



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Winder Operation And Control Programme Training

Manufacturing, Engineering and Technology / Fabrication and Extraction

Unit Standard 110153 · NQF Level 3 · 19 Credits · 16 Days

COURSE OVERVIEW

This programme equips learners with the theoretical knowledge and practical skills required to safely and efficiently operate and control winder systems in a mining or industrial environment. Learners will gain competence in starting, monitoring, and stopping winder operations while adhering to safety regulations and standard operating procedures.

Category	Manufacturing, Engineering and Technology
Subfield	Fabrication and Extraction
Unit Standard	110153
Accreditation	SAQA Accredited · NQF Level 3 · 19 Credits
Duration	16 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply relevant safety regulations and procedures to ensure safe winder operation.
- Demonstrate the ability to start, operate, and stop a winder system under normal and emergency conditions.
- Monitor winder performance and control systems to maintain optimal operation.
- Analyze winder faults and implement corrective actions within scope of authority.
- Evaluate winder operational data to ensure compliance with performance standards.
- Implement communication protocols and record-keeping procedures for winder operations.

WHO SHOULD ATTEND

- This course is designed for winding engine drivers, operators, and supervisors responsible for the operation and control of winders in mining or industrial settings.

COURSE OUTLINE

Day 1: Introduction to Winder Systems and Safety

- Overview of mine winder systems
- Types of winders: drum, friction, and Blair winders
- Main components: headgear, sheaves, ropes, conveyances
- Safety legislation: MHSA, SANS, and mine codes
- Personal protective equipment (PPE) and lock-out/tag-out
- Roles and responsibilities of the winder operator
- Basic hoisting cycle

Day 2: Winder Mechanics and Drive Systems

- Mechanical power transmission
- Electric motors: AC induction vs DC shunt
- Drive control: variable frequency drives and thyristor controls
- Braking systems: disc, drum, and emergency brakes
- Rope construction, lay, and termination
- Head sheaves and deflection sheaves
- Conveyance attachments: detaching hooks, safety catches

Day 3: Winder Control Systems and Instrumentation

- Control system architecture
- Sensors: speed, depth, load, tension
- PLCs and SCADA in winder control
- Operator interface: displays and alarms
- Depth measurement: pulse encoders, tachogenerators
- Over-speed and over-wind protection
- Emergency stop circuits

Day 4: Pre-Operational Checks and Inspection

- Daily inspection routines
- Mechanical checks: ropes, sheaves, brakes
- Electrical checks: motor, controls, emergency stops
- Hydraulic/pneumatic system checks
- Safety device testing: slack rope, over-speed
- Logbook entries and defect reporting
- Permit-to-operate procedures

Day 5: Starting, Stopping, and Normal Operation

- Start-up sequence: power-up, system checks, clearance
- Joystick and master controller operation
- Acceleration/deceleration curves
- Speed control in manual and automatic modes
- Depth and position monitoring
- Normal stopping procedures
- Parking and securing the winder

Day 6: Man Winders and Personnel Transport

- Man winder regulations: MHSA Chapter 8
- Pre-trip inspections for personnel conveyances
- Speed limits and smooth ride requirements
- Signalling systems: bell codes, radios
- Emergency procedures for man winding
- Overcrowding prevention
- Communication with onsetters and banksmen

Day 7: Rock Winding and Material Handling

- Skip types: bottom-dump, side-dump, cross-over
- Loading and dumping sequences
- Load monitoring: weight cells, power draw
- Overload protection systems
- Cycle optimisation: acceleration, speed, deceleration
- Conveyance change-over procedures
- Handling ore and waste rock

Day 8: Emergency Procedures and Fault Response

- Emergency stop: manual and automatic
- Power failure: backup systems and brake application
- Rope slip detection and response
- Conveyance stuck in shaft: recovery methods
- Fire in winder room: extinguisher use
- First aid and rescue coordination
- Incident reporting and investigation

Day 9: Brake System Testing and Adjustment

- Brake types: service, emergency, parking
- Brake test procedures: static, dynamic, torque
- Brake clearance adjustment
- Hydraulic pressure settings
- Brake wear monitoring
- Testing intervals and legal requirements
- Recording and reporting brake tests

Day 10: Rope Inspection and Maintenance

- Rope inspection methods: visual, magnetic, ultrasonic
- Defect types: broken wires, wear, corrosion
- Diameter measurement and discard limits
- Elongation and lay length checks
- Rope lubrication: types and application
- Capel and socket inspection
- Rope replacement and splicing basics

Day 11: Conveyance Maintenance and Safety Devices

- Skip and cage inspection points
- Safety catches: function and testing
- Detaching hooks: operation and maintenance

- Guide rails and bunton clearance
- Shaft furniture: signals, gates, lights
- Conveyance change-out: planning and execution
- Load testing and certification

Day 12: Control System Diagnostics and Troubleshooting

- Fault finding methodology
- PLC diagnostics: ladder logic, status lights
- Alarm history and trend analysis
- Sensor troubleshooting: speed, depth, load
- Actuator issues: valves, drives
- Communication faults: network, fieldbus
- Component replacement procedures

Day 13: Winder Performance Optimisation

- Performance metrics: cycle time, payload, utilisation
- Speed profile optimisation
- Acceleration and jerk control
- Load balancing in multi-level shafts
- Energy efficiency: regenerative braking
- Data logging and performance reports
- Continuous improvement techniques

Day 14: Shift Handover and Communication

- Shift handover procedures: verbal, logbook
- Communication protocols: radio, telephone, signals
- Bell codes and their meanings
- Reporting defects and incidents
- Team coordination: onsetters, banksmen, maintenance
- Safety meetings and toolbox talks
- Conflict resolution in the control room

Day 15: Integrated Operations and Scenario Training

- Multi-conveyance operation
- Simultaneous man and rock winding
- Emergency scenario: power loss with personnel in shaft
- Breakdown scenario: rope slip with skip loaded
- High traffic period management
- Decision-making under pressure
- Debrief and lessons learned

Day 16: Assessment and Certification Preparation

- Course review: theory and practical highlights
- Written assessment preparation
- Practical assessment: pre-start, normal operation, emergency
- Assessment criteria and pass marks
- Certification process: SAQA credits, mine certification
- Career progression opportunities

- Course evaluation and feedback

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **19 NQF credits** at **NQF Level 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 51,200.00	R 51,200.00
1	In-House	R 66,600.00	R 66,600.00
1	On-Campus (Pretoria)	R 76,800.00	R 76,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	24 Aug 2026	On-Campus	Johannesburg, South Africa
04 Aug 2026	25 Aug 2026	On-Campus	Mauritius
05 Aug 2026	26 Aug 2026	On-Campus	Cape Town, South Africa
06 Aug 2026	27 Aug 2026	On-Campus	Dubai, UAE
07 Aug 2026	28 Aug 2026	On-Campus	Pretoria, South Africa
07 Aug 2026	28 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	31 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	31 Aug 2026	On-Campus	Mauritius

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 110153) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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