



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

Structural Construction Methods And Applications Training

Physical Planning and Construction / Physical Planning, Design and Management

Unit Standard 113974 · NQF Level 5 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to apply structural construction methods and applications in the construction industry. Participants will gain a comprehensive understanding of various structural systems, materials, and construction techniques, enabling them to effectively contribute to construction projects. The course focuses on practical application and compliance with industry standards.

Category	Physical Planning and Construction
Subfield	Physical Planning, Design and Management
Unit Standard	113974
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply knowledge of structural construction methods to select appropriate techniques for different building types.
- Analyse structural drawings and specifications to determine construction requirements.
- Evaluate the suitability of materials and methods for specific structural applications.
- Implement quality control measures to ensure structural integrity and compliance with standards.
- Demonstrate the ability to coordinate structural construction activities on site.
- Identify and mitigate risks associated with structural construction processes.

WHO SHOULD ATTEND

- This course is designed for construction supervisors, site managers, civil engineering technicians, and individuals seeking to advance their careers in structural construction.
- It is also suitable for those involved in construction project management who require a deeper understanding of structural methods.

COURSE OUTLINE

Day 1: Introduction to Structural Construction and Materials

- Overview of structural construction in the built environment
- Types of loads (dead, live, wind, seismic) and load paths
- Properties of concrete, steel, timber, and masonry
- Introduction to structural drawings and specifications
- Health and safety regulations relevant to structural work
- Roles and responsibilities of construction team members

Day 2: Concrete Construction Methods

- Concrete materials and mix proportions
- Formwork systems: traditional, engineered, and slip forms
- Reinforcement detailing and fixing
- Ready-mix concrete delivery and pumping
- Placing, compacting, and finishing concrete
- Curing methods and quality assurance
- Common defects and remedial measures

Day 3: Steel and Metal Construction

- Structural steel shapes and grades
- Bolted connections: types, installation, and torque
- Welded connections: processes and inspection
- Erection of steel frames: cranes, rigging, and safety
- Composite steel-concrete construction
- Protective coatings and fireproofing
- Quality control and non-destructive testing

Day 4: Timber and Masonry Construction

- Timber species, grading, and preservation
- Engineered wood: glulam, LVL, cross-laminated timber
- Timber frame connections: nails, screws, bolts, and plates
- Masonry units: clay bricks, concrete blocks, stone
- Mortar types and properties
- Brick and block bonding patterns
- Reinforced masonry and lintels
- Movement joints and damp-proof courses

Day 5: Foundations and Earthworks

- Soil types and site investigation
- Bearing capacity and settlement
- Shallow foundations: strip, pad, raft
- Deep foundations: piles, caissons
- Excavation support: shoring, sheet piling, dewatering
- Foundation waterproofing and drainage
- Underpinning techniques
- Quality control in foundation construction

Day 6: Precast, Prestressed, and Advanced Construction Methods

- Precast concrete elements: beams, columns, panels
- Prestressing: pretensioning and post-tensioning
- Modular construction and volumetric units
- Tilt-up construction
- Tensioned fabric structures
- 3D printing in construction
- Advantages and limitations of advanced methods
- Case studies of innovative projects

Day 7: Construction Integration, Quality Control, and Practical Application

- Method statement development
- Quality assurance and control plans
- Non-destructive testing techniques
- Safety during structural construction
- Site logistics and sequencing
- Review of key learning points
- Practical exercise: assemble a small-scale steel frame or concrete formwork
- Course assessment and feedback

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 29,600.00	R 29,600.00
1	In-House	R 38,500.00	R 38,500.00
1	On-Campus (Pretoria)	R 44,400.00	R 44,400.00

UPCOMING SESSIONS

Start	End	Method	Venue
07 Aug 2026	17 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	18 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	19 Aug 2026	On-Campus	Dubai, UAE
12 Aug 2026	20 Aug 2026	On-Campus	Pretoria, South Africa
13 Aug 2026	21 Aug 2026	On-Campus	Abu Dhabi, UAE
14 Aug 2026	24 Aug 2026	On-Campus	Durban, South Africa
14 Aug 2026	24 Aug 2026	On-Campus	Mauritius
17 Aug 2026	25 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 113974) 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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