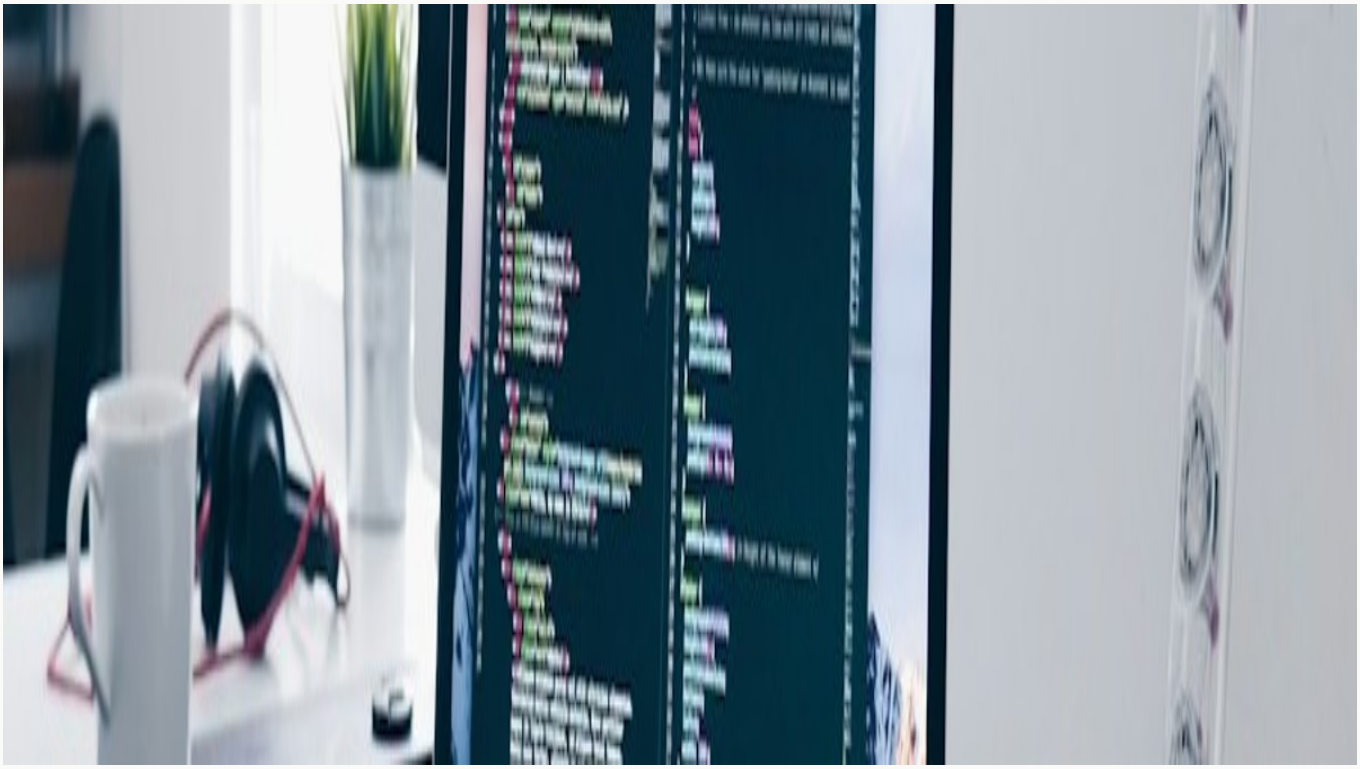
AXIA LEARNING / AIAU

Diploma in AI Automation

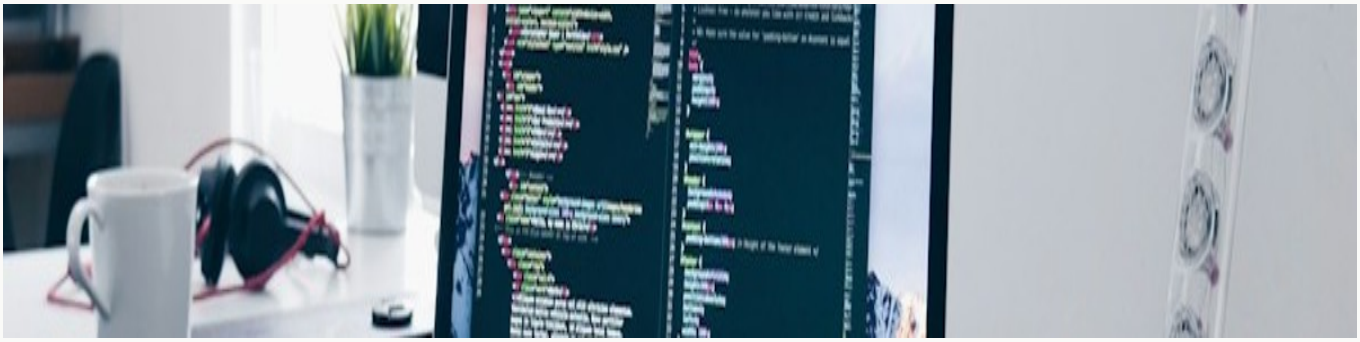
Five months. Practical learning. A clear next step.



20 weeks | **220 hours** | **Live classes**

Developing Talent. Building Intelligent Solutions.

Your pathway



Focus and scope. Practical business-process automation using a low-code workflow platform, APIs and bounded AI steps. Reliability, human approval and measurable process improvement are central.

Entry requirements. Comfort using spreadsheets, files and business software. A diagnostic checks logical sequencing, data handling and ability to follow a process. No previous coding required.

Pre-course preparation. Optional 10–15-hour preparation in spreadsheet data, process diagrams, JSON reading and basic digital operations.

Primary tools. Core: n8n as the main workflow platform, a spreadsheet/database, an API testing client and one model provider or a supplied mock API. Small JavaScript expressions are taught in context. Make is an optional comparison, not a second compulsory platform.

Career direction. Portfolio preparation for automation assistant/specialist, operations technology and supervised freelance workflow projects.

What you'll be able to do

LO1. Map a business process and identify appropriate automation opportunities.

LO2. Connect applications using webhooks, JSON, authenticated APIs and data transformations.

LO3. Build workflows with deterministic rules, validated AI outputs and human approvals.

LO4. Handle retries, duplicates, failures and secrets without creating unsafe side effects.

LO5. Test, monitor and hand over workflows with clear operating procedures.

LO6. Measure time, quality and cost against a documented manual baseline.

Five-month overview

Month	Focus	Main assessment
