



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

Infrastructure Fundamentals for IT Professionals

Law, Military Science and Security / Sovereignty of the State

Unit Standard 244543 · NQF Level 5 · 15 Credits · 12 Days

COURSE OVERVIEW

This course equips IT professionals with a solid understanding of infrastructure components, including hardware, software, networking, and data storage. Participants will learn how infrastructure supports business operations and how to maintain and optimize these systems for reliability and performance.

Category	Law, Military Science and Security
Subfield	Sovereignty of the State
Unit Standard	244543
Accreditation	SAQA Accredited · NQF Level 5 · 15 Credits
Duration	12 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate an understanding of the key components of IT infrastructure, including servers, storage, and networking devices.
- Apply basic principles of infrastructure maintenance and monitoring to ensure system availability.
- Analyze the impact of infrastructure design on business continuity and disaster recovery.
- Implement basic troubleshooting procedures for common infrastructure issues.
- Evaluate the role of virtualization and cloud services in modern infrastructure.
- Demonstrate knowledge of security best practices for protecting infrastructure assets.

WHO SHOULD ATTEND

- IT support technicians, systems administrators, and network engineers who need foundational knowledge of IT infrastructure to perform their roles effectively.

COURSE OUTLINE

Day 1: Introduction to Infrastructure and IT Systems

- Overview of IT infrastructure: hardware, software, networks
- Business drivers for infrastructure
- Types of IT systems: servers, storage, networking
- Introduction to data centres and cloud computing
- Key industry standards (ISO, ITIL, SAQA)
- Infrastructure lifecycle: planning, deployment, maintenance

Day 2: Computer Hardware Fundamentals

- Motherboard, CPU, RAM, storage devices (HDD, SSD)
- Input/output devices and interfaces
- Server form factors: tower, rack, blade
- RAID configurations and storage area networks (SAN)
- Power supplies, cooling, and physical security
- Hardware troubleshooting basics

Day 3: Operating Systems and Virtualisation

- OS functions: process management, memory management, file systems
- Windows Server and Linux distributions
- Hypervisors: Type 1 vs Type 2
- Virtual machine creation and configuration
- Containers vs virtual machines
- OS security basics

Day 4: Networking Fundamentals

- LAN, WAN, MAN topologies
- Switches, routers, firewalls, access points
- OSI model layers and TCP/IP protocol suite
- IPv4 and IPv6 addressing, subnet masks
- DNS, DHCP, and NAT
- Basic network troubleshooting commands

Day 5: Network Implementation and Management

- Structured cabling and patch panels
- Switch configuration: VLANs, STP, port security
- Router configuration: static and dynamic routing (RIP, OSPF)
- Network monitoring tools (SNMP, Wireshark)
- Wireless networking standards and security
- Network documentation

Day 6: Storage Technologies and Data Management

- Direct-attached storage (DAS)
- Network-attached storage (NAS) and file sharing
- Storage area networks (SAN) and Fibre Channel
- RAID 0,1,5,6,10
- Backup methods: full, incremental, differential

- Disaster recovery planning and testing

Day 7: Data Centres and Physical Infrastructure

- Data centre tiers (I-IV) and uptime
- Power distribution: UPS, PDU, generators
- Cooling systems: CRAC, CRAH, liquid cooling
- Rack layout and cable management
- Environmental monitoring (temperature, humidity)
- Physical access controls and surveillance

Day 8: Cloud Computing and Virtual Infrastructure

- Cloud computing characteristics: on-demand, scalability, pay-per-use
- AWS, Azure, Google Cloud overview
- Virtual private cloud (VPC) and subnets
- Storage in the cloud: object, block, file
- Cloud security fundamentals
- Migration strategies to cloud

Day 9: IT Security Fundamentals

- Threat landscape: malware, phishing, DDoS
- Security policies and risk management
- Firewalls: packet filtering, stateful inspection, next-gen
- Encryption: symmetric vs asymmetric, SSL/TLS
- Authentication: passwords, biometrics, MFA
- Access control: RBAC, ACLs

Day 10: Infrastructure Monitoring and Management Tools

- Monitoring metrics: CPU, memory, disk, network
- Tools: Nagios, Zabbix, SolarWinds
- Log management and SIEM basics
- Alerting thresholds and escalation
- Capacity planning and trend analysis
- ITIL framework: incident, problem, change management

Day 11: Troubleshooting and Maintenance

- Troubleshooting models: OSI, top-down, bottom-up
- Hardware diagnostics: POST, beep codes, testing tools
- Software issues: drivers, patches, compatibility
- Network issues: connectivity, latency, packet loss
- Preventative maintenance schedules
- Incident documentation and knowledge base

Day 12: Integration, Best Practices, and Capstone

- End-to-end infrastructure design case study
- Best practices: redundancy, scalability, security
- Capstone project: design and implement a small infrastructure
- Presentation and peer review
- Certification overview: CompTIA A+, Network+, Server+
- Career paths in IT infrastructure

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 **15 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 43,000.00	R 43,000.00
1	In-House	R 56,000.00	R 56,000.00
1	On-Campus (Pretoria)	R 64,600.00	R 64,600.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	25 Aug 2026	On-Campus	Pretoria, South Africa
11 Aug 2026	26 Aug 2026	On-Campus	Abu Dhabi, UAE
12 Aug 2026	27 Aug 2026	On-Campus	Durban, South Africa
12 Aug 2026	27 Aug 2026	On-Campus	Mauritius
13 Aug 2026	28 Aug 2026	On-Campus	Cape Town, South Africa
14 Aug 2026	31 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	01 Sep 2026	On-Campus	Abu Dhabi, UAE
18 Aug 2026	02 Sep 2026	On-Campus	Durban, 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 244543) 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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