



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

Carbon Capture Utilisation and Storage

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0532 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

The purpose of this course is to equip professionals with comprehensive knowledge and practical skills in carbon capture, utilisation, and storage (CCUS) technologies, enabling them to contribute to South Africa's climate change mitigation efforts. Participants will gain an understanding of the technical, economic, and regulatory aspects of CCUS, and how to integrate these solutions into industrial operations to reduce greenhouse gas emissions.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0532
Accreditation	SAQA Accredited · NQF Level 5 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply the principles of carbon capture technologies, including post-combustion, pre-combustion, and oxy-fuel combustion capture.
- Analyse the various methods of carbon utilisation, such as enhanced oil recovery, mineral carbonation, and conversion to chemicals and fuels.
- Evaluate the geological storage options for CO₂, including saline aquifers and depleted oil and gas reservoirs, and assess their suitability.
- Design a basic CCUS project plan, considering technical feasibility, economic viability, and environmental impact.
- Implement monitoring, verification, and accounting (MRV) procedures for CO₂ storage sites.
- Demonstrate an understanding of the regulatory and policy frameworks governing CCUS in South Africa and internationally.

WHO SHOULD ATTEND

- This course is designed for environmental engineers, energy managers, sustainability consultants, policy makers, and technical professionals in the energy, mining, and manufacturing sectors who are involved in or seeking to understand CCUS projects.

COURSE OUTLINE

Day 1: Introduction to Carbon Capture, Utilisation and Storage

- Climate change science and the need for CCUS
- Overview of CCUS value chain: capture, transport, utilisation, storage
- Carbon capture technologies: post-combustion, pre-combustion, oxy-fuel, and direct air capture
- CO₂ compression and transport: pipelines, ships, and road
- Geological storage: saline aquifers, depleted oil/gas fields, and enhanced oil recovery
- Utilisation pathways: chemicals, fuels, building materials, and enhanced hydrocarbon recovery
- Policy, regulatory, and legal frameworks (e.g., Carbon Tax Act, CCS Regulations)
- Case studies: global and South African CCUS projects

Day 2: Technical and Engineering Aspects of CCUS

- Technical deep-dive into absorption, adsorption, membranes, and cryogenic capture
- Integration of capture units with power plants and industrial processes
- CO₂ quality requirements for transport and storage
- Pipeline design, materials, and monitoring
- Geological storage site characterisation: seismic, well logging, and modelling
- Storage capacity estimation and injectivity
- Risk assessment and management: leakage pathways, induced seismicity, and monitoring technologies
- Cost analysis and economic viability of CCUS projects

Day 3: Utilisation, Integration, and Future Directions

- CO₂ utilisation: chemicals (methanol, urea), fuels (methane, jet fuel), and building materials (carbonates)
- Biological utilisation: algae and microorganism-based processes
- Mineral carbonation and enhanced weathering
- CCUS and green hydrogen: synergies and co-production
- Negative emissions technologies: BECCS and DACCS
- Project development: feasibility studies, financing, and risk mitigation
- Public perception, stakeholder engagement, and communication
- Future trends and innovations in CCUS

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 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 13,900.00	R 13,900.00
1	In-House	R 18,100.00	R 18,100.00
1	On-Campus (Pretoria)	R 20,800.00	R 20,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
05 Oct 2026	07 Oct 2026	On-Campus	Mbabane, Eswatini
05 Oct 2026	07 Oct 2026	Online	—
06 Oct 2026	08 Oct 2026	On-Campus	Nairobi, Kenya
06 Oct 2026	08 Oct 2026	On-Campus	Lusaka, Zambia
07 Oct 2026	09 Oct 2026	On-Campus	Kigali, Rwanda
07 Oct 2026	09 Oct 2026	On-Campus	Windhoek, Namibia
07 Oct 2026	09 Oct 2026	On-Campus	Bangkok, Thailand
12 Oct 2026	14 Oct 2026	On-Campus	London, UK

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 AATICD-0532) 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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