



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

Build A Standard Rail Turnout Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 119984 · NQF Level 3 · 9 Credits · 6 Days

COURSE OVERVIEW

This course equips learners with the skills and knowledge required to construct a standard rail turnout in accordance with railway industry specifications and safety standards. Participants will learn to interpret technical drawings, prepare the work area, assemble components, and ensure compliance with relevant regulations. The training emphasizes safe work practices and quality control to prevent derailments and ensure operational reliability.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	119984
Accreditation	SAQA Accredited · NQF Level 3 · 9 Credits
Duration	6 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Interpret technical drawings and specifications for a standard rail turnout.
- Prepare the work site and ensure compliance with safety and environmental regulations.
- Assemble and install turnout components including switches, crossings, and fastenings.
- Apply quality control procedures to verify alignment, gauge, and geometry of the turnout.
- Demonstrate safe work practices and use of personal protective equipment during turnout construction.
- Evaluate completed turnout for conformity to operational standards and rectify defects.

WHO SHOULD ATTEND

- This course is designed for track maintenance workers, rail construction technicians, and supervisors involved in the construction or maintenance of railway infrastructure in South Africa.

COURSE OUTLINE

Day 1: Introduction to Railway Turnouts and Safety

- Overview of railway infrastructure and turnouts
- Key components: switch rails, stock rails, frog, guard rails, and check rails
- Safety regulations and site-specific hazard identification
- Introduction to tools and equipment for turnout construction
- Basic terminology: gauge, cant, crossing angle, lead

Day 2: Planning and Site Preparation

- Reading and understanding turnout layout drawings
- Setting out centre lines, switch points, and frog positions
- Subgrade preparation: drainage, compaction, and tolerance
- Ballast selection and spreading techniques
- Material inspection: rails, sleepers, fastenings, and fittings

Day 3: Assembling the Turnout Components

- Assembly sequence for switch rails and stock rails
- Installing the frog: types (spring, rigid, movable) and alignment
- Guard rail placement and clearance checks
- Fastening systems: clips, bolts, and insulators
- Gauge and alignment verification using templates and gauges

Day 4: Laying and Aligning the Turnout

- Laying the turnout: handling and placement techniques
- Sighting and lining methods: string line, optical instruments
- Vertical alignment: cross-level and twist tolerance
- Cant adjustment and superelevation
- Initial geometry measurement: gauge, alignment, and profile

Day 5: Ballasting, Tamping, and Final Adjustment

- Ballast distribution and compaction methods
- Tamping techniques for turnout zones
- Final lining, levelling, and gauging adjustments
- Switch operation testing: throw, clearance, and locking
- Acceptance testing: geometry standards and documentation

Day 6: Quality Assurance, Maintenance, and Assessment

- QA/QC inspection: checklist and reporting
- Defect identification: worn components, gauge variation, surface irregularities
- Maintenance planning: lubrication, adjustment, and replacement
- Record keeping and compliance documentation
- Practical assessment: construct a turnout section to standard

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 **9 NQF credits** at **NQF Level 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 25,600.00	R 25,600.00
1	In-House	R 33,300.00	R 33,300.00
1	On-Campus (Pretoria)	R 38,400.00	R 38,400.00

UPCOMING SESSIONS

Start	End	Method	Venue
31 Jul 2026	07 Aug 2026	On-Campus	Johannesburg, South Africa
03 Aug 2026	10 Aug 2026	On-Campus	Cape Town, South Africa
04 Aug 2026	11 Aug 2026	On-Campus	Dubai, UAE
05 Aug 2026	12 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	12 Aug 2026	On-Campus	Lagos, Nigeria
06 Aug 2026	13 Aug 2026	On-Campus	Johannesburg, South Africa
07 Aug 2026	14 Aug 2026	On-Campus	Mauritius
10 Aug 2026	17 Aug 2026	On-Campus	Dubai, 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 119984) 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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