



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

Railway Construction Project Management Training

Physical Planning and Construction / Physical Planning, Design and Management

Unit Standard 113971 · NQF Level 5 · 20 Credits · 17 Days

COURSE OVERVIEW

This course equips learners with the specialised project management skills required for railway construction projects. It covers the unique planning, execution, monitoring, and close-out processes specific to railway infrastructure, ensuring compliance with South African standards and safety regulations.

Category	Physical Planning and Construction
Subfield	Physical Planning, Design and Management
Unit Standard	113971
Accreditation	SAQA Accredited · NQF Level 5 · 20 Credits
Duration	17 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply project management principles to railway construction projects, including scope, time, cost, quality, and risk management.
- Develop and implement a project plan specific to railway construction, incorporating resource allocation and scheduling.
- Monitor and control project progress using appropriate tools and techniques, ensuring adherence to specifications and standards.
- Evaluate project risks and implement mitigation strategies tailored to railway construction environments.
- Demonstrate effective communication and stakeholder management throughout the project lifecycle.
- Analyze project outcomes and prepare close-out reports, including lessons learned.

WHO SHOULD ATTEND

- Project managers, construction supervisors, and engineers involved in railway construction projects seeking to enhance their project management competencies within the rail sector.

COURSE OUTLINE

Day 1: Introduction to Railway Construction Project Management

- Overview of railway construction projects
- Stakeholder identification and engagement
- South African regulatory environment (SAQA, ECSA, etc.
- Project lifecycle: feasibility, design, construction, commissioning
- Key challenges in railway projects

Day 2: Project Initiation and Feasibility Studies

- Feasibility study components
- Project charter development
- Risk identification and preliminary assessment
- Cost-benefit analysis for railway projects
- Environmental impact considerations

Day 3: Scope Definition and Work Breakdown Structure

- Scope statement development
- Work breakdown structure (WBS) creation
- Scope change control
- Scope verification and validation
- Case study: WBS for a railway line

Day 4: Project Scheduling and Critical Path Method

- Activity definition and sequencing
- Critical path method (CPM)
- Resource allocation and leveling
- Gantt charts and scheduling software
- Schedule compression techniques

Day 5: Cost Estimation and Budgeting

- Cost estimation methods (analogous, parametric, bottom-up)
- Budget development and contingency
- Cost baseline and control
- Earned value management (EVM) basics
- Case study: cost estimation for track laying

Day 6: Quality Management in Railway Construction

- Quality planning for railway projects
- Quality assurance vs quality control
- Inspection and testing plans
- Non-conformance reporting
- Continuous improvement techniques

Day 7: Risk Management in Railway Projects

- Risk identification techniques (SWOT, brainstorming)
- Qualitative and quantitative risk analysis
- Risk response planning (avoid, mitigate, transfer, accept)
- Risk register and monitoring

- Case study: geotechnical risks

Day 8: Procurement and Contract Management

- Procurement planning and sourcing
- Types of contracts (fixed-price, cost-reimbursable)
- Tender evaluation and award
- Contract administration and change management
- Dispute resolution mechanisms

Day 9: Health, Safety, and Environment (HSE) Management

- HSE planning and legal requirements
- Hazard identification and risk assessment (HIRA)
- Safety audits and inspections
- Environmental management plans
- Emergency response procedures

Day 10: Resource Management: Labour, Plant, and Materials

- Labour planning and productivity
- Plant and equipment selection
- Material management (ordering, storage, handling)
- Lean construction techniques
- Case study: resource optimisation

Day 11: Communication and Stakeholder Management

- Communication planning
- Stakeholder analysis and engagement
- Conflict resolution techniques
- Progress reporting and dashboards
- Meeting management

Day 12: Construction Methods for Railway Infrastructure

- Track laying and ballasting
- Earthworks and formation preparation
- Drainage systems
- Bridge and culvert construction
- Tunnel construction overview

Day 13: Signalling and Electrification Project Management

- Signalling basics (interlocking, block systems)
- Electrification (overhead line, third rail)
- Interface management with civil works
- Testing and commissioning
- Safety-critical systems

Day 14: Project Monitoring, Control, and Reporting

- Performance measurement (EVM)
- Variance analysis and forecasting
- Change control process
- Progress reporting formats
- Lessons learned documentation

Day 15: Project Closure and Handover

- Close-out process and checklist
- Handover documentation (as-built drawings, manuals)
- Commissioning and acceptance
- Contract close-out and final accounts
- Post-project evaluation

Day 16: Advanced Topics: BIM, GIS, and Digital Project Management

- Building Information Modelling (BIM) for railways
- Geographic Information Systems (GIS) applications
- Digital twins and IoT in construction
- Project management software (Primavera, MS Project)
- Data analytics for decision making

Day 17: Capstone Project and Course Review

- Capstone project: develop a railway construction project plan
- Presentation and peer feedback
- Course review and Q&A;
- Assessment preparation
- Certification pathways

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 **20 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 56,500.00	R 56,500.00
1	In-House	R 73,400.00	R 73,400.00
1	On-Campus (Pretoria)	R 84,700.00	R 84,700.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	01 Sep 2026	On-Campus	Pretoria, South Africa
11 Aug 2026	02 Sep 2026	On-Campus	Abu Dhabi, UAE
12 Aug 2026	03 Sep 2026	On-Campus	Durban, South Africa
12 Aug 2026	03 Sep 2026	On-Campus	Mauritius
13 Aug 2026	04 Sep 2026	On-Campus	Cape Town, South Africa
14 Aug 2026	07 Sep 2026	On-Campus	Dubai, UAE
17 Aug 2026	08 Sep 2026	On-Campus	Abu Dhabi, UAE
18 Aug 2026	09 Sep 2026	On-Campus	Durban, South Africa

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 113971) 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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