



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

Incrementally Launched Bridge Construction Principles Training

Physical Planning and Construction / Physical Planning, Design and Management

Unit Standard 116354 · NQF Level 7 · 10 Credits · 7 Days

COURSE OVERVIEW

This course provides comprehensive training on the principles and practices of incrementally launched bridge construction. Participants will gain a deep understanding of the design, planning, and execution of incremental launching methods, ensuring safe and efficient project delivery in the civil engineering sector.

Category	Physical Planning and Construction
Subfield	Physical Planning, Design and Management
Unit Standard	116354
Accreditation	SAQA Accredited · NQF Level 7 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply incremental launching principles to plan and sequence bridge construction activities.
- Analyze structural loads and stresses during incremental launching to ensure stability and safety.
- Evaluate site conditions and design parameters to determine feasibility of incremental launching methods.
- Design temporary works and launching systems to support incremental bridge construction.
- Implement quality control and monitoring procedures throughout the incremental launching process.
- Demonstrate compliance with South African construction regulations and safety standards.

WHO SHOULD ATTEND

- This course is designed for civil engineers, construction project managers, site supervisors, and technical professionals involved in bridge construction projects who seek to specialize in incrementally launched bridge techniques.

COURSE OUTLINE

Day 1: Introduction to Incremental Launching Method (ILM)

- Overview of bridge construction methods.
- Definition and evolution of incremental launching.
- Suitability criteria for ILM (span length, geometry, site constraints).
- Key components: launching girder, temporary supports, launching nose.
- Step-by-step construction sequence.
- Case studies of notable ILM projects.

Day 2: Structural Design Principles for ILM

- Load cases during launching (self-weight, launching forces, wind).
- Stress analysis at critical sections (hogging, sagging).
- Design of launching nose (length, stiffness, connection).
- Temporary support design (piers, abutments, launching shoe).
- Use of prestressing during construction.
- Design for stability and buckling.
- Relevant SANS and EN code provisions.

Day 3: Launching Equipment and Systems

- Types of launching systems: push, pull, and combined methods.
- Hydraulic jacks: capacity, control, and synchronization.
- Strand jacks and multi-strand systems.
- Launching shoe design: sliding bearings, PTFE pads, lubrication.
- Temporary launching girders and trusses.
- Monitoring and control systems (load cells, displacement sensors).
- Equipment maintenance and safety protocols.

Day 4: Construction Planning and Site Preparation

- Construction sequence planning: segment casting, curing, launching.
- Casting yard layout: segment production line, storage, handling.
- Temporary works: foundations, falsework, launching girder erection.
- Quality control: segment geometry, concrete strength, prestressing ducts.
- Risk assessment: wind, misalignment, jack failure.
- Contingency planning for launching interruptions.
- Site safety and traffic management.

Day 5: Launching Operations and Control

- Launching procedure: preparation, initial movement, continuous launching.
- Alignment control: laser, total station, GPS monitoring.
- Elevation control: jacking and shimming adjustments.
- Correction techniques: vertical and horizontal alignment.
- Communication protocols between control room and field crew.
- Data logging and documentation.
- Troubleshooting common issues (binding, cracking, misalignment).

Day 6: Post-Launching Activities and Completion

- Final positioning: jacking to final bearing level, locking.

- Bearing installation: types, grouting, load transfer.
- Expansion joint installation and waterproofing.
- Removal of launching nose and temporary supports.
- Final alignment survey and correction.
- Deck finishing: asphalt, waterproofing, drainage.
- Parapet and barrier installation.
- Handover documentation and as-built records.

Day 7: Quality Assurance, Safety, and Case Studies

- QA/QC plan: inspection checkpoints, testing (concrete, steel).
- Safety management: risk assessment, PPE, emergency response.
- Case study 1: Successful ILM project (e.g., Gautrain bridge).
- Case study 2: Lessons from failure (e.g., alignment error or collapse).
- Group exercise: critique a case study and propose improvements.
- Final assessment: written test or practical exercise.
- Course wrap-up 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 7**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 32,400.00	R 32,400.00
1	In-House	R 42,200.00	R 42,200.00
1	On-Campus (Pretoria)	R 48,600.00	R 48,600.00

UPCOMING SESSIONS

Start	End	Method	Venue
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	Durban, South Africa
13 Aug 2026	21 Aug 2026	On-Campus	Mauritius
14 Aug 2026	24 Aug 2026	On-Campus	Cape Town, South Africa
17 Aug 2026	25 Aug 2026	On-Campus	Pretoria, South Africa
18 Aug 2026	26 Aug 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 116354) 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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