



Accredited Africa Training Institute for Capacity Development

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

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aatikd.co.za · Website: www.aatikd.co.za

COURSE BROCHURE

Transport Infrastructure Performance and Maintenance

Custom Courses / Transport and Fleet Management

Unit Standard AATICD-0111 · NQF Level 5 · 10 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills required to monitor, evaluate, and maintain transport infrastructure performance. Participants will understand key performance indicators, maintenance strategies, and regulatory compliance within the South African transport context.

Category	Custom Courses
Subfield	Transport and Fleet Management
Unit Standard	AATICD-0111
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply key performance indicators to assess the condition and functionality of transport infrastructure.
- Analyze maintenance records and performance data to identify trends and areas requiring intervention.
- Evaluate different maintenance strategies (preventive, corrective, predictive) for cost-effectiveness and sustainability.
- Design a basic maintenance plan for a segment of transport infrastructure.
- Implement monitoring procedures to track infrastructure performance over time.
- Demonstrate compliance with relevant South African transport regulations and standards.

WHO SHOULD ATTEND

- This course is designed for transport infrastructure managers, maintenance supervisors, civil engineers, and municipal planning officials responsible for the performance and upkeep of roads, bridges, and related assets.

COURSE OUTLINE

Day 1: Introduction to Transport Infrastructure and Performance Concepts

- Overview of transport infrastructure: roads, bridges, railways, ports, airports.
- Performance indicators: availability, reliability, safety, capacity.
- Lifecycle phases: planning, design, construction, operation, maintenance, disposal.
- Regulatory framework: SANRAL, PRASA, COTO, SANS.
- Introduction to asset management systems.
- Data collection methods for performance assessment.
- Case studies of infrastructure performance in South Africa.

Day 2: Performance Measurement and Data Analysis

- Condition assessment techniques: visual, ultrasonic, ground-penetrating radar.
- Pavement condition indices (PCI, IRI).
- Structural health monitoring for bridges.
- Data analysis: statistical methods, trend analysis.
- Deterioration modelling (e.g., Markov chains).
- Benchmarking performance against standards.
- Hands-on exercise: calculating PCI from sample data.

Day 3: Maintenance Strategies and Planning

- Maintenance types: corrective, planned preventive, condition-based.
- Risk-based maintenance prioritisation.
- Maintenance management systems (MMS).
- Work breakdown structure and scheduling.
- Cost estimation: direct, indirect, lifecycle cost.
- Use of drones and sensors for inspection.
- Case study: developing a maintenance plan for a road network.

Day 4: Implementation and Quality Assurance

- Work methods for typical maintenance tasks (patching, sealing, bridge repairs).
- Quality assurance: sampling, testing, acceptance criteria.
- HSE requirements: risk assessments, permits, PPE.
- Documentation: work orders, as-built records.
- Performance verification: before-and-after condition surveys.
- Non-conformance management.
- Group exercise: simulate a maintenance quality inspection.

Day 5: Performance Optimisation and Future Trends

- Optimisation techniques: linear programming, multi-criteria analysis.
- Decision-support systems (DSS).
- Smart infrastructure: IoT, AI, digital twins.
- Climate adaptation and resilience planning.
- Asset management maturity models.
- Stakeholder engagement and reporting.
- Capstone exercise: present an optimised maintenance strategy for a selected infrastructure.

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 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 24,200.00	R 24,200.00
1	In-House	R 31,400.00	R 31,400.00
1	On-Campus (Pretoria)	R 36,200.00	R 36,200.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	07 Aug 2026	On-Campus	Pretoria, South Africa
03 Aug 2026	07 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
17 Aug 2026	21 Aug 2026	On-Campus	Harare, Zimbabwe
17 Aug 2026	21 Aug 2026	On-Campus	Shenzhen, China
24 Aug 2026	28 Aug 2026	On-Campus	Bangkok, Thailand
24 Aug 2026	28 Aug 2026	On-Campus	Victoria Falls, Zimbabwe

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 AATICD-0111) 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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