PETROLEUM TRAINING INSTITUTE

P.M.B EFFURUN, DELTA STATE

PTI, Consultancy Services Limited

PTI : Repositioned to meet 21st Century Oil/Gas Industry needs

2018

Professional & Specialized Training

BROCHURE

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PTI Conference Centre Complex, Effurun, Delta state

For further enquires contact

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2018 PROFESSIONAL & SPECIALIZED TRAINING COURSES

PETROLEUM TRAINING INSTITUTE
P.M.B EFFURUN, DELTA STATE
PTI, Consultancy Services Limited

PROF. SUNNY E. IYUKE
Ceng, PrEng, FSAAE, MICheme, SAIChE, AMNSChE, COREN
Principal & Chief Executive PTI

The Petroleum Training Institute is a specialized institution with a mandate to train indigenous manpower to meet the technical and administrative demands of the oil and gas and other allied industries in Nigeria and Africa. Organizations and individuals have the opportunity to choose from a training bouquet of 223 courses which are designed to provide quality solutions that advance organizational goals and/or personal development objectives. Our wide range of specialized and professional training, and career development programs have been developed based on industry requirements and address current and emerging industry challenges.

Delegates on our training programs enjoy a world class training experience delivered by seasoned industry professionals who have honed their skills and gained extensive experience in their various fields locally and internationally. Our state of the art Conference Center Complex houses training rooms and a well – furnished Guest House/Suite. Training rooms are fully equipped with modern audio visual and multimedia aids, air-conditioning and other support facility. Delegates from around the world do not have to worry about accommodation as our Guest House provides rooms, suites and catering to meet their needs.

The Petroleum Training Institute in addition to training also seeks to address industry challenges through scientific research work, consultations, analytical and technical services. Our consultancy services cut across Environmental Impact Assessment for projects, Technical Training, Manpower Development, operations Assurance and Maintenance integrity solutions and Technology Services for several private and public – sector clients through the following:

Digital PTI (DiPTI)

A novel technological hub and co-working space in the Petroleum Training Institute (PTI) where students and professionals can connect, engage, develop applications, build new digital devices and invent new things. The DiPTI offers consulting, software, hardware, networking certifications and accreditation with companies and organizations, aimed at finding solutions to industry problems.

Research and Development

Performing research and conducting studies related to the modern techniques which provide solutions to industry challenges. Academics from

2018 PROFESSIONAL & SPECIALIZED TRAINING COURSES

various fields are in constant engagements with the industry, analyzing their needs, and developing bespoke solutions to drive economic growth and development in Nigeria.

Skill Acquisitions Center

Offers apprenticeship and skill development programs for local artisans and craftsmen. Organizations take advantage of the PTI Skill Acquisition Center programs to train youths of their host communities especially in oil producing areas as part of the Corporate Social Responsibility packages and contribution to local content development. Training is provided in the following areas:

- Electrical Installation and Maintenance
- Block laying and Concreting
- Plumbing and Pipefitting
- Carpentry and Joinery
- Welding and Fabrication
- Mechanical Craft
- Computer Application

School of Industrial Continuing Education

The School offers working professionals the opportunity to gain a recognized quality degree and improve their chances of career growth. The SICE in addition to ND and HND, also runs Post-HND and MSc programs.

Offshore Technology Centre

The Centre provides specialized diving and marine engineering courses for professionals in offshore operations. The centre is equipped with equipment for SCUBA (Self Contained Underwater Breathing Apparatus), SSDE (Surface Supply Diving Equipment / Surface Demand Diving), Surface Simulated Diving Training and equipment for underwater welding and cutting amongst others.

Information Communication Technology Center

The Center provides engineering and training services across the ICT value chain. Central Information and Documentation System, Hardware Maintenance, Software Development, Design and Conduct Computer Based Testing for organizations and professional examinations, ICT Consultancy Services.

Petroleum Analysis Laboratory

The laboratory hosts state of the art equipment and can carry out analysis for various samples. Water, crude oil, petroleum fraction and natural gas.

Printing Press

Modern colours separation Printing Press that services all organization sizes. Large or small, get world class quality printing for your brochures, training manuals and others at the PTI Printing Press.

I am pleased to showcase the capabilities of PTI as clearly articulated above and look forward to receiving from you and/or your organization on any of our programs. Our services can be tailored to match your unique needs; training courses are also delivered in-house at client's request. We have the technology, expertise and manpower to meet your need.

