



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

Local Area Network Support And Troubleshooting Skills Training

Physical, Mathematical, Computer and Life Sciences / Information Technology and Computer Sciences

Unit Standard 114043 · NQF Level 5 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the practical skills and theoretical knowledge required to support and troubleshoot local area networks (LANs) in a corporate environment. Participants will learn to identify, diagnose, and resolve common network issues, ensuring minimal downtime and optimal network performance.

Category	Physical, Mathematical, Computer and Life Sciences
Subfield	Information Technology and Computer Sciences
Unit Standard	114043
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate an understanding of LAN components, topologies, and protocols.
- Apply diagnostic tools and techniques to identify network faults.
- Implement corrective actions to restore network connectivity.
- Analyze network performance data to prevent recurring issues.
- Evaluate network security risks and apply basic protective measures.
- Document troubleshooting processes and solutions for future reference.

WHO SHOULD ATTEND

- This course is designed for IT support technicians, network administrators, and help desk staff who are responsible for maintaining and troubleshooting LANs in small to medium-sized organisations.

COURSE OUTLINE

Day 1: Introduction to Local Area Networks and Troubleshooting Fundamentals

- Definition and benefits of LANs
- Network topologies: star, bus, ring, mesh
- Network hardware: switches, routers, hubs, NICs
- Introduction to the OSI model (layers 1-4)
- Troubleshooting methodology: identify, isolate, resolve
- Safety precautions and ESD awareness
- Practical: basic cable making and testing

Day 2: Network Media, Cabling, and Physical Layer Troubleshooting

- Copper cabling: UTP, STP, categories (Cat5e, Cat6)
- Fibre optic cabling: single-mode vs multi-mode
- Cabling standards: straight-through, crossover, rollover
- Using cable testers and time-domain reflectometers
- Common physical layer issues: breaks, crosstalk, attenuation
- Practical: terminate and test UTP cables

Day 3: Network Protocols and Addressing (TCP/IP Fundamentals)

- TCP/IP model vs OSI model
- IPv4 addressing: classes, subnet masks, private addresses
- Subnetting basics and CIDR notation
- DHCP and static IP configuration
- TCP/IP utilities: ping, tracer, ipconfig, nslookup
- ARP cache and DNS resolution
- Practical: configure a small IP network

Day 4: Network Devices, Switching, and VLANs

- Switch operation: learning, forwarding, filtering
- MAC address tables and aging
- VLAN concepts: tagging, port-based VLANs
- Trunking with 802.1Q
- Spanning Tree Protocol (STP) and loop prevention
- Common switch issues: duplex mismatch, port security
- Practical: configure VLANs and test connectivity

Day 5: Routing, Firewalls, and Network Services

- Routing concepts: routing tables, default gateway
- Static routing configuration
- Introduction to dynamic routing (RIP, OSPF)
- Firewall types: packet filter, stateful, application
- Access control lists (ACLs)
- NAT and PAT
- Practical: configure a router and firewall rules

Day 6: Wireless LANs and Advanced Troubleshooting Tools

- WLAN standards, frequencies, and channels

- Wireless security: WPA2, WPA3, 802.1X
- Site surveys and signal strength measurement
- Using Wireshark for packet analysis
- Common wireless issues: interference, authentication failures
- Troubleshooting with spectrum analysers
- Practical: capture and analyse network traffic

Day 7: Integrated Troubleshooting, Documentation, and Best Practices

- End-to-end troubleshooting scenarios
- Network documentation: diagrams, IP schemes, device inventory
- Preventive maintenance: firmware updates, cable management
- Introduction to ITIL incident and problem management
- Performance monitoring and baselining
- Customer communication and escalation procedures
- Practical: full LAN troubleshooting simulation

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 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 21,700.00	R 21,700.00
1	In-House	R 28,200.00	R 28,200.00
1	On-Campus (Pretoria)	R 32,600.00	R 32,600.00

UPCOMING SESSIONS

Start	End	Method	Venue
21 Aug 2026	31 Aug 2026	On-Campus	Shenzhen, China
24 Aug 2026	01 Sep 2026	On-Campus	Bangkok, Thailand
25 Aug 2026	02 Sep 2026	On-Campus	Victoria Falls, Zimbabwe
25 Aug 2026	02 Sep 2026	On-Campus	Abu Dhabi, UAE
26 Aug 2026	03 Sep 2026	On-Campus	Durban, South Africa
27 Aug 2026	04 Sep 2026	On-Campus	Shenzhen, China
28 Aug 2026	07 Sep 2026	On-Campus	Harare, Zimbabwe
31 Aug 2026	08 Sep 2026	On-Campus	Victoria Falls, Zimbabwe

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 114043) 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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