



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

Integrated Melting Operations Control And Management Training

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 110282 · NQF Level 3 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to control and manage integrated melting operations effectively. It covers the principles of melting processes, operational planning, quality control, and safety management to ensure efficient and compliant production. Participants will learn to optimize melting operations, troubleshoot issues, and lead teams in a manufacturing environment.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	110282
Accreditation	SAQA Accredited · NQF Level 3 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply integrated melting operations principles to plan and control production schedules.
- Analyze melting process parameters to optimize efficiency and product quality.
- Evaluate operational data to identify areas for improvement and implement corrective actions.
- Demonstrate effective leadership and communication skills to manage melting operations teams.
- Implement safety and quality management systems in accordance with industry standards.

WHO SHOULD ATTEND

- This course is designed for production supervisors, team leaders, and operations managers in the metals and manufacturing industries who are responsible for overseeing melting processes and ensuring operational efficiency.

COURSE OUTLINE

Day 1: Fundamentals of Melting Operations

- Introduction to melting operations and their importance
- Types of furnaces and melting equipment
- Basic thermodynamics of melting
- Safety procedures in melting operations
- Overview of raw materials and charge preparation
- Environmental considerations in melting

Day 2: Process Control and Instrumentation

- Fundamentals of process control
- Sensors and transducers for temperature measurement
- Control loops and feedback systems
- PLC and SCADA basics in melting
- Calibration and maintenance of instruments
- Data logging and analysis

Day 3: Melting Process Optimization

- Energy management in melting
- Slag formation and control
- Alloying and composition control
- Reducing refractory wear
- Heat transfer optimization
- Quality assurance in molten metal

Day 4: Integrated Control Systems and Automation

- Integration of control systems across melting stages
- Automated charging and tapping systems
- Real-time monitoring and alarms
- Fault diagnosis and recovery
- Human-machine interface (HMI) design
- System security and data integrity

Day 5: Management and Supervision of Melting Operations

- Production planning and scheduling
- Team leadership and communication
- Standard operating procedures (SOPs)
- Quality management systems (ISO 9001)
- Cost control and budgeting
- Incident reporting and investigation

Day 6: Advanced Topics and Troubleshooting

- Root cause analysis of melting defects
- Advanced alloying techniques
- Refractory selection and maintenance
- Emergency shutdown procedures
- Case studies of melting failures

- New technologies in melting

Day 7: Integration and Assessment

- Review of key concepts
- Integrated scenario planning
- Written and practical assessments
- Feedback and improvement plans
- Certification requirements
- Final Q&A; session

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 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 28,200.00	R 28,200.00
1	In-House	R 36,700.00	R 36,700.00
1	On-Campus (Pretoria)	R 42,300.00	R 42,300.00

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	12 Aug 2026	On-Campus	Dubai, UAE
05 Aug 2026	13 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	13 Aug 2026	On-Campus	Lagos, Nigeria
06 Aug 2026	14 Aug 2026	On-Campus	Johannesburg, South Africa
07 Aug 2026	17 Aug 2026	On-Campus	Mauritius
10 Aug 2026	18 Aug 2026	On-Campus	Dubai, UAE
11 Aug 2026	19 Aug 2026	On-Campus	Pretoria, South Africa
12 Aug 2026	20 Aug 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 QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 110282) 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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