1	Process thinking and workflow foundations	Rule-based process automation with a measured manual baseline.
2	APIs, data and reliable integrations	API/webhook integration with duplicate-event protection and schema validation.
3	AI-assisted workflows and human review	AI-assisted triage process with human review and a labelled evaluation set.
4	Operational reliability and client delivery	Separate client-delivery simulation with rollback, incident handling and value reporting.
5	Capstone and live handover	Final capstone and individual practical

MONTH 1 / 05

Process thinking and workflow foundations



1. Automation opportunities and AI limits

Skills & concepts

Identify triggers, inputs, decisions and outputs; compare manual, rule-based and AI approaches.

Practical evidence

Map one business process and measure a small manual baseline.

2. Workflow foundations

Skills & concepts

Configure n8n, inspect execution data and build a simple trigger-action workflow.

Practical evidence

Connect a form or manual trigger to a spreadsheet using test records.

3. Data handling and conditions

Skills & concepts

Read JSON, map fields, transform dates and add conditional routing.

Practical evidence

Build an intake workflow with schema checks and rejected-record handling.

4. First process automation

Skills & concepts

Define success criteria and document process ownership and exceptions.

Practical evidence

Submit Month 1 rule-based automation and baseline comparison.

MONTH 2 / 05

APIs, data and reliable integrations



5. HTTP and authenticated APIs

Skills & concepts

Use request methods, status codes, pagination and credential storage.

Practical evidence

Connect to a supplied sandbox API and retrieve a paginated dataset.

6. Webhooks and event handling

Skills & concepts

Receive events, validate payloads and distinguish test and live endpoints.

