



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

Combustion Furnace Sulphur Carbon Analysis Titration Method Training

Manufacturing, Engineering and Technology / Fabrication and Extraction

Unit Standard 110119 · NQF Level 3 · 5 Credits · 2 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to perform sulphur and carbon analysis on ferrous and non-ferrous materials using the combustion furnace titration method. Participants will understand the principles of combustion analysis, titration techniques, and the correct use of equipment to ensure accurate and reliable results. The course emphasises quality control, safety protocols, and adherence to standard operating procedures in a laboratory environment.

Category	Manufacturing, Engineering and Technology
Subfield	Fabrication and Extraction
Unit Standard	110119
Accreditation	SAQA Accredited · NQF Level 3 · 5 Credits
Duration	2 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply the principles of combustion furnace analysis to determine sulphur and carbon content in samples.
- Demonstrate correct setup, calibration, and operation of combustion furnace and titration equipment.
- Perform accurate titration procedures for sulphur and carbon quantification following standard methods.
- Analyse and interpret titration results to verify sample composition and report findings.
- Implement quality control measures and troubleshoot common issues in combustion and titration processes.
- Evaluate and apply safety protocols and waste disposal procedures relevant to combustion analysis.

WHO SHOULD ATTEND

- Laboratory technicians, analysts, and quality control personnel involved in materials testing or metallurgical analysis who need to perform combustion furnace sulphur and carbon determination.

COURSE OUTLINE

Day 1: Fundamentals of Combustion Furnace and Titration Analysis

- Overview of sulphur and carbon analysis in materials.
- Combustion furnace operation: sample preparation, combustion process, gas capture.
- Principles of titration: acid-base and redox reactions for sulphur and carbon.
- Reagents and indicators used in titration.
- Safety procedures: handling of acids, bases, and high-temperature equipment.
- Data recording and calculation of sulphur and carbon percentages.
- Quality control: blank and standard solutions.
- Introduction to laboratory documentation and reporting.

Day 2: Advanced Titration Techniques and Practical Application

- Step-by-step procedure for sulphur analysis via combustion and titration.
- Step-by-step procedure for carbon analysis via combustion and titration.
- Troubleshooting: incomplete combustion, titration endpoint errors, reagent contamination.
- Calculation of sulphur and carbon content from titration data.
- Validation: replicate analyses, standard reference materials.
- Calibration of combustion furnace and titration equipment.
- Data analysis: statistical evaluation of results.
- Report writing: documenting methods, results, and conclusions.

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 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 15,400.00	R 15,400.00
1	In-House	R 20,000.00	R 20,000.00
1	On-Campus (Pretoria)	R 23,100.00	R 23,100.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	04 Aug 2026	On-Campus	Dubai, UAE
03 Aug 2026	04 Aug 2026	On-Campus	Lagos, Nigeria
04 Aug 2026	05 Aug 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	06 Aug 2026	On-Campus	Mauritius
06 Aug 2026	07 Aug 2026	On-Campus	Pretoria, South Africa
06 Aug 2026	07 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	11 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	11 Aug 2026	On-Campus	Cape Town, 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 110119) 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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