



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

CNC Machining Equipment Selection and Acquisition

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 243341 · NQF Level 5 · 8 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to assess and select CNC machining equipment and technology for acquisition. It covers the evaluation of technical specifications, cost-benefit analysis, and alignment with production requirements. Participants will gain the competence to make informed decisions in procuring CNC machinery.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	243341
Accreditation	SAQA Accredited · NQF Level 5 · 8 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Evaluate CNC machining equipment specifications against production requirements
- Analyze cost-benefit and lifecycle costs of different CNC technologies
- Demonstrate the ability to compare and select appropriate CNC equipment vendors
- Assess the technical and operational implications of CNC machine acquisition
- Apply criteria for selecting CNC machining technology to optimize productivity
- Justify equipment acquisition decisions based on technical and financial analysis

WHO SHOULD ATTEND

- This course is designed for manufacturing engineers, production managers, and technical procurement specialists involved in the selection and acquisition of CNC machining equipment.
- It is also suitable for maintenance planners and operations supervisors seeking to enhance their equipment evaluation skills.

COURSE OUTLINE

Day 1: Introduction to CNC Machining and Equipment Fundamentals

- Overview of CNC technology and applications.
- Machine components: spindle, tool changer, control panel, axes.
- Types of CNC machines: vertical/horizontal machining centres, lathes, routers.
- Axis configurations and coordinate systems (X, Y, Z, rotary).
- Workholding and tooling basics.
- Safety standards and personal protective equipment.
- Introduction to machine specifications and datasheets.

Day 2: Machine Selection Criteria and Technical Specifications

- Machine size, travel, and work envelope.
- Spindle characteristics: power, torque, speed, taper.
- Accuracy and repeatability standards (ISO 230, VDI 3441).
- Feed rates, rapid traverse, and acceleration.
- Tool changer capacity and tool management.
- Control system options: Fanuc, Siemens, Heidenhain, etc.
- Coolant systems, chip management, and enclosures.
- Electrical and utility requirements.

Day 3: Tooling, Workholding, and Automation Integration

- Cutting tool materials and geometries.
- Tool holders and balancing requirements.
- Workholding options: vises, chucks, fixtures, vacuum tables.
- Automation interface: robot arm, gantry loader, conveyor.
- Pallet systems and multi-pallet changers.
- Probing and in-process measurement.
- Integration with CAM software and DNC systems.
- Cost-benefit analysis of automation.

Day 4: Supplier Evaluation, Lifecycle Costing, and Procurement

- Supplier assessment: references, service network, spare parts.
- Total cost of ownership: purchase price, installation, maintenance, energy.
- Financing options and leasing considerations.
- Writing technical specifications for RFQs.
- Installation requirements: foundation, power, compressed air.
- Commissioning process and acceptance testing.
- Training needs for operators and programmers.
- Warranty and service level agreements.

Day 5: Implementation Planning, Risk Management, and Final Assessment

- Project planning: timeline, resources, milestones.
- Risk assessment: technical, financial, operational.
- Machine selection case study (hands-on evaluation).
- Developing a business case and ROI analysis.
- Change management and staff training plans.
- Documentation: installation checklist, maintenance schedule.

- Final assessment: written test and practical evaluation.
- Course review and Q&A.;

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 **8 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 24,200.00	R 24,200.00
1	In-House	R 31,400.00	R 31,400.00
1	On-Campus (Pretoria)	R 36,200.00	R 36,200.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	07 Aug 2026	On-Campus	Pretoria, South Africa
03 Aug 2026	07 Aug 2026	On-Campus	Dubai, UAE
03 Aug 2026	07 Aug 2026	On-Campus	Cape Town, South Africa
03 Aug 2026	07 Aug 2026	On-Campus	Mauritius
03 Aug 2026	07 Aug 2026	On-Campus	Johannesburg, South Africa
03 Aug 2026	07 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	14 Aug 2026	On-Campus	Mauritius
10 Aug 2026	14 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 243341) 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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