Practical evidence

Build a webhook-driven process and test malformed requests.

7. State, duplicates and schedules

Skills & concepts

Use identifiers, state tracking, scheduled jobs and basic idempotency.

Practical evidence

Demonstrate that replaying an event does not duplicate the intended action.

8. Connected business workflow

Skills & concepts

Combine API reads, data storage and conditional notifications.

Practical evidence

Submit Month 2 multi-step integration with test evidence and documentation.

MONTH 3 / 05

AI-assisted workflows and human review



9. LLMs in workflows

Skills & concepts

Choose tasks suited to AI, write structured prompts and validate model output against a schema.

Practical evidence

Build a classifier and compare it with a simple rule-based baseline.

10. Documents and bounded extraction

Skills & concepts

Process a supplied text/PDF-extraction output, validate required fields and handle uncertainty.

Practical evidence

Build a document-intake workflow that routes incomplete or uncertain outputs to review.

11. Human approval and permissions

Skills & concepts

Place approval gates before messages, financial changes or record modifications.

Practical evidence

Build an approval queue with audit entries and permission boundaries.

12. Useful AI assistants

Skills & concepts

Combine retrieval or constrained tools with an explicit task boundary and escalation.

Practical evidence

Submit Month 3 support or triage workflow tested on at least 20 cases.

MONTH 4 / 05

Operational reliability and client delivery



13. Error recovery and observability

Skills & concepts

Add retries with backoff, timeouts, alerts and a failed-work queue.

Practical evidence

Recover from an injected API outage without losing or duplicating a record.

14. Testing, security and cost

Skills & concepts

Build test cases, manage secrets, limit tool permissions and measure execution cost.

Practical evidence

Run a workflow test suite covering invalid input, hostile text and quota failure.

15. Deployment and operating procedures

Skills & concepts

Separate test/live credentials, version workflows and document rollback and ownership.

Practical evidence

Prepare a handover pack and restore a previous workflow version.

16. Client discovery and value reporting

Skills & concepts

Define scope, acceptance, change requests and total operating cost.

Practical evidence

Submit Month 4 client-delivery simulation and approve a separate capstone brief.

MONTH 5 / 05

Capstone and live handover



17. Capstone process design

Skills & concepts

Agree a bounded business process, manual baseline and test data contract.

Practical evidence

Submit workflow design, risk map and acceptance criteria.

18. Capstone implementation

Skills & concepts

Build the end-to-end process, human checkpoints and failure paths.

Practical evidence

Demonstrate a working sandbox implementation and execution logs.

19. Capstone reliability and pilot

Skills & concepts

Run acceptance cases, measure results and correct operational weaknesses.

Practical evidence

Submit test outcomes, time/cost comparison and incident-response steps.

20. Client demonstration and practical defence

Skills & concepts

Hand over workflows, explain limits and repair a fresh failure independently.

Practical evidence

Deliver workflow exports, runbook, value report and individual practical test.

Your assessment checkpoints

Checkpoint	Assessed project	Outcome coverage
Week 4	Rule-based process automation with a measured manual baseline.	LO1
Week 8	API/webhook integration with duplicate-event protection and schema validation.	LO2, LO4
Week 12	AI-assisted triage process with human review and a labelled evaluation set.	LO3, LO4
Week 16	Separate client-delivery simulation with rollback, incident handling and value reporting.	LO5, LO6

The capstone and final individual practical together verify all six outcomes. Instructors use the weekly evidence to identify gaps early; the mapping above does not limit remediation to those weeks.

Your final capstone

Automate a bounded lead-intake, support-triage, invoice-review or appointment process in a sandbox. Include validated AI assistance and human approval before consequential actions.

Capstone acceptance criteria

Use at least three connected components, including an authenticated API and a persistent data store. Test at least 30 cases covering normal input, invalid data, duplicate events, API outage and hostile embedded instructions. Show no duplicate final action when the same event is replayed; retain a traceable execution log. Demonstrate approval before outbound or record-changing actions and safe secret handling. Report baseline versus automated time on a documented small sample, operating cost and unresolved exceptions.