Prof. Sunny E. Iyuke *Ceng, PrEng, FSAAE, MICheme, SAIChE, AMNSChE, COREN*
Principal & Chief Executive
Petroleum Training Institute, Effurun ,
Delta State, Nigeria

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INTERNATIONAL PROGRAMS (Training Location: London, UK)

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	PRICE DURATION/ Dates
1 **State-of-The-Art Facilities Management:** Under the prevailing competitive environment, people who direct and coordinates affairs of organizations should be aware and well equipped with modern Facilities Management techniques/ skills to ensure desired performance. This training course which is devised by one of the pioneers of Facilities Management in the UK is tailored to address the missing link between strategic, tactical and operational Facilities Management. Using case studies, the training will teach participants how to use modern facilities management techniques discovered from research and many years of working experience in the industry. The facilitators are seasoned experts from practice and academia all of whom are widely recognized as leaders in their specialist fields and contributors to courses of professional institutions in the UK.	The course is structured in a way that delegates can participate actively in the sessions rather than to sit and be lectured at all day. Each session shall be for maximum of 45 minutes. - Strategic Facilities management – Importance and implementation. - Facilities Policy- developing a case for change. - Financial Control of Facilities Management - Facilities Management and Corporate Real Estate - Facilities Management Procurement - Analysis of levels in Facilities Management Delivery - Cost of Facilities Services - Introduction to and Use of Benchmarking Model-EstatesMaster - Whole life sustainability - Introduction to Cost and Sustainability Model-CombiCycle - Workplace arrangement and Management - Post Occupancy project	- Awareness of the missing links between strategic, tactical and operational Facilities Management which causes poor performance. - Understanding of the keys to effective procurement. - Ability to effectively integrate facilities management to the achieving overall corporate goal - Skill and ability to prepare and operate functional Facility Policy - Skill and ability to organize and implement efficient building maintenance services. - Skill and ability to effectively integrate Facilities Management personnel with both internal and external stakeholders - Ability to run in-out Facilities Management services as a business - Skill and ability to undertake effective performances analysis - Understanding of when to and when not to outsource - Understanding of what to and what not to outsource	Directors of Works,Procurement,Maintenance of any organization, Head of FM/Maintenance Department, Facilities Management Consultants, Shopping Complex Manager, Industrial and Commercial Building managers, Logistics/protocol officers, Estate Managers, CEO of Property Development Companies/ Housing Associations, Built Environment professionals, Facility Managers	£2500 4 days September 24-27 June 12-15

	analysis and delivery - Facilities Management Practice- Morden Concepts. - Forum Discussions - Facilitated Workshop sessions			

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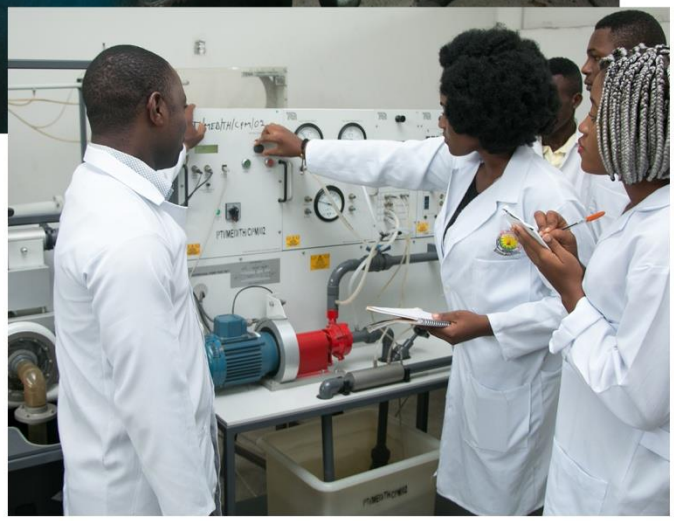
- **OIL AND GAS PROCESSING PROGRAMS**
- **OIL AND GAS TECHNOLOGY PROGRAMS**
- **MECHANICAL/MATERIAL TECHNOLOGY MAINTENANCE PROGRAMS**

Melting furnace
Mechanical Foundry Workshop

Drilling Practice
PTI Drilling Rig



Centrifugal Pump Test Set
Fluid Mechanics Laboratory

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1. Safety Laboratory
2. SPE e-Library
3. Drill Simulator 6000

