



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

Calibration Systems for Weights, Balances and Pipettes

Law, Military Science and Security / Safety in Society

Unit Standard 242711 · NQF Level 5 · 7 Credits · 4 Days

COURSE OVERVIEW

This course equips learners with the foundational skills to develop and implement elementary calibration systems for reference weights, balances and pipettes. Participants will gain practical knowledge to ensure measurement accuracy and traceability in laboratory and industrial environments, supporting quality assurance and compliance with relevant standards.

Category	Law, Military Science and Security
Subfield	Safety in Society
Unit Standard	242711
Accreditation	SAQA Accredited · NQF Level 5 · 7 Credits
Duration	4 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate an understanding of calibration principles and traceability for weights, balances and pipettes.
- Apply procedures to verify and adjust reference weights, balances and pipettes according to standard operating procedures.
- Analyze calibration results to determine conformity and identify out-of-tolerance conditions.
- Evaluate the impact of environmental factors on measurement accuracy and implement corrective actions.
- Design a basic calibration schedule and maintain records in compliance with organisational requirements.

WHO SHOULD ATTEND

- Technicians, laboratory assistants, quality controllers and anyone responsible for maintaining measurement accuracy in calibration processes.
- The course is ideal for those new to calibration or seeking formal recognition of their skills.

COURSE OUTLINE

Day 1: Fundamentals of Measurement and Calibration

- Introduction to metrology and measurement.
- Traceability and standards.
- Types of weights, balances, and pipettes.
- Overview of calibration standards and regulations.
- Introduction to measurement uncertainty.
- Quality management systems and calibration.
- Calibration intervals and scheduling.
- Documentation and record keeping.

Day 2: Calibration of Weights and Balances

- Calibration of weights: procedures and calculations.
- Calibration of balances: sensitivity, linearity, eccentricity.
- Environmental factors and corrections (buoyancy, temperature).
- Measurement uncertainty for mass calibrations.
- Use of calibration software and data analysis.
- Troubleshooting common issues.
- Documentation and certificate generation.
- Practical demonstration and hands-on exercise.

Day 3: Calibration of Pipettes

- Types of pipettes and their uses.
- Gravimetric calibration method.
- Environmental corrections (temperature, humidity, pressure).
- Measurement uncertainty for volume calibrations.
- Use of calibration software.
- Adjustments and repairs.
- Practical demonstration and hands-on exercise.
- Documentation and certificate generation.

Day 4: Advanced Topics and Integration

- Advanced measurement uncertainty analysis.
- Calibration program management.
- Inter-laboratory comparisons and proficiency testing.
- Corrective and preventive actions.
- Audit preparation and compliance.
- Case studies and problem-solving.
- Review of practical exercises.
- Final assessment and course wrap-up.

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

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 21,500.00	R 21,500.00
1	In-House	R 27,900.00	R 27,900.00
1	On-Campus (Pretoria)	R 32,300.00	R 32,300.00

UPCOMING SESSIONS

Start	End	Method	Venue
11 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
11 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
11 Aug 2026	14 Aug 2026	On-Campus	Dubai, UAE
11 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	14 Aug 2026	On-Campus	Mauritius
17 Aug 2026	20 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	20 Aug 2026	On-Campus	Pretoria, South Africa

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 242711) 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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