Evidence pack. Include a short brief, source/permissions record, versions, practical artefact, testing or user-research evidence, limitations, handover instructions and a record of material AI assistance. Include a 5–8-minute demonstration and an individual 15-minute defence inside the final week's facilitated schedule.

How the programme works

Programme model and delivery

Programme structure. Six separate pathways, each lasting 20 teaching weeks, organised into five four-week learning blocks. A student enrols in one diploma. The five-month calendar should be confirmed against holidays and local delivery dates. This is a proposed institutional curriculum blueprint, not an accreditation decision.

Audience and admission. Mixed cohort: beginners and career changers can enter the non-coding tracks after an orientation. Technical tracks use practical entry checks and pre-course bridging where required. AI Engineering requires Python/API/Git competence before Week 1. Assess applicants by demonstrated skills rather than degree title alone.

Weekly workload: 11 hours. 3 hours of interactive teaching; 2 hours of supervised practical work; 1 hour of critique, review or mentoring; 5 hours of independent reading, building and assessment preparation. Total: 220 learning hours per diploma, including 120 facilitated hours and 100 independent hours. Projects and assessment preparation are included, not added on top.

How each week runs. Begin with a concrete work problem and a short retrieval exercise; teach the relevant concepts; demonstrate a worked example; complete a supervised lab; finish an individual deliverable and receive feedback. Use a different dataset or brief for independent work so students cannot pass by copying the demonstration.

Shared foundation without losing track time. Week 1 in each course includes AI limitations, data privacy, responsible tool use and evidence checking through a track-specific exercise. Communication, version history, documentation and critical thinking recur throughout. Do not add a separate generic month that displaces the core discipline.

Progression gates. Week 4: demonstrate foundational work independently. Week 8: complete a usable core project. Week 12: show role-specific AI application and evaluation. Week 16: demonstrate integrated work and obtain approval for a separate capstone. Weeks 17–20: deliver, test and defend the capstone. Learners who miss a gate receive targeted remediation and a reassessment plan.

AI use in assessment. Allow AI in normal labs if students disclose material use and verify outputs. Keep a brief record of prompts, generated material and corrections. Do not accept fabricated interviews, invented datasets, unrun tests or unsupported impact claims. The final practical uses a fresh task, allows reference documentation and excludes AI-generated solutions; the oral defence verifies individual understanding.

Data and lab practice. Use public, licensed, synthetic or appropriately consented data. Do not place confidential organisational or personal data in external AI tools. Cybersecurity practice takes place only in written-scope isolated labs; automation uses sandbox accounts and approval before external side effects. Students keep a source and permissions register.

Capstone format. Prefer individual work for a five-month part-time diploma. If a team of up to three is approved, each learner keeps a contribution log and submits an individually assessed component and defence. A cross-track showcase is optional; a

learner's grade must not depend on another track delivering its component.

Portfolio and employability. Career preparation is embedded in project write-ups and mentor review. Each student finishes with four graded monthly project artefacts, one capstone case study, a concise CV/profile and a rehearsed demonstration. Describe evidence of competence honestly; the curriculum does not promise employment or advanced professional expertise.

Assessment and progression

Assessment	Weight	Evidence
Weekly practical work, Weeks 1–16	20%	Sixteen individual practical submissions; mark correctness, reasoning and verification. Each contributes 1.25%.
Four monthly projects, Weeks 4, 8, 12 and 16	30%	Each contributes 7.5%. Grade the integrated project against its outcome map; do not award the same points twice for a weekly lab.
Capstone, Weeks 17–20	35%	A separate brief with implementation/prototype, evaluation evidence, documentation and individual defence. Reusing earlier techniques is allowed; copied project submissions are not a new capstone.
Final individual practical, Week 20	15%	An unseen role-specific task, normally 90 minutes, followed by a short explanation of decisions. Scheduled inside the weekly facilitated hours.