OIL AND GAS PROCESSING PROGRAMS

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	PRICE DURATION/ Dates
1 **Hydrogen Production for Steam Reforming:** The course will cover all the many catalysts, absorbents and adsorbents used for hydrogen production. In general, these units have long periods of operation between shutdowns and correct catalyst loading and activation procedures must be followed to avoid unintended outages. All of the hydrogen purification options viz wash systems, methanation, PSA or membranes are covered in the course.	- Increasing the importance of the steam reformer and the reasons behind the change in emphasis - Refinery hydrogen balance. - The role of the steam reformer for the production of both synthesis gas and steam - Basic Steam Reformer Design - Water and steam systems. - Feedstock and feedstock purification - Steam reforming chemistry and steam reforming catalyst. - Reformer metallurgy - Monitoring and dealing with tube failures.	- Apply and gain in-depth knowledge on hydrogen production by steam reforming. - Identify the reasons behind the change in emphasis and considers the refinery hydrogen balance. - Distinguish the role of the steam reformer and understand the basic steam reformer design. - Heighten their awareness on catalyst absorbents and adsorbents used for hydrogen production.	Those involved in refinery process engineering, unit operations, research and development, sales and refinery technical service. Process engineers from design and construction companies as well as those who provide products and services to the petroleum refining industry will also find the course very useful and informative.	120,000 5 days Mar 5-9 May 7-11 Aug 6-10
2 **Gas Conditioning, Treatment and Processing Technology:** This course is designed to provide participants with an up – to – date overview of gas conditioning and processing technology. This includes product specification and the processes available to condition the gas in order to meet the required	Participants will learn the key physical and chemical properties of natural gas components as well as major processes such as Dehydration, Gas Sweetening, Hydrocarbon Dewpoint Control (HCDP Control), LPG Recovery and Fractionation, Sulphur Recovery and Tail Gas Clean-up.	- Gain a vast knowledge of natural gas conditioning, treatment and processing - Identify types of separators and their sizing. - Understand the importance of water content and dew point applied in gas conditioning and processing technology - Identify the formation, prediction and inhibition of hydrates and the	Participants should have a degree in science or engineering and some experience in the petroleum industry. Process engineers or operators with an interest in gas conditioning, treatment and processing	150,000 5 days Mar 19-23 Jul 2-6 Sept 3-7

specification.	Also to be covered during the course are the factors to consider in designing and selecting the major process equipment such as the Separator/Fractionator. Design and operation of process control systems, separator, absorption and fractionation facilities will be taught as well.	process of liquid desiccant dehydration. - Determine the operating variables of gas conditioning and processing technology and recognize enhanced glycol concentration and solid desiccant. - Recognize the thermodynamics of gas and utilize it for the removal of acid gases such as H2S, COS, CO2, RSH.		
3 **Filtration and Separations Technical Training - Principles, Applications and Troubleshooting:** This course reviews the science behind separation, filtration, coalescing, activated carbon absorption in addition to other related technologies as well as their applications in gas processing and refining industries. Attendees are able to better understand fundamental principles, equipment designs and modes of failure to assist in troubleshooting performance problems. Real cases will be reviewed and discussed.	This course is important for several reasons; Poor contamination control is the leading cause of process instability and losses, filtration and separation is often overlooked and poorly understood in many plants. Proper knowledge of separation systems is critical to plant performance. Lack of formal training across process industries leads to uninformed decision-making.	- Introduction to Process Separation Systems - Principles of Filtration - Filtration in Liquid Streams - Filtration in Gas Streams - Filtration Vessel Designs - Principles of Coalescence - Coalescence in Liquid Streams - Coalescence in Gas Streams - Coalescing Vessel Designs - Activated Carbon Beds - Centrifuges, Cyclones and Scrubbers - Membrane Pre-Filtration - Problem Solving - Real Cases	Process Engineers, Operations and Maintenance Personnel, Managers, Supervisors, Technical Specialists, R&D Personnel, Purchasing Personnel, Engineering & Construction Personnel, Suppliers and Consultants.	90,000 2 days April 2-3 Jul 9-10 Nov 1-2
4 **ASPEN HYSYS: Process Modelling and Simulation:** ASPEN HYSYS is the leading plant design and simulation tool for the energy industry. It is used for process optimization in design and operations in oil & gas processes. And it	This course will teach students how to build, navigate and optimize process simulations using Aspen HYSYS. They will be able to use the different functions of the software to build steady state process simulations.	- Starting with HYSYS - Equations of State - Compressor operation in HYSYS to model the compressing process - Expander operation in HYSYS to model the expansion process - Heat exchanger operation in HYSYS to model the heat transfer process - Flash separator operation in HYSYS	New engineering graduates/technologists who will be using Aspen HYSYS in their daily work, Process engineers doing process design and optimization projects and studies, Plant engineers checking plant performance under different operating conditions, R&D	210,000 5 days Mar 26-30 May 21-25 Aug 13-17

