MAGNA SKILLS DEVELOPMENT INSTITUTE

Capacity Building • Professional Training • Organisational Development

Generated: 22-Nov-2026

Course Profile Document

Oil and Gas Energy

Advanced Training Programme on Customs Petroleum Measurement and Inspection

Prepared as a professional course profile for delegate review, sponsorship approval and organisational training planning.

COURSE CODE	DELIVERY	DURATION	PREPARED FOR
MSDI	**Online / Face-to-Face**	**Flexible**	**Organisation Approval**

Register for this Course

View Online Course Page

Course Overview

This customised **Magna Skills** programme equips customs officers, revenue officials and petroleum inspectors with advanced skills to verify petroleum quantities, inspect consignments and strengthen revenue protection across the petroleum supply chain.

The course focuses on petroleum measurement, tank gauging, custody transfer, sampling, cargo inspection and reconciliation of declared quantities against physical measurements. Participants will examine how temperature, density, water content, equipment performance and documentation affect the accuracy of petroleum declarations.

Through practical calculations, inspection simulations and customs case studies, participants will develop the ability to identify discrepancies, investigate potential revenue leakage and prepare evidence-based inspection reports. Content will be adapted to the participating organisation’s petroleum products, operational procedures and national customs requirements

Course Outcomes

- Evaluate petroleum characteristics and measurement principles relevant to customs inspection and revenue administration.
- Verify petroleum quantities using tank gauging, metering records, density measurements and appropriate correction methods.
- Conduct structured inspections of petroleum consignments, storage facilities and custody transfer operations.
- Reconcile customs declarations, shipping documents and inventory records to identify discrepancies and potential non-compliance.
- Prepare defensible inspection reports and recommend improvements to petroleum measurement controls and revenue protection.

Course Outline / Curriculum

1. Petroleum Products and Customs Control

- Characteristics of crude oil, petrol, diesel, kerosene, aviation fuel and other petroleum products, including their implications for measurement and inspection.
- Customs control points across importation, exportation, transit, bonded storage and domestic release.

2. Petroleum Measurement Principles and Standards

- Volume, mass, density, API gravity, reference conditions and the effects of temperature and pressure on petroleum quantities.
- Application of relevant API Manual of Petroleum Measurement Standards and OIML measurement guidance within the applicable national framework. API

3. Static Measurement and Tank Gauging

- Interpretation of tank calibration tables, reference heights, innage and ullage readings, and manual and automatic gauging records.
- Determination of liquid levels, free water and product temperature, with checks for measurement errors and unreliable readings.

4. Dynamic Measurement and Meter Verification

- Operating principles and inspection considerations for petroleum flow meters, totalisers and associated temperature and pressure instruments.
- Review of meter proving, calibration records, meter factors, equipment seals and indicators of malfunction or tampering.

5. Petroleum Quantity Calculations and Corrections

- Calculation of observed and standard volumes, gross and net quantities, and mass using appropriate density data and correction factors.
- Practical exercises accounting for free water, sediment and water content, measurement uncertainty and rounding.

6. Petroleum Sampling and Quality Verification

- Representative sampling methods, sample identification, sealing, handling and chain-of-custody documentation.
- Interpretation of laboratory results to identify possible contamination, adulteration or inconsistencies with the declared product.

7. Inspection of Petroleum Cargo and Transfer Operations

- Inspection procedures for marine cargoes, road tankers, rail tankers, pipelines and storage terminals, including compartment and seal checks.
- Verification of loading and discharge records, quantities remaining on board, quantities on board before loading and custody transfer documentation.

8. Customs Documentation and Quantity Reconciliation

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Cross-checking customs declarations, bills of lading, manifests, invoices, certificates of quantity and quality, and terminal records.

- Reconciliation of shipment, receipt and inventory quantities to distinguish operational differences from discrepancies requiring investigation.

9. Risk-Based Inspection, Safety and Revenue Protection

- Development of inspection risk indicators for under-declaration, product substitution, diversion, unauthorised withdrawals and equipment manipulation.
- Safe inspection planning covering flammable atmospheres, hazardous exposure, access restrictions and coordination with facility personnel.

10. Inspection Reporting and Integrated Practical Case Study

- Preparation of inspection reports documenting methods, calculations, findings, supporting evidence and recommended corrective actions.
- Integrated customs case study involving a petroleum shipment, quantity reconciliation, discrepancy assessment and an organisational improvement plan.

Target Audience

- Senior managers within the Oil & Gas sector or those identified via organizational talent management for fast track to a senior role
- Public sector officials with responsibility for the state management of Oil & gas resources
- Engineers and Project Managers who are looking to develop leading edge practice for both themselves and their organization

Key Course Benefits

Work-Ready Skills

Delegates leave with practical tools, templates and methods they can apply immediately at work.

Better Institutional Results

The programme supports stronger planning, reporting, compliance, accountability and service delivery.

Sponsor-Friendly

This document is designed to help supervisors, HR units and sponsors approve delegate participation quickly.

Professional Recognition

Delegates receive training documentation and a certificate of completion after successful participation.

Our Training Centres & Delivery Options

Magna Skills offers flexible delivery through face-to-face training centres across Africa and beyond, plus Online / E-Learning for delegates who prefer remote participation.

Southern Africa

Practical training destinations with strong travel access and delegate support.

- Pretoria, South Africa
- Vic Falls, Zimbabwe
- Livingstone, Zambia

East Africa

Popular regional centres for government, NGO and donor-funded project teams.

- Kigali, Rwanda
- Kampala, Uganda
- Nairobi,
- Zanzibar, Tanzania

West Africa & Islands

Strategic locations for regional networking and executive capacity building.

- Accra, Ghana
- Port Louis, Mauritius

International Executive Venue

Premium destination training for senior teams and international delegates.

- Dubai, United Arab Emirates

Online / E-Learning

Attend from anywhere through live online, blended or self-paced learning options.

- Online, E-Learning
- Remote Teams
- Flexit

Organisation-Based Training

Magna Skills can also arrange dedicated in-house training for ministries, NGOs and companies.

- Onsite
- Custom Dates
- Group Training

Ready to Nominate Delegates?

Use the links below to register, review the live course page or contact Magna Skills for organisation-based training support.

Register / Apply Online | **View Full Course Page**

About Magna Skills

Magna Skills Development Institute provides practical capacity building programmes for government departments, NGOs, public institutions, donor-funded projects and private sector professionals across Africa. Our training approach combines expert facilitation, real workplace case studies, practical tools, post-training support and professional documentation that helps organisations strengthen staff performance and service delivery.

Government Training | NGO Capacity Building | Corporate Workshops | Online Learning | Face-to-Face Training | Certifica

Approval & Authorisation Form

This section may be completed by the organisation, department, HR office, finance office or sponsor approving delegate participation. It can be attached to an internal memo, procurement request or training approval submission.

Organisation / Department	
Delegate Name(s)	
Approved Course	Advanced Training Programme on Customs Petroleum Measurement and Inspection
Preferred Delivery Mode	☐ Online ☐ Face-to-Face ☐ Organisation-Based Training
Preferred Training Venue / Date	
Estimated Number of Delegates	
Budget / Vote Number	
Contact Person	
Email / Mobile	

Authorised Name _____ Signature / Stamp _____ Date _____