



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

Fault Finding And Maintenance Repair Procedures Training

Services / Transport, Operations and Logistics

Unit Standard 113848 · NQF Level 3 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the systematic skills to diagnose faults in mechanical, electrical, and electronic systems, and to perform effective maintenance and repair procedures. It covers troubleshooting methodologies, safety protocols, and documentation practices essential for minimizing downtime and ensuring operational reliability in industrial and technical environments.

Category	Services
Subfield	Transport, Operations and Logistics
Unit Standard	113848
Accreditation	SAQA Accredited · NQF Level 3 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply systematic fault-finding techniques to identify root causes of equipment malfunctions.
- Analyze system schematics and technical documentation to plan repair procedures.
- Implement safe isolation and lockout/tagout procedures before commencing maintenance work.
- Demonstrate correct use of diagnostic tools and test equipment to verify system performance.
- Evaluate repair outcomes against operational specifications and quality standards.
- Document fault-finding and repair processes in accordance with organizational procedures.

WHO SHOULD ATTEND

- This course is designed for maintenance technicians, engineers, and supervisors responsible for fault finding and repair in manufacturing, utilities, and service industries.
- It is also suitable for apprentices and technical staff seeking to formalize their troubleshooting skills.

COURSE OUTLINE

Day 1: Introduction to Fault Finding and Maintenance Principles

- Overview of fault finding and maintenance repair procedures
- Maintenance strategies and their applications
- Safety regulations and personal protective equipment (PPE)
- Introduction to electrical circuits and components
- Introduction to mechanical systems and components
- Documentation and record-keeping in maintenance

Day 2: Diagnostic Tools and Techniques

- Types of diagnostic tools: multimeters, oscilloscopes, thermal imagers
- Measuring voltage, current, resistance, and continuity
- Insulation resistance testing
- Using schematic diagrams and wiring diagrams
- Step-by-step fault isolation techniques
- Common symptoms and their possible causes

Day 3: Electrical Fault Finding

- Common electrical faults: short circuits, open circuits, earth faults
- Testing motors, starters, and contactors
- Fault finding in control circuits
- Using circuit diagrams to trace faults
- Safety procedures for working on live circuits
- Reporting and documentation

Day 4: Mechanical Fault Finding

- Mechanical faults: misalignment, imbalance, wear, lubrication issues
- Vibration analysis fundamentals
- Bearing inspection and replacement criteria
- Belt and chain drive troubleshooting
- Pump and compressor fault diagnosis
- Mechanical seal and packing maintenance

Day 5: Maintenance Repair Procedures

- Repair planning and resource estimation
- Safe isolation and lockout/tagout procedures
- Disassembly techniques and component handling
- Repair methods: welding, brazing, machining, fitting
- Reassembly and alignment procedures
- Post-repair testing and commissioning

Day 6: Preventive and Predictive Maintenance

- Preventive maintenance planning and scheduling
- Lubrication management and oil analysis
- Thermographic inspection of electrical and mechanical systems
- Ultrasonic testing for leaks and bearing condition
- Vibration analysis for predictive maintenance

- Root cause analysis and failure mode effects analysis (FMEA)

Day 7: Integration, Case Studies, and Assessment

- Integrated fault finding exercises (electrical & mechanical)
- Case studies from mining, manufacturing, and utilities
- Group problem-solving and presentation
- Practical assessment: fault finding and repair simulation
- Report writing and feedback
- Course review and Q&A;

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 **10 NQF credits** at **NQF Level 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 28,200.00	R 28,200.00
1	In-House	R 36,700.00	R 36,700.00
1	On-Campus (Pretoria)	R 42,300.00	R 42,300.00

UPCOMING SESSIONS

Start	End	Method	Venue
05 Aug 2026	13 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	13 Aug 2026	On-Campus	Lagos, Nigeria
06 Aug 2026	14 Aug 2026	On-Campus	Johannesburg, South Africa
07 Aug 2026	17 Aug 2026	On-Campus	Mauritius
10 Aug 2026	18 Aug 2026	On-Campus	Dubai, UAE
11 Aug 2026	19 Aug 2026	On-Campus	Pretoria, South Africa
12 Aug 2026	20 Aug 2026	On-Campus	Abu Dhabi, UAE
13 Aug 2026	21 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 113848) 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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