MAGNA SKILLS DEVELOPMENT INSTITUTE

Capacity Building • Professional Training • Organisational Development

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Course Profile Document

Oil and Gas Energy

Petroleum Testing and Analysis

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

COURSE CODE	DELIVERY	DURATION	PREPARED FOR
MSD2701	**Online / Face-to-Face**	**Flexible**	**Organisation Approval**

Register for this Course

View Online Course Page

Course Overview

At Magna Skills, we take pride in presenting our "Petroleum Testing and Analysis" course, a comprehensive program designed to equip participants with essential skills and knowledge in the field of petroleum testing and analysis.

This course is essential for those looking to embark on a career in the oil and gas industry or seeking to enhance their expertise in ensuring the quality, safety, and compliance of petroleum products. Join us at Magna Skills to gain the expertise needed to excel in the world of petroleum testing and analysis.

Course Outcomes

Upon completion of the "Magna Skills Petroleum Testing and Analysis" course, participants will be able to:

1. Understand the significance of petroleum testing and analysis in the oil and gas industry and its role in ensuring product quality and safety.
2. Identify various types of petroleum products and their unique properties and characteristics.
3. Perform a wide range of basic and advanced laboratory tests on petroleum samples with precision and accuracy.
4. Analyze and interpret test results effectively, allowing for informed decisions on product quality and compliance.
5. Apply industry best practices and safety protocols when conducting petroleum testing and analysis.
6. Stay abreast of the latest industry standards, technological advancements, and emerging trends in the field.

Course Outline / Curriculum

Module 1: Introduction to Petroleum Testing and Analysis

- Overview of the oil and gas industry
- Significance of testing and analysis in the petroleum sector
- Types of petroleum products and their applications
- Regulatory and safety considerations in testing

Module 2: Petroleum Product Properties

- Exploring the physical and chemical properties of petroleum products
- Key parameters: density, viscosity, flash point, API gravity, and sulfur content
- Understanding distillation curves and boiling point characteristics

Module 3: Laboratory Equipment and Techniques

- Introduction to laboratory equipment used in petroleum testing
- Proper sampling techniques and sample preparation
- ASTM and industry-specific testing methods
- Quality control measures and ensuring data accuracy

Module 4: Basic Petroleum Tests

- Conducting essential tests such as density, viscosity, and flash point determination
- Analysis of water content, sediment, and ash
- Interpretation of test results and their significance

Module 5: Advanced Petroleum Tests

- In-depth examination of advanced testing methods
- Gas chromatography and mass spectrometry in petroleum analysis
- Determination of elemental composition (Sulfur, Nitrogen, Carbon, Hydrogen)
- Octane and cetane number analysis
- Pour point and cloud point determination
- Comprehensive distillation curve analysis

Module 6: Interpretation of Test Results

- Strategies for effective data analysis and result interpretation
- Identifying potential quality issues and non-compliance
- Reporting and documentation of test results

Module 7: Safety and Best Practices

- Prioritizing laboratory safety with stringent guidelines
- Safe handling of hazardous materials

Responsible waste disposal and environmental considerations

- Implementing quality control procedures

Module 8: Emerging Trends in Petroleum Testing

- Staying current with advances in testing technology
- Industry trends and innovations in petroleum analysis
- Anticipating future challenges and opportunities

Module 9: Case Studies and Practical Applications

- Real-world case studies to apply knowledge
- Hands-on laboratory exercises for practical experience
- Problem-solving and troubleshooting scenarios

Module 10: Career Development and Continuing Education

- Exploring career opportunities in petroleum testing and analysis
- Professional organizations and certifications in the field
- Strategies for staying updated with industry developments

Target Audience

- Laboratory technicians and chemists responsible for the analysis of crude oil samples for quantity and quality purposes
- Laboratory technicians and chemists responsible for the analysis of crude oil samples for quantity and quality purposes
- Refinery personnel responsible for evaluating crude oil to determine their processing characteristics
- Operating (field) personnel responsible for collecting samples will also benefit from a better understanding of how test results are directly dependent on proper sample collection and handling
- Traders and buyers involved in sale, purchase, or exchanges of crude oil.

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
- Nairob
- 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
- Flexib

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	Petroleum Testing and Analysis
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 _____