



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Loom and Harness Inspection and Design

Physical, Mathematical, Computer and Life Sciences / Information Technology and Computer Sciences

Unit Standard 259168 · NQF Level 5 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to inspect and design looms and harnesses in textile manufacturing. It covers safety protocols, design principles, and maintenance procedures to ensure efficient and safe loom operations. Learners will be able to identify faults, recommend corrective actions, and contribute to improved productivity and workplace safety.

Category	Physical, Mathematical, Computer and Life Sciences
Subfield	Information Technology and Computer Sciences
Unit Standard	259168
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 safety procedures and regulations during loom and harness inspection and design.
- Analyze loom and harness components to identify wear, damage, or design flaws.
- Evaluate the operational efficiency of looms and harnesses against industry standards.
- Design or modify harness layouts to optimize weaving patterns and reduce downtime.
- Implement corrective maintenance plans based on inspection findings.
- Demonstrate the ability to document inspection results and design modifications.

WHO SHOULD ATTEND

- This course is intended for textile technicians, loom operators, maintenance personnel, and supervisors involved in loom and harness inspection and design within the textile industry.

COURSE OUTLINE

Day 1: Introduction to Loom and Harness Systems

- Overview of weaving technology
- Loom components: frame, heddles, reed, shuttle
- Types of harnesses: standard, dobby, jacquard
- Role of inspection in quality control
- Introduction to design principles

Day 2: Materials and Specifications

- Harness materials: metals, composites, polymers
- Yarn types and their impact on harness design
- Reading and understanding spec sheets
- Wear resistance and fatigue analysis
- Standards and regulations in textile machinery

Day 3: Inspection Techniques and Tools

- Visual inspection methods
- Measuring tools: callipers, gauges, micrometers
- Non-destructive testing (NDT) basics
- Common defects: misalignment, wear, corrosion
- Inspection checklists and reporting

Day 4: Harness Design Principles

- Design parameters: lift, stroke, speed
- Load calculation and distribution
- CAD basics for harness design
- Prototyping and iteration
- Ergonomics and safety in design

Day 5: Advanced Inspection and Diagnostics

- Vibration analysis and thermography
- Sensor integration for real-time monitoring
- Data logging and trend analysis
- Predictive maintenance strategies
- Troubleshooting common issues

Day 6: Custom Design and Modification

- Customisation for different looms
- Retrofitting and upgrading components
- Design for manufacturability
- Case studies of successful modifications
- Compliance with original equipment specifications

Day 7: Integration and Quality Assurance

- Quality management systems (ISO 9001)
- Process integration: inspection to design
- Project presentation: inspection report and design proposal
- Final assessment and feedback

- Continuous improvement practices

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 21,700.00	R 21,700.00
1	In-House	R 28,200.00	R 28,200.00
1	On-Campus (Pretoria)	R 32,600.00	R 32,600.00

UPCOMING SESSIONS

No sessions are currently scheduled. Please contact us to arrange a session at a time and location that suits your team.

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 259168) 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.

Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza, 1122 Burnett St, Hatfield 0028, Pretoria, Gauteng, South Africa
Tel: +27 12 004 8389 · WhatsApp: +27 65 077 6310 · apply@aaticd.co.za · www.aaticd.co.za