accelerates the ability of companies to bring new plants and designs to market in record time. Learn to build, navigate and optimize process simulations using Aspen HYSYS. Participants will learn the efficient use of different HYSYS functions to build steady state process simulations		to model the flash separation process - Partial oxidation reaction of methane to produce hydrogen - Develop a model that represents the water gas shift reaction - Absorber operation in HYSYS to model the absorption process - Recovery of (NGL) from natural gas	engineers and researchers using Aspen HYSYS for process synthesis	Nov 12-16
5 **Fundamentals of Distillation for Engineers (Basic):** This course is designed to introduce the principles of distillation as a diffusional separation process and describe mathematical and graphical methods for process and plant analysis and design.	- Fundamentals of vapour-liquid equilibrium - Flash distillation - Continuous distillation and the McCabe-Thiele construction, including consideration of: - The feed line - The reflux ratio - Non-ideal systems - Batch distillation - Plate distillation column design. - Multi – component distillation	- Understand vapour-liquid equilibrium - Understand flash distillation, continuous distillation and the McCabe-Thiele construction	Early-career engineers, process engineers and technical staff in the refining and petrochemicals industries.	120,000 2 days Mar 27-28 Jun 11-12 Sept 3-4 Dec 3-4
6 **Fundamentals of Distillation for Engineers (Advanced):** This course provides a comprehensive understanding of efficient distillation columns operations as well as optimization strategies implementation. Upon completion of the course, the participants will be able to know about all parameters and profiles for the analysis of a distillation column operation, master the concepts	- Operating Parameters – Definition and Significance - Fractionation Capability of an Industrial Distillation Column - Process Control Parameters - Equipment Technology and Troubleshooting	- Be able to identify, understand and explain the significance of Operating and and Process Control Parameters - Fractionation Capability of an Industrial Distillation Column - Develop skills and knowledge of equipment Technology and Troubleshooting	Engineers, process engineers, process control personnel and technical staff in the refining and petrochemicals industries.	150,000 5 days Mar 5-9 May 7-11 Aug 6-10 Nov 12-16

necessary to optimize the operation of a column, identify the performances and limits of different control systems and deepen their knowledge of the detection and effects of deficiencies.				
7 **Liquefied Natural Gas (LNG) Processing:** This course provides a comprehensive technical and economic review of the Liquefied Natural Gas industry.	Upon completion of the course, participants will be able to review the structure of an LNG chain and the world map of LNG plants, understand main LNG physical properties and specificities, assess LNG facilities' hazards and HSE issues, along with risk mitigation and prevention techniques, grasp main liquefaction processes' operating principles, conditions and constraints, gain an overview of the technology of equipment used in the LNG industry and grasp the essence of LNG markets and contracts.	- The LNG World - LNG Specific Properties and Associated Hazards - Liquefaction and Regasification Process - LNG Storage, Loading/Off – loading and Transport - Technology of LNG Specific Equipment - LNG Plant Operation - LNG Economic Aspects	Professionals involved or interested in the LNG industry: technical and managerial staff in the LNG industry, equipment providers, personnel from engineering companies, etc.	180,000 5 days April9-13 July16-20 Sept 17-21
8 **Refinery Operator Basic Training Course I:** This course provides operators with the knowledge and know-how required for safe, efficient and reliable field operations. For each equipment type, participants will be exposed to its principle, technology, ancillary systems, monitoring, basic operations, risks, safety devices, good practices. Continuous assessment - written tests and oral presentations will be	- Piping & Storage Vessels - Instrumentation and Control Devices - Heat Exchanger Equipment	- Valves, fittings, flexible hoses, safety devices/interlocks. Vessels, storage tanks. Identification symbols for various items of equipment. - Block diagrams, flow sheet, P&ID. Introduction to isometric drawings. - Field applications: equipment recognition, practical exercise of line-plotting, demonstration equipment in the workshop - Heat, energy and heat transfer. Heat exchangers: technology, main types, workings and operation. - Physical variables used in process	Operators of oil refineries or chemical plants, without any operator certification background, Technicians or staff to be retrained as operators in the chemical, petrochemical or oil industries.	250,000 10 days Mar 19-30 Aug 6-17

