employment
HOW IT IS ASSESSED	Coursework, architecture labs, ROI models and a defended capstone	Workshop hours, equipment practice, safety and employer assessment
WHAT IT PROTECTS	Mathematics, programming, research methods, architecture and the original capstone	Practical hours on real equipment and assessment in the workplace
RELATIONSHIP TO CERTIFICATION	Certification may be taken in parallel. It is never part of academic credit	Professional and Technical Specialist may complement trade pathways and workplace evidence

Detailed TVET curriculum, unit and qualification information is issued by Auto DigitID Africa directly to adopting institutions.

Four years, four ways of thinking

BTech in AIDC & Intelligent Automation · Architecture, Systems & Strategy track

DURATION
4 years / 8 semesters

CREDIT LOAD
128 credits

ALIGNMENT
NQF Level 7 (adaptable by country)

MODE
Full-time / modular / hybrid

EACH YEAR IS ANCHORED TO A DOMINANT COGNITIVE VERB

YEAR 1

UNDERSTAND

Foundations of AIDC systems

Build conceptual clarity of AIDC as enterprise infrastructure. Conceptual labs only - no physical device configuration.

YEAR 2

STRUCTURE

Systems, standards & architecture

Develop systems thinking and architecture understanding across enterprise systems, identity, security and interoperability.

YEAR 3

DESIGN

Industry system design & integration

Translate business problems into defensible system architectures across logistics, healthcare, retail and the public sector.

YEAR 4

ARCHITECT

AI, automation & enterprise strategy

Develop architect-level thinking and strategic command, ending in a real architecture project defended before a mixed academic and industry panel.

Exit awards: Diploma exit after Year 2; optional Higher Diploma exit after Year 3. · Industrial attachment of 8-12 weeks in Year 3, Semester 2. · A mandatory industry-defended architecture project in Year 4.

What a graduate can do

ON COMPLETION, GRADUATES CAN

- Architect enterprise-grade AIDC ecosystems
- Design AI-enabled operational workflows
- Model and defend ROI-driven automation programmes
- Design traceability, identity and digital product passport systems
- Evaluate integration architectures across ERP, WMS, MES, TMS and EHR
- Apply governance, ethics and compliance frameworks
- Defend architecture decisions before academic and industry panels

HOW IT IS ASSESSED

Coursework (continuous assessment)	**40%**
Practical simulations & architecture labs	**20%**
Projects, case studies & ROI models	**20%**
Final examination	**20%**

The Year 4 capstone is an architectural defence, not a build project. A pass requires demonstrated reasoning under questioning by senior industry assessors.

Laboratories focus on systems design, data-flow modelling and architectural reasoning - not vendor tooling. Scanner configuration, RFID tuning, printer setup and device management are deliberately excluded and remain part of the certification pathway.

Every credit is assessed

HOW THE 128 CREDITS DIVIDE

University common units	18 credits
Core AIDC and systems units	74 credits
Integration, AI and automation units	18 credits
Research and capstone	12 credits
Industrial attachment	6 credits
Total	**128 credits**

One credit is about ten notional learning hours per semester week. Institutions may map this to ECTS, SAQA or a local framework during adoption.

There are no electives and no optional units. Every one of the 128 credits is credit-bearing and assessed.

WHERE AI SITS, AND HOW THAT DIFFERS

Year 3	AI foundations for operations
Year 4	AI in AIDC systems
Year 4	Machine vision and intelligent inspection
Year 4	Enterprise automation and orchestration
Year 4	Governance, ethics and compliance

Here AI is 18 assessed credits across Years 3 and 4, and the Year 4 capstone devotes 15% of its mark to an AI and automation integration strategy with human-in-the-loop design.

TVET PATHWAY

Technical and vocational routes into AIDC

TVET institutions bring something university programmes deliberately do not: sustained, equipment-rich, workplace-assessed practice.