Proposed capstone rubric (100 points within the capstone component):

Criterion	Points
Problem understanding and scope	10
Discipline-specific execution	35
Testing, evaluation and evidence	20
User/business relevance	10
Responsible practice and risk controls	10
Documentation and reproducibility/handoff	10
Presentation and defence	5

The discipline-specific acceptance criteria in each course are additional gates. A polished presentation cannot compensate for missing core functionality, unsupported findings or lack of individual understanding.

Delivery & learning support

Delivery preparation and quality assurance

Before enrolment. Publish entry requirements, assessment rules, actual tool/API charges and device requirements. Run the diagnostic and bridge. Check access to every compulsory tool on the learner's device. No learner should discover a mandatory paid subscription halfway through the course.

Teaching assets required. For every week prepare one instructor plan, a worked example, a supervised lab brief, an independent task, starter files or data, an answer/review guide and a marking checklist. For each project prepare a brief, rubric, sample acceptable evidence and an individual-defence prompt.

Instructor and mentor support. Use a named practitioner lead per track and approximately one practical mentor per 20–25 learners; reduce the ratio for engineering or complex lab sessions. Offer a recorded session or equivalent guided task for

learners with connectivity constraints.

Device and access baseline. Recommend a laptop with at least 8 GB RAM; provide browser labs or a higher-memory option for virtualisation-intensive work. Cybersecurity learners need isolated lab access; Power BI learners need compatible Windows access or a preselected cohort-wide alternative. AI Engineering does not require students to purchase a GPU.

Tool-cost control. Choose one main tool per capability. Provide sandbox datasets, shared lab infrastructure, bounded API quotas and a mock/offline fallback where feasible. Approve spending limits before live integrations. Verify current pricing and licences before each cohort rather than printing unverified prices in the syllabus.

Feedback and quality assurance. Return weekly feedback within seven days. Moderate a sample of marked work across instructors, verify final individual competence and gather feedback at Weeks 4, 8, 12, 16 and 20. Update tool-specific instructions before the next cohort while keeping learning outcomes stable.

Completion rules proposed for adoption. Require at least 60% overall, 60% in the capstone and 60% in the final practical, plus satisfactory evidence for every core learning outcome. Offer targeted resubmission for unmet outcomes. Require participation in 80% of facilitated activities or approved equivalent tasks; publish any local policy changes before enrolment.

Award and recognition. The provider must approve the final award title, hours and assessment policy. These documents do not establish equivalence to a regulated qualification or

endorsement by the reference organisations. Any accreditation or external-certification claims require a separate, verified approval process.

Reference guidance and curriculum maintenance

These are reference resources used to inform the proposed scope, not course endorsements or a claim of formal certification alignment. Reviewed 17 November 2026. Tool versions, access and pricing must be rechecked before delivery. Human–AI interaction design. Microsoft Research: Guidelines for Human-AI Interaction — https://www.microsoft.com/en-us/research/project/guidelines-for-human-ai-interaction/ AI product risk and evaluation. NIST AI Risk Management Framework and GenAI profile resources — https://www.nist.gov/itl/ai-risk-management-framework Analytics data preparation. Microsoft Learn: Prepare data for analysis with Power BI — https://learn.microsoft.com/en-us/training/paths/prepare-data-power-bi/ Cybersecurity work and skills. NIST NICE Framework Resource Center — https://www.nist.gov/itl/applied-cybersecurity/nice/nice-framework-resource-center AI automation components and evaluation. n8n: Integrate AI — https://docs.n8n.io/build/integrate-ai.md LLM foundations and technical prerequisites. Hugging Face LLM Course — https://huggingface.co/learn/llm-course/chapter1/1 Predictive-model evaluation. scikit-learn: Model selection and evaluation — https://scikit-learn.org/stable/model_selection.html AI application security. OWASP GenAI/LLM application security project — https://owasp.org/projects/top-10-for-large-language-model-applications Human–AI interaction guidance informs expectations, correction and recovery in Design. NIST AI risk guidance informs product evaluation and governance. NICE informs task-based cybersecurity planning. Microsoft data-preparation guidance supports analytics sequencing. n8n and Hugging Face documentation inform automation and engineering capability boundaries. scikit-learn and OWASP inform evaluation and security practice.

Questions? Contact info@axia.africa.