



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

Diesel Locomotive Operation for Railway Workers

Services / Transport, Operations and Logistics

Unit Standard 256195 · NQF Level 3 · 16 Credits · 13 Days

COURSE OVERVIEW

This course equips railway workers with the knowledge and practical skills to safely and efficiently operate a diesel locomotive. Learners will gain competence in pre-operational checks, starting, driving, and stopping procedures, as well as emergency response protocols. The training ensures compliance with South African railway regulations and promotes a safety-first culture.

Category	Services
Subfield	Transport, Operations and Logistics
Unit Standard	256195
Accreditation	SAQA Accredited · NQF Level 3 · 16 Credits
Duration	13 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate pre-operational inspection and safety checks on diesel locomotives.
- Apply correct starting, driving, and stopping procedures for diesel locomotives.
- Analyze locomotive performance and respond to operational irregularities.
- Implement emergency shutdown and response procedures in accordance with safety standards.
- Evaluate operational risks and apply relevant safety protocols.
- Communicate effectively using standard railway radio procedures and signals.

WHO SHOULD ATTEND

- This course is designed for railway workers, locomotive drivers, and trainees who are required to operate diesel locomotives in rail yard or mainline operations.
- It is also suitable for maintenance personnel seeking a deeper understanding of locomotive operation.

COURSE OUTLINE

Day 1: Introduction to Diesel Locomotive Systems

- Overview of diesel locomotive types and uses
- Main components: engine, traction motors, control systems
- Basic diesel engine cycle and power transmission
- Safety regulations and personal protective equipment
- Locomotive cab layout and controls familiarisation

Day 2: Diesel Engine Fundamentals

- Four-stroke cycle principles
- Fuel injection systems and injectors
- Air intake and exhaust systems
- Cooling and lubrication systems
- Pre-start inspection procedures

Day 3: Electrical Systems and Traction Motors

- Traction motor types: series-wound DC, AC induction
- Main generator/alternator and rectification
- Control systems: throttle, dynamic braking
- Battery systems and low-voltage circuits
- Electrical safety and lockout/tagout

Day 4: Air Brake Systems

- Air compressor and main reservoir
- Brake pipe, brake cylinder, and triple valve
- Automatic vs. independent brakes
- Brake test procedures
- Emergency brake operation

Day 5: Locomotive Controls and Instruments

- Master controller, reverser, and throttle handle
- Gauges: speed, ammeter, pressure, temperature
- Warning lights and alarms
- Start-up sequence and pre-departure checks
- Shut-down procedure

Day 6: Locomotive Handling and Basic Operation

- Throttle notch progression and transition
- Dynamic braking principles and control
- Multiple-unit operation and cab signalling
- Handling curves, gradients, and speed restrictions
- Communication with train crew

Day 7: Coupling, Uncoupling, and Shunting

- Coupler types and operation
- Air hose connection and angle cocks
- Shunting procedures and speed limits
- Hand signals and verbal commands

- Yard safety and point operation

Day 8: Train Handling and Dynamic Conditions

- Train dynamics: starting, stopping, slack action
- Braking techniques: graduated, bail-off, penalty
- Grade operation and sanding
- Wheel slip/slide detection and correction
- Handling adverse weather conditions

Day 9: Fault Finding and Troubleshooting

- Engine fault symptoms: smoke, noise, overheating
- Electrical fault diagnosis: multimeter usage
- Air brake fault isolation
- Fault code retrieval and interpretation
- Emergency repair procedures

Day 10: Safety, Rules, and Regulations

- Railway safety management systems
- Signal aspects: main, shunting, and subsidiary
- Rules for train movement and yard operations
- Personal safety: lookout, isolation, and protection
- Incident response and reporting

Day 11: Practical Operation – Basic Manoeuvres

- Practical inspection checklist
- Coupling/uncoupling in yard environment
- Shunting movements with hand signals
- Driving on straight track with stops
- Dynamic brake application

Day 12: Practical Operation – Advanced Train Handling

- Grade operation and brake management
- Slack action control and smooth handling
- Simulated engine fault response
- MU consist operation
- Emergency brake application and reset

Day 13: Assessment and Integration

- Practical skills assessment: pre-start, driving, braking, coupling
- Written test on systems, rules, and procedures
- Debrief and feedback session
- Certification requirements and next steps
- Course evaluation

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 **16 NQF credits** at **NQF Level 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 43,500.00	R 43,500.00
1	In-House	R 56,600.00	R 56,600.00
1	On-Campus (Pretoria)	R 65,200.00	R 65,200.00

UPCOMING SESSIONS

Start	End	Method	Venue
07 Aug 2026	25 Aug 2026	On-Campus	Pretoria, South Africa
07 Aug 2026	25 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	26 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	26 Aug 2026	On-Campus	Mauritius
11 Aug 2026	27 Aug 2026	On-Campus	Cape Town, South Africa
12 Aug 2026	28 Aug 2026	On-Campus	Dubai, UAE
13 Aug 2026	31 Aug 2026	On-Campus	Pretoria, South Africa
14 Aug 2026	01 Sep 2026	On-Campus	Abu Dhabi, UAE

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 256195) 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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