Equipment-rich practice

Sustained workshop hours on real scanners, printers, readers and mobile devices

Maintenance and safety

Servicing, fault-finding, safe working practice and preventive maintenance

Workplace assessment

Competence evidenced by employers in a real operating environment

Employment-linked

Designed around learners who are working, or moving quickly into work

HOW TVET CONNECTS TO THE REST

- Certified AIDC Professional and Technical Specialist may complement trade pathways and workplace evidence
- Certified AIDC Professional is offered as a TVET- or university-bundled practical credential
- The BTech curriculum is structured for adoption by universities and TVETs, with articulation for diploma and higher-diploma exits

What we are not stating here

Auto DigitID Africa has not yet published an approved detailed TVET curriculum. Unit lists, credit values, qualification levels and TVET-specific pricing are therefore not stated here. Institutions should contact Auto DigitID Africa directly to discuss adoption.

Complementary pathways, not competing ones



Academic learning and professional certification are complementary pathways. One is not a substitute for the other, and neither is a requirement of the other.

Universities do not deliver certification content as part of academic credit. Certifications are enrolled in separately, in parallel to or after the degree. No student is required to purchase both.

Four distinct professional ceilings

	PROFESSIONAL	TECHNICAL SPECIALIST	TECHNICAL EXPERT COMING SOON	UNIVERSITY / BTECH
PRIMARY VERB	DEPLOY	INTEGRATE	ASSURE	**DESIGN**
SCOPE	Devices and endpoints	Systems and workflows	Enterprise delivery	**Enterprise architecture and society**
OWNS	Configuration and support	A working data flow	Production readiness	**Original architecture and strategy**
DECISIONS	How to make it work	How to make systems talk	How to deliver it safely at scale	**What should be designed, and why**
CAPSTONE	Deployment	Integration	Delivery assurance	**Original research and architecture**
HIRING SIGNAL	Technician	Solution / integration engineer	Implementation / delivery lead	**Architect / strategist / researcher**

The online ladder ends at expert practitioner and delivery leadership. The degree advances the learner into accountable architecture, strategy, research and innovation.

Certification has a second track. Professional is also the shared entry to the commercial track - Sales Specialist, then Commercial Expert, both coming soon. It is equal in seniority and a different profession, and its ceiling is commercial leadership, not architecture.

How the two can run alongside each other

ACADEMIC STAGE	CERTIFICATION RELATIONSHIP	PROTECTED ACADEMIC VALUE
BTech Years 1-2	Professional may be taken in parallel, or recognised as practical evidence	Mathematics, programming, systems foundations, technical writing
BTech Year 3	Technical Specialist may be taken in parallel or after verified integration work	Integration architecture, modelling, sector design and research methods
BTech Year 4	Technical Expert (coming soon) is separate and may require additional field evidence. There is no automatic dual award	AI and model design, governance and policy, strategy, original research and the defended capstone
TVET	Professional and Technical Specialist may complement trade pathways and workplace evidence	Workshop hours, equipment practice, maintenance, safety and employer assessment

Recognition-of-prior-learning decisions belong to the accredited institution. Certification may support exemption from selected practical laboratories or electives - never from research, architecture, mathematics, programming or the degree capstone.

Academic study opens a different ceiling

ROLES A BTECH GRADUATE MOVES TOWARD

- AIDC Solutions Architect
- Enterprise Systems Architect
- AI & Automation Consultant
- Digital Transformation Lead
- Operations Strategy Manager
- Healthcare Traceability Architect
- Public Sector Identity Systems Architect
- Industry Innovation Lead

SECTORS THAT HIRE THEM

Logistics & 3PL

Warehousing, transport, EPCIS events, cold chain and RTLS

Healthcare

Patient and product identity, DataMatrix, UDI, privacy and safety

Manufacturing

MES, work in progress, RFID, vision and industrial connectivity

Retail & Omnichannel

2D at point of sale, Digital Link, inventory and consumer information

These are the directions the qualification opens. Auto DigitID Africa publishes no employment guarantee, placement rate or salary expectation, because no verified evidence supports one.

NEXT STEP

Choosing between them, or combining them

Neither pathway is a lesser version of the other, and neither requires the other. Choose the one that matches the work you want to be accountable for.

01

Students and parents

Academic study to design and justify systems; certification to deploy, integrate and assure them - or, on its commercial track (coming soon), to position and sell them.

02

Faculty and advisers

Use the articulation table to plan parallel study without duplicating academic content.

03

Institutions

Talk to Auto DigitID Africa about curriculum adoption, faculty enablement and Academic Partner status.

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