conducted throughout the training.		operations (pressure, temperature, flowrate, density, specific gravity). - Components of a control loop. Instrumentation: workings and operation.		
9 **Refinery Operator Basic Training Course II:** This course provides operators with the knowledge and know-how required for safe, efficient and reliable field operations. For each equipment type, participants will be exposed to its principle, technology, ancillary systems, monitoring, basic operations, risks, safety devices, good practices. Continuous assessment - written tests and oral presentations will be conducted throughout the training.	- Basic chemistry. Chemical products and chemical solutions: composition and hazards. - Distillation: principles of the separation, distillation columns. - Products. Quality control tests. Sampling. - Principles of manufacturing processes. - Plant documentation: inventory, content, usage. - Radio communication. Teamwork. - Reporting and handover duties. - Job Safety Analysis for field operators' routine activity (equipment checks, circuit alignment, sampling, etc.). - Example of procedures for equipment shut-down and start-up. - Case studies - Group work. Lessons learned. - On-site practical exercise on different processes (main equipment, operating conditions). - Role plays.	- Understand Rotary Machinery, Fluid flows, Rotating machinery field recognition, Centrifugal and positive displacement pumps, Centrifugal and reciprocating compressors. - Gain understanding of Single stage, back-pressure steam turbines, Electric motors operation. - Explain Processes – Products – Sampling & Testing – Utilities - Understand Notion of material and heat balance. - Manufacturing process diagram. - Utilities: flare network, waste water treatment, cooling water, air production. - Operators' Tools – Skills & Organization - Understand Safety Requirements for plant operations - Understand Product hazards: flammability, toxicity, physical hazards.	Operators of oil refineries or chemical plants, without any operator certification background, Technicians or staff to be retrained as operators in the chemical, petrochemical or oil industries.	250,000 10 days May 5-16 Nov 12-23

10 **Recent Developments in Oil Refining Technologies:** This course provides an up-to-date information on present and future trends of oil refining processes.	Upon completion of the course, participants will be able to get a broad vision of future from technical, safety and environmental constraints for the refining industry, quote the recent developments in oil refining processes, explain how the latest breakthroughs can help meet the new challenges.	- Refinery Products & Process Evolution Outlook for 2020 - Atmospheric & Vacuum Distillation: New Concepts - Catalytic Reforming & Isomerization - FCC: More Polypropylene, More LCO - Gasoline & Sulfur Reduction Strategies - Ultra – low Sulfur Diesel Production & VGO Deep Hydrotreatment - Hydrocracking for Vacuum Distillates & Residues - Hydrogen Balance - Thermal Conversion of Residues - Criticity of Sulfur Units	Engineers, Managers, HSE Professionals, and other oil and gas professionals	180,000 5 days Mar 12-16 June 11-15 Sept 3-7 Dec 3-7
11 **Process Capability:** Process Capability is the extent to which a stable process meets customer specifications. It applies to all businesses and industries and to aspects of life. Learn concepts that can be put to immediate use in the workplace to help you measure and improve processes. Gain an understanding of process capability and how it can be used to predict the potential failure rate from a process. Learn the statistical techniques that are used to predict the complete output of a process based on a relatively small sample. A Process Capability Analysis is a predictive tool that enables right decisions to be made based on data	- Introduction to Process Capability - Process Capability Assessments	- Determine how well a process is able to meet customer requirements by measure of process capability and identify when one process is more capable than another. - Distinguish capable from non-capable processes. - Identify how sample measurements are used to estimate population values. - Determine which Control Chart type is most appropriate for monitoring a particular process parameter. - Compute Cp, Cpk, Pp, and Ppk values for processes using continuous data. - Interpret Cp, Cpk, Pp and Ppk and relate them to a defect level. - Take relevant process information for a process using discrete data.	People with knowledge of basic statistics including measures of central tendency and dispersion, histograms, and control charts.	180,000 5 Days Apr 16-20 July 2-6 Nov 5-9

