Accredited Africa Training Institute for Capacity Development
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COURSE BROCHURE

Structural Steelwork Detail Drawings For Multi Storey Buildings Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 114214 · NQF Level 5 · 9 Credits · 6 Days

COURSE OVERVIEW

This course equips learners with the skills to interpret and produce structural steelwork detail drawings for multi-storey buildings, ensuring compliance with industry standards and project specifications. Participants will gain practical knowledge of steel connection design, fabrication details, and erection sequences, enabling them to contribute effectively to building projects.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	114214
Accreditation	SAQA Accredited · NQF Level 5 · 9 Credits
Duration	6 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Interpret architectural and structural drawings to extract steelwork requirements for multi-storey buildings.
- Apply relevant South African standards (e.g., SANS 10160, SANS 10087-1) to steel detailing and connection design.
- Produce accurate detail drawings of steel columns, beams, bracing, and connections using CAD software.
- Analyze load paths and design connections for gravity and lateral loads in multi-storey frames.
- Evaluate fabrication and erection constraints to optimize detail drawings for constructability.
- Demonstrate quality control checks on steelwork drawings to ensure compliance with project specifications.

WHO SHOULD ATTEND

- This course is designed for detailers, drafters, engineers, and technicians involved in structural steelwork design and construction, as well as site supervisors and project managers seeking to enhance their understanding of steel detailing for multi-storey buildings.

COURSE OUTLINE

Day 1: Introduction to Structural Steelwork and Detailing Principles

- Overview of multi-storey building construction
- Types of structural steel sections: I-beams, H-columns, channels, angles, plates
- Steelwork terminology: web, flange, stiffener, gusset plate, cleat, base plate
- Introduction to drawing standards: SANS 10163, SANS 10082
- Basic symbols and abbreviations used in steelwork drawings
- The role of detail drawings in fabrication and erection
- Overview of the detailing process: from design to shop drawings
- Introduction to steel grades and material specifications

Day 2: Reading and Interpreting Structural Steelwork Drawings

- General arrangement (GA) drawings for multi-storey buildings
- Plan views, elevations, and sections
- Column and beam layouts
- Connection details: shear connections, moment connections, base plates
- Bolted connections: bolt sizes, grades, hole types, edge distances
- Welded connections: weld symbols, sizes, and types (fillet, butt, plug
- Dimensioning conventions: centre lines, setting out points, tolerances
- Bill of materials: item numbers, quantities, lengths, weights

Day 3: Detailing of Beams and Columns

- Beam detailing: span, end conditions, stiffeners, web openings
- Column detailing: splices, base plates, cap plates
- Beam-to-column connections: end plates, cleats, fin plates
- Column-to-column connections: splice plates, cover plates
- Detailing of bracing members and connections
- Annotations: dimensions, welds, bolts, material grades
- Use of reference lines and datum levels
- Checking and verifying details against design calculations

Day 4: Detailing of Staircases, Handrails, and Secondary Steelwork

- Staircase components: stringers, treads, risers, landings, handrails
- Handrail and balustrade details: posts, top rail, infill panels
- Secondary steelwork: lintels, catwalks, mezzanine floors
- Connection of secondary steelwork to main frame
- Detailing of expansion joints and movement allowances
- Fire protection requirements: intumescent coatings, encasement
- Coordination with other trades: services, cladding, partitions
- Detailing for corrosion protection: drainage, sealants, access for maintenance

Day 5: Advanced Detailing and Erection Drawings

- Erection drawings: piece marks, lifting points, erection sequence
- Complex connections: moment connections with haunches, stiffeners
- Sliding and expansion connections
- Camber and pre-set in beams and trusses
- Tolerances and their effect on detailing

- Handling of large and heavy members: lifting lugs, temporary supports
- Detailing for transport and site handling
- Coordination with erection contractor: access, safety, sequencing

Day 6: **Quality Assurance, Standards, and Practical Application**

- Quality assurance procedures: checking dimensions, connections, materials
- Compliance with SANS 10163, SANS 10082, and SANS 2001
- Drawing issue procedures: preliminary, for approval, for construction
- Revision control and documentation
- Common detailing errors and how to avoid them
- Use of detailing software: overview of Tekla Structures, AutoCAD
- Practical exercise: detail a typical multi-storey frame bay
- Final review and assessment

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 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 19,700.00	**R 19,700.00**
1	In-House	R 26,700.00	**R 26,700.00**
1	On-Campus (Pretoria)	R 29,600.00	**R 29,600.00**

UPCOMING SESSIONS

Start	End	Method	Venue
03 Dec 2026	10 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
03 Dec 2026	10 Dec 2026	On-Campus	Kinshasa, DRC
04 Dec 2026	11 Dec 2026	On-Campus	Pretoria, South Africa
07 Dec 2026	14 Dec 2026	On-Campus	Johannesburg, South Africa
08 Dec 2026	15 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
08 Dec 2026	15 Dec 2026	On-Campus	Blantyre, Malawi
09 Dec 2026	16 Dec 2026	On-Campus	Kinshasa, DRC
10 Dec 2026	17 Dec 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 QUOTATION OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 114214) and click **Get A Quotation**. 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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