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

Medium And High Voltage Network Construction Commissioning Training

Physical Planning and Construction / Electrical Infrastructure Construction

Unit Standard 113970 · NQF Level 4 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the competencies required to construct and commission medium and high voltage (MV/HV) networks safely and in compliance with South African standards (SANS 10142, SANS 10092). It covers installation, testing, and commissioning procedures for transformers, switchgear, cables, and overhead lines, ensuring operational reliability and adherence to the Occupational Health and Safety Act (OHSA).

Category	Physical Planning and Construction
Subfield	Electrical Infrastructure Construction
Unit Standard	113970
Accreditation	SAQA Accredited · NQF Level 4 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Apply safety procedures and risk assessments specific to MV/HV network construction and commissioning.
- Interpret network construction drawings, specifications, and schematics to plan installation activities.
- Install and terminate MV/HV cables, switchgear, transformers, and overhead line components according to manufacturer specifications and SANS standards.
- Conduct pre-commissioning tests (insulation resistance, polarity, phase rotation, earth fault loop impedance) and document results.
- Commission MV/HV networks by energizing, load-testing, and verifying protection settings and system integrity.
- Evaluate commissioning outcomes and compile as-built documentation and handover reports.

WHO SHOULD ATTEND

- This course is designed for electrical technicians, engineers, and artisans involved in the construction, testing, and commissioning of MV/HV networks up to 33 kV.
- It is also suitable for supervisors and project managers seeking to deepen their technical understanding of network construction and commissioning processes.

COURSE OUTLINE

Day 1: **Fundamentals of Medium and High Voltage Networks**

- Overview of medium and high voltage systems (definitions, voltage ranges).
- Components: transformers, switchgear, circuit breakers, isolators, cables.
- Network configurations: radial, ring, and interconnected systems.
- Introduction to protection principles (overcurrent, earth fault).
- Safety regulations: OHS Act, SANS 10142, and relevant standards.
- Personal protective equipment (PPE) and safe work practices.

Day 2: **Construction and Commissioning Procedures**

- Construction planning: route selection, trenching, and foundation work.
- Installation of transformers, switchgear, and overhead lines.
- Cable laying, termination, and jointing techniques (heat shrink, cold shrink).
- Commissioning sequence: visual inspection, insulation testing, polarity checks.
- Primary injection testing and secondary injection testing.
- Documentation: test reports, as-built drawings, and handover certificates.

Day 3: **Advanced Commissioning, Fault Finding, and Integration**

- Protection relay testing and coordination (overcurrent, earth fault, distance).
- Fault finding: cable faults, transformer faults, switchgear issues.
- Integration of SCADA and remote monitoring systems.
- Load flow and voltage regulation considerations.
- Final testing and commissioning documentation.
- Case studies: typical commissioning challenges and solutions.

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 **6 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 13,200.00	**R 13,200.00**
1	In-House	R 17,800.00	**R 17,800.00**
1	On-Campus (Pretoria)	R 19,800.00	**R 19,800.00**

UPCOMING SESSIONS

Start	End	Method	Venue
02 Dec 2026	04 Dec 2026	On-Campus	Shenzhen, China
02 Dec 2026	04 Dec 2026	On-Campus	Dar es Salaam, Tanzania
08 Dec 2026	10 Dec 2026	On-Campus	Bangkok, Thailand
08 Dec 2026	10 Dec 2026	On-Campus	Blantyre, Malawi
08 Dec 2026	10 Dec 2026	On-Campus	Nairobi, Kenya
08 Dec 2026	10 Dec 2026	On-Campus	Kinshasa, DRC
08 Dec 2026	10 Dec 2026	On-Campus	Johannesburg, South Africa
08 Dec 2026	10 Dec 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 QUOTATION OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 113970) and click **Get A Quotation**. 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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