



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 Steel Building Framing And Behaviour Principles Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 114211 · NQF Level 5 · 5 Credits · 2 Days

COURSE OVERVIEW

This course equips learners with a comprehensive understanding of structural steel building framing systems and their behavioural principles under load. Participants will gain the knowledge and skills to analyse, design, and assess steel frames in accordance with South African standards. The training is ideal for professionals involved in the specification, erection, or quality control of structural steelwork.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	114211
Accreditation	SAQA Accredited · NQF Level 5 · 5 Credits
Duration	2 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply fundamental principles of structural steel behaviour to analyse building frames under various loading conditions.
- Evaluate the performance of simple and continuous steel beams, columns, and connections in a building frame context.
- Design basic steel framing layouts considering stability, bracing, and load paths.
- Demonstrate knowledge of relevant South African standards (SANS 10160, SANS 10016) in steel frame design and erection.
- Assess the impact of fabrication and erection tolerances on frame behaviour.
- Implement safety protocols for steel erection and temporary stability during construction.

WHO SHOULD ATTEND

- This course is intended for civil and structural engineers, technicians, site supervisors, and construction project managers who require a deeper understanding of steel framing behaviour.
- It is also suitable for steel detailers and quantity surveyors working on building projects.

COURSE OUTLINE

Day 1: Fundamentals of Structural Steel Behaviour and Building Framing

- Introduction to structural steel: properties, advantages, and limitations
- Load paths and basic structural behaviour (tension, compression, bending, shear)
- Steel sections: I-beams, channels, angles, hollow sections
- Steel framing systems: portal frames, trusses, beams and columns
- Connection types: bolted, welded, pinned, and rigid
- Introduction to structural drawings and notation
- Safety considerations in steel construction

Day 2: Advanced Framing Principles, Design Considerations, and Practical Integration

- Lateral stability: bracing, diaphragms, and moment frames
- Connection design: strength, stiffness, and ductility
- Buckling and slenderness: local and global effects
- Fatigue and brittle fracture considerations
- Erection sequences and temporary works
- Quality control and inspection of steelwork
- Case studies of steel frame behaviour in real buildings

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

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 16,200.00	R 16,200.00
1	In-House	R 21,000.00	R 21,000.00
1	On-Campus (Pretoria)	R 24,300.00	R 24,300.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	04 Aug 2026	On-Campus	Dubai, UAE
03 Aug 2026	04 Aug 2026	On-Campus	Mauritius
03 Aug 2026	04 Aug 2026	On-Campus	Lagos, Nigeria
05 Aug 2026	06 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	06 Aug 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	06 Aug 2026	On-Campus	Johannesburg, South Africa
11 Aug 2026	12 Aug 2026	On-Campus	Mauritius
11 Aug 2026	12 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 114211) 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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