and facts. You will use practical exercises to learn how to carry out effective process capability studies.		- Calculate process assessment measurements. - Look at a powerful operation metric called Rolled Throughput Yield.		
12 **Process Variation and Control Charts:** Variation and control charts are essential metrics in business operations. Gain the abilities to analyze process variation, identify trends, shifts, and patterns, as well as key methods for interpreting control charts. Leave this course with the knowledge and ability to create and interpret control charts to use in your organization. This easy-to-follow course, with engaging narration and animation, guides you step-by-step through the process of creating and interpreting control charts. Learn how to analyze process variation and understand the differences between common cause and special cause variation. Identify trends, shifts, and patterns, the key methods for interpreting control charts.	- Introduction to variation - Analysis of Control Charts - Types of Control Charts	- Understand the differences between common cause and special cause variation - Analyze process variation - Analyze sigma level - Understand when to use various types of variable and attribute control charts - Create a control chart - Correctly interpret a control chart	Managers, supervisors, and employees who need to have an awareness of the fundamentals of quality concepts in their organization.	180,000 2 Days May 2-3 Aug 1-2 Dec 3-4
13 **Charting Process Behavior (SPC):** This course introduces basic concepts for charting process behavior using statistical process control charts. The content covered by this course is also known as Statistical Process Control (SPC). Participants will receive a basic understanding of tools and methods	- The Six Sigma Improvement Process - Measurement & Metrics - Trend Chart Toolset - Histogram Toolset - Quantifying Process Variability - SPC - Introduction and Background - SPC - Introduction to	- Understand the Six Sigma DMAIC process - Understand the basics of measurement - Construct and interpret a histogram - Evaluate process performance over time using a Trend Chart - Develop a subgrouping strategy - Construct and interpret Statistical Process Control charts for variable	Engineers, Managers, HSE Professionals, and other oil and gas professionals	180,000 3 Days Mar 26-28 July 23-25 Sept 17-19

used to measure and understand process behavior over time - in support of a Six Sigma DMAIC project or for ongoing process management. Course materials are presented within the context of a Six Sigma improvement project, where process behavior charts (control charts) are often used in the Measure, Analyze, and Control phases of the D-M-A-I-C process. However, involvement in a Six Sigma project is not a prerequisite, and no prior knowledge of Six Sigma is assumed.	Control Charts - SPC - Control Chart Limits - SPC - More On Control Limits - Implementing SPC - SPC Chart Selection - Rational Subgrouping Toolset - X and Moving Range Charts - Toolset - Attribute Control Chart Toolset - X-bar and R Chart Toolset - Related Theory - Process Capability Toolset - Advanced SPC Charts I - Advanced SPC Charts II - Exercises and Quiz	and attribute data - Perform a capability analysis - Recognize when to apply the tools and techniques to complete the measure, analyze, or control phase of a Six Sigma project - Perform calculations as required -		
14 **Basic Refining Operations:** This course is designed to give participants basic understanding of the functions and operations of petroleum refineries. It provides an essential back-ground to effective operation of the process units in a refinery.	- Review of basic Petroleum Chemistry - Properties and flow of fluids - Elements of Petroleum Refining - Tanks, Vessels and Columns - Essential Utilities. Oil Movement and Storage - Corrosion and Maintenance Problems.	- Understand refining operations - Understand fluid and flow properties - Understand process equipment, corrosion and maintenance problems.	Process Operators, Maintenance Technicians and Technologists, Oil Movement Operators, Shift Supervisors. Quality Technicians, Refiners in Vegetable Oil Plants, etc.	100,000 5 days Mar 12-16 June 4-8 Oct 8-12
15 **Natural Gas Gathering, Transmission and Distribution Management:** To expose participants to surface operations in associated and non-associated petroleum gas handling and simple principles of Gas Plant Management.	- Review and overview of world natural gas scenario. - Hydrocarbon fluids mechanics - Natural gas reservoirs/Subsurface behaviour of hydrocarbon fluids. - Gathering/Pipelines system	- Technical problems in natural gas transmission system and management/control. - Characterization and compositions of natural gas and related derivatives. - Understand Natural Gas production techniques and operation (Surface/Subsurface)	Field Operators, Technical Supervisors Engineers and Management staff involved in Gas Operations in major Petroleum Production and Service Companies, Gas Companies, Refinery Staff involved with Gas Plant Systems and Decision Makers in the Petroleum Industry.	150,000 3 days Mar 26-29 July 2-4 Sept 10-12

