



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Implement Radiation Protection Measures Training

Physical, Mathematical, Computer and Life Sciences / Physical Sciences

Unit Standard 119496 · NQF Level 3 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to implement radiation protection measures in accordance with South African regulatory requirements. It covers the principles of radiation safety, monitoring techniques, and emergency response procedures to ensure a safe working environment.

Category	Physical, Mathematical, Computer and Life Sciences
Subfield	Physical Sciences
Unit Standard	119496
Accreditation	SAQA Accredited · NQF Level 3 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply the principles of radiation protection to minimize exposure in the workplace.
- Implement monitoring and measurement techniques to assess radiation levels.
- Evaluate the effectiveness of radiation protection measures and recommend improvements.
- Demonstrate correct use of personal protective equipment and dosimetry devices.
- Analyze emergency response procedures for radiation incidents.
- Implement record-keeping and reporting requirements as per regulatory standards.

WHO SHOULD ATTEND

- This course is designed for radiation protection officers, safety personnel, and workers in industries such as healthcare, mining, and nuclear energy who are responsible for implementing radiation protection measures.

COURSE OUTLINE

Day 1: Foundations of Radiation Protection

- Introduction to ionising radiation: types, sources, and properties.
- Biological effects of radiation: deterministic and stochastic effects.
- The ALARA principle: time, distance, shielding.
- Overview of the South African Nuclear Energy Act, 1999 (Act No. 46 of 1999) and regulations.
- Role of the National Nuclear Regulator (NNR) and the Department of Health.
- Responsibilities of employers, employees, and radiation protection officers.
- Introduction to the unit standard 119496 and its outcomes.
- Case study: historical radiation accidents and lessons learned.

Day 2: Radiation Detection and Measurement

- Types of radiation detectors: Geiger-Müller counters, scintillation detectors, ionisation chambers.
- Principles of operation and selection criteria for different applications.
- Calibration procedures and quality control checks.
- Personal dosimetry: TLDs, OSLDs, and electronic dosimeters.
- Conducting area surveys: grid patterns, background measurements.
- Contamination monitoring: smear tests and direct measurement.
- Reading and interpreting dose rates and cumulative doses.
- Documentation: logbooks, survey reports, and dose records.

Day 3: Radiation Safety in Practice

- Practical application of ALARA: reducing exposure time, increasing distance, using shielding.
- Shielding materials: lead, concrete, water; half-value layer calculations.
- Classification of areas: controlled, supervised, and public zones.
- Signage, barriers, and access control.
- Safe handling and storage of radioactive sources.
- Work permits and radiation work instructions.
- Emergency response: alarm investigation, source recovery, and decontamination.
- Practical exercise: designing a shielding configuration for a given source.

Day 4: Regulatory Compliance and Documentation

- NNR licensing requirements: applications, renewals, and conditions.
- Record keeping: source inventory, dose records, training records.
- Incident reporting: types of incidents, timelines, and forms.
- Overexposure investigation and medical follow-up procedures.
- Preparing for a regulatory inspection: documentation, interviews, and facility walkthrough.
- Internal audit checklists and corrective actions.
- Case study: reviewing a mock inspection report.
- Practical exercise: completing an incident report form.

Day 5: Practical Radiation Protection Procedures

- Risk assessment methodology: hazard identification, dose estimation, and control measures.
- Controlled area entry: authorisation, dosimetry, and briefing.
- Exit procedures: monitoring, decontamination, and record update.
- Contamination control: containment, spill kits, and decontamination agents.
- Packaging for transport: UN-approved containers, labelling, and documentation.

- PPE selection and use: gloves, respirators, protective clothing.
- Practical exercise: simulated controlled area entry and exit.
- Practical exercise: packaging a source for transport.

Day 6: Emergency Preparedness and Response

- Types of radiation emergencies: lost source, fire, theft, accidental exposure.
- Emergency planning: roles, communication, and resources.
- Initial response: securing the area, minimising exposure, and notifying authorities.
- Use of emergency equipment: survey meters, dosimeters, decontamination kits.
- Evacuation procedures and assembly points.
- Medical management of radiation injuries.
- Tabletop exercise: scenario-based response planning.
- Debrief and lessons learned from the exercise.

Day 7: Integration, Assessment, and Certification

- Review of key concepts from Days 1-6.
- Practical assessment: performing a radiation survey and interpreting results.
- Practical assessment: demonstrating emergency response actions.
- Written assessment: multiple-choice and short-answer questions.
- Case study presentations by participants.
- Developing a radiation protection implementation plan for own workplace.
- Course evaluation and feedback session.
- Issuance of certificates of competence.

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 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 28,200.00	R 28,200.00
1	In-House	R 36,700.00	R 36,700.00
1	On-Campus (Pretoria)	R 42,300.00	R 42,300.00

UPCOMING SESSIONS

Start	End	Method	Venue
05 Aug 2026	13 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	13 Aug 2026	On-Campus	Lagos, Nigeria
06 Aug 2026	14 Aug 2026	On-Campus	Johannesburg, South Africa
07 Aug 2026	17 Aug 2026	On-Campus	Mauritius
10 Aug 2026	18 Aug 2026	On-Campus	Dubai, UAE
11 Aug 2026	19 Aug 2026	On-Campus	Pretoria, South Africa
12 Aug 2026	20 Aug 2026	On-Campus	Abu Dhabi, UAE
13 Aug 2026	21 Aug 2026	On-Campus	Mauritius

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 119496) 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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