



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

Metal Production Process Support Activities

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 259721 · NQF Level 2 · 20 Credits · 17 Days

COURSE OVERVIEW

The course equips learners with the knowledge and skills to perform support activities in a metal production process safely and efficiently. It covers key aspects such as workplace safety, material handling, and quality control to ensure compliance with industry standards.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	259721
Accreditation	SAQA Accredited · NQF Level 2 · 20 Credits
Duration	17 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply safety procedures and use personal protective equipment in a metal production environment.
- Demonstrate correct material handling and storage techniques for metal products.
- Monitor production processes and report deviations to supervisors.
- Perform quality checks on metal products using standard measuring instruments.
- Maintain a clean and organized work area to prevent hazards.
- Communicate effectively with team members during production activities.

WHO SHOULD ATTEND

- This course is designed for production workers, operators, and support staff involved in metal production processes who need to enhance their practical skills and safety awareness.

COURSE OUTLINE

Day 1: Introduction to Metal Production and Support Activities

- Overview of metal production processes
- Definition and examples of support activities
- Roles and responsibilities of support personnel
- Importance of health, safety, and environment (HSE)
- Introduction to quality management in metal production
- Course structure and assessment criteria

Day 2: Health, Safety, and Environmental Fundamentals

- OHS Act and relevant regulations
- Hazard identification and risk assessment (HIRA)
- Personal protective equipment (PPE) requirements
- Emergency response procedures
- Environmental management principles
- Waste handling and recycling in metal production

Day 3: Communication and Teamwork in Production Support

- Verbal and written communication skills
- Shift handover procedures
- Use of communication devices (radios, intercoms)
- Team roles and conflict resolution
- Incident and deviation reporting
- Documentation and record keeping

Day 4: Raw Material Handling and Preparation

- Types of raw materials (ores, scrap, fluxes)
- Material handling equipment (cranes, conveyors)
- Storage conditions and inventory management
- Sampling and testing procedures
- Material preparation (crushing, blending)
- Quality control documentation

Day 5: Furnace Operations Support

- Types of furnaces (blast, electric arc, induction)
- Charging materials and sequences
- Tapping procedures and ladle preparation
- Temperature and pressure monitoring
- Slag composition and handling
- Safety around molten metal

Day 6: Casting and Solidification Support

- Continuous casting process overview
- Ingot casting and mould types
- Mould coating and lubrication
- Casting speed and cooling control
- Defects (cracks, porosity, segregation)

- Quality inspection basics

Day 7: Rolling and Forming Support

- Hot and cold rolling processes
- Mill components (rolls, stands, guides)
- Setup for different products
- Dimensional measurement techniques
- Surface defect identification
- Lubrication and cooling systems

Day 8: Heat Treatment and Finishing Support

- Heat treatment principles and cycles
- Furnace types for heat treatment
- Loading patterns and uniformity
- Temperature recording and control
- Finishing processes (shearing, sawing)
- Surface treatment (pickling, coating)

Day 9: Quality Control and Inspection Support

- Quality management systems (ISO 9001)
- Sampling plans and frequency
- Dimensional inspection tools
- Hardness and tensile testing
- Visual inspection criteria
- Introduction to NDT (ultrasonic, magnetic particle)

Day 10: Maintenance Support in Metal Production

- Preventive vs. reactive maintenance
- Lubrication schedules
- Bearing and gear inspections
- Conveyor and drive system checks
- Basic electrical safety
- Lockout/tagout (LOTO) procedures

Day 11: Process Control and Instrumentation Support

- Piping and instrumentation diagrams (P&IDs)
- Sensors (thermocouples, pressure transmitters)
- Calibration procedures
- Control loops (PID basics)
- Alarm management
- Emergency shutdown procedures

Day 12: Logistics and Material Movement Support

- Internal logistics planning
- Forklift and crane operation basics
- Inventory management systems
- Barcoding and labelling
- Segregation of different grades
- Loading and dispatch procedures

Day 13: Environmental and Waste Management Support

- Waste hierarchy (reduce, reuse, recycle)
- Emission monitoring (dust, gases)
- Effluent treatment basics
- Environmental auditing
- Water conservation techniques
- Energy efficiency opportunities

Day 14: Troubleshooting and Problem-Solving Support

- Problem-solving methodologies (5 Whys, fishbone)
- Root cause analysis (RCA)
- Corrective and preventive actions (CAPA)
- Decision-making tools
- Case studies in metal production
- Continuous improvement principles

Day 15: Computer Systems and Data Management Support

- Manufacturing execution systems (MES)
- Data entry standards
- Record keeping and archiving
- Report generation (production, quality)
- Cybersecurity awareness
- Introduction to ERP systems

Day 16: Integration and Application of Support Activities

- Scenario-based exercises
- Role-playing support activities
- Cross-functional coordination
- Emergency response drills
- Quality and safety audits
- Performance evaluation

Day 17: Assessment and Course Review

- Written assessment
- Practical demonstration
- Feedback and gap analysis
- Course summary
- Certification requirements
- Continuous professional development

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 **20 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 53,800.00	R 53,800.00
1	In-House	R 69,900.00	R 69,900.00
1	On-Campus (Pretoria)	R 80,700.00	R 80,700.00

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	26 Aug 2026	On-Campus	Johannesburg, South Africa
05 Aug 2026	27 Aug 2026	On-Campus	Mauritius
06 Aug 2026	28 Aug 2026	On-Campus	Cape Town, South Africa
07 Aug 2026	31 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	01 Sep 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	02 Sep 2026	On-Campus	Durban, South Africa
11 Aug 2026	02 Sep 2026	On-Campus	Mauritius
12 Aug 2026	03 Sep 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 259721) 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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