	design, Conceptualizationsizing and topography and route selection. - Gas Pipelines simulation/Network Analysis. - Principles and practice of hydrocarbon fluids separation. - Gas dehyadration and compression systems.	- Rotating machines and their Application/Optimization in natural gas transport.		
16 **Advanced Natural Gas Gathering, Transmission Distribution and Management:** This course provides participants with an advanced training in Gas Engineering Operation. Trainees will be exposed to an in-depth and adequate theoretical and practical Gas Systems design and principles in managing a gas operation and enterprise development.	- Applied Natural-Gas Systems and Thermodynamics Laws - Natural Gas Engineering - Natural Gas Reservoirs and Gas Wells - Natural Gas Wells Inflow Performance and Evaluation. - Applied Compressor Engineering Operations andManagement. - Energy Economics in Natural Gas EngineeringOperations. - Natural Gas Systems Process Dynamics and Control. - Natural Gas Procession and Conditioning. - Natural Gas Projects Development and Economics. - Natural Gas Project Management - L.P.G. and LNG Systems development and	- Understand units' operations in Natural Gas Operations Engineering. - Understand Applied Heat Transfer and Thermodynamics processes in natural gas Engineering. - Real Gas Laws and Super Compressibility - Understand Natural Gas Pumping Units, Auto Refrigeration and Non-Compressor Operations in Natural Gas Operations and System Management. - Understand Fundamentals of Petroleum Laws and how to manage a Natural Gas Enterprise - Relating MACHINES Operations Management - Fundamentals of Gas Projects Financing Accounts. - Gas Production Control and Management. - Natural Gas Systems Performance Auditing. - Decision Analysis and System Overall Management.	For Engineering Managers, Gas affairs managers, executive directors of operations, and managing Directors of gas companies, Chief Engineers Directors and Senior Engineers with high level Management of Operational responsibilities, Gas Operations Engineers and high level Engineers or technical manpower who may have attended the first module of this course as a pre-requisite titled "Natural Gas Gathering, Transmission and Distribution"	150,000 3 days April 2-4 Aug 1-3 Oct 22-24

	Management - Fundamentals of Petroleum Laws - Managing a Natural Gas Enterprise			
17 **Safe Application of Plant Utilities:** A practical course to acquaint staff with plant utilities generally and introduce them to their application with emphasis on safety for efficient and effective production	- Notions of Utilities - Heat Transfer, Thermal properties of matter. - Water Treatment - Electrical Equipment	- Identify and understand plant utilities - Understand heat transfer and safety issues - The role of water treatment - Understand electrical equipment utilities, use and maintenance	Utility Operators in industries such as Refinery, Petrochemicals, plastics, textile, breweries, Oil companies, blending plants, water boards, electricity generators, glass Industry, Steel plants etc.	120,000 4 days May 7-10 Oct 15-18
18 **Water Treatment Processes for Industrial and Domestic Consumption:** Operating a water treatment plant can become very tedious if basic concepts are not adequately understood. This course if designed to provide the engineer or operator the skills and knowledge to operate their water plants safely, professionally and in accordance with international best practices. At the end of this course, the trainee should be able tounderstand the principles of water treatment and thereby acquire the capability to operate their plants satisfactorily.	- Introduction to water chemistry and analysis - Basic unit operations/processes in water treatment. - Aeration, Sedimentation, Softening, Filtration, Stabilization, Adsorption, Disinfection & Iron removal - Preliminary treatment - Corrosion, protection in the water industry - Boiler-Water and Cooling water treatment - Recycling of waste water e.g. cooling water - Basic unit operations/processes in waste water recycling - (e.g. Cooling Lower) - Economics of waste water recycling	- Understand principles of water treatment - Acquire capability to operate water treatment plants satisfactorily - Understand Water treatment waste disposal - Safety in water treatment plants - Process and quality control in water treatment - Understand environmental laws on Industrial/domestic waste water treatment and discharge.	Process Engineer, Plant Operators, Production, Supervisors, Power plant and Utilities Engineers/ Operators, Government Agencies with duties related to energy etc.	150,000 5 days Apr 2-6 July 2-6 Oct 22-26

20 **Laboratory Management:** This course is designed to provide the participants with the knowledge and skills of laboratory management.	- Laboratory types, fittings and furnishings - Designing a Laboratory - Record keeping in the laboratory. - Laboratory discipline - Installing Laboratory Equipment	- Know type of laboratories and their furnishing and fittings - Understand laboratory layout - Understand the principles of designing laboratory stores. - Know the correct methods and places for Installing. - (i) Balances - (ii) Barometers - (iii) Galvanometers - (iv) Distilling units - Understand the management of stores - Understand the principles of store keeping. - Know the acquisition, Storage, and use of technical information.	Laboratory Supervisors, Laboratory Superintendent, Chemists, Laboratory managers sand other middle and senior cadres of industrial, and specialized laboratories.	100,000 5 days Mar 26-30 June 18-22 Nov 5-9
21 **Introduction to Natural Gas Technology:** This course introduces participants to natural gas technology concepts, principles and practices. Delegates will be exposed to systems, processes and controls and facilities for Natural Gas production.	- Fundamentals of Natural Gas Technology - Natural Gas Chemistry and Physics - Natural Gas Characterization and Composition - Hydrocarbon fluids Mechanics - Types of Natural Gas - Natural Gas Reservoirs / Classification - Elements of Natural Transmission - Natural Gas Processing - Elements of Gas Metering	- Understand the basic Concepts and applicable Sciences and - Mathematics of Natural Gas Technology. - The field and plants requirements, - Operational Safety requirements, - Equipment / Machinery Configuration and requirement - Recognize the Systems processes and Control requirements and facilities - Appreciate the Quality Control and Quality Assurance - Criteria, market and Customers demands.	Craftsmen, Technician, Technologists, Engineers, Marketing, Public Affairs and Finance / Accounts Personnel.	100,000 5 days Mar 19-23 Jul 9-13 Dec 10-14
22 **Natural Gas Production Technology:** This course aims to give deep	- Natural Gas Exploration Technology - Natural Gas Drilling Engineering Technology - Natural Gas Well	Understand the various model of Natural Gas Technology, source of Gas and types. Technique, Types of Natural Gas production, Control Techniques, Field	Craft men, Technicians, Technologists, Engineers, Senior Engr, Chief Engineers, Managers e.t.c.	100,000 5 days

knowledge to production personnel involved with natural gas and associated liquids to acquaint or reacquaint themselves with gas production unit operations	Completioning Technology - Natural Gas Reservoirs Technology - Natural Gas Production Tests - Natural Gas Production Control - Field handling of Natural Gas - Plant Handling of Natural Gas - Natural Gas Processing and Control - Natural Gas Storage - Natural Gas Transmission and Distribution Technology.	production, Storage, Formation Evaluation, Reserve Estimates, Production Decline, Material Balance, Volumetric. Natural Gas Exploration / Exploitation, Subsurface Operations, Surface Operations, Natural Gas Drilling Technology, Natural Gas Drilling and Well Complefuid, Gas Well Tests and Test Procedures.		Apr 9-13 Aug 27-31
23 **Basic Natural Gas Processing Technology:** This course seeks to provide delegates skills and knowledge to identify technical Problemsassociated with Gas Processing, principles of Reservoir Hydrocarbon Fluids Separation, and natural Gas Dehydration Technology/Elements of gas thermodynamics	- Elements of Hydrocarbons Nomenclature andClassification - Elements of Source Pont Phenomenon and Gas ReservoirTechnology - Hydrocarbons Systems Physical properties - Qualitative and Quantitative Natural Behaviour - Basic Natural Gas Thermodynamics - Water Hydrocarbon Phase Behaviour - Natural Gas Processing Technology - Natural Gas Conditioning and Stabilization - Systems Process control and Management	- Understand source of Gas and Types - Understand Mechanics of Natural Processing Science and Technology - Understand Justification for Gas Processing and Science of Impurities - Be familiar with unit operation of the Separator Systems - Identify Process Variables and Control - Understand Gas Scrubbing / Straining - Familiarize with rotating machines application in Gas Processing	For Whom: Craftsmen, Technician, Technologist, Engineers, Manager e.t.c.	180,000 5 days April 2-6 Aug 20-24
24 **Natural Gas Processing and Conditioning Technology:**	- Principles of Natural Gas Processing. - Elements of Heat Transfer	- Select and evaluate processes used to dehydrate natural gas, meet hydrocarbon dew point	Senior Technicians, Technologists, Engineers, Managers, Senior Managers,	120,000 5 days

This natural gas course aims to give deep knowledge to production and processing personnel involved with natural gas and associated liquids to acquaint or reacquaint themselves with gas conditioning and processing unit operations.	Technology. - Natural Gas Separator Systems Technology. - Basic Separator Component and Mechanism. - Types of Separators. - Natural Gas Processing Technology. - Natural Gas Dehydration Technology. - Natural Gas Conditioning Technology. - Technology Problems in Natural Gas Processing.	specifications and extract natural gas liquids - How to apply thermodynamic property correlations to the design and evaluation of gas processing facilities - Equipment sizing methods for major process equipment - To recognize and develop solutions to operating problems and control issues in gas processing facilities - Technical fundamentals, property correlations, phase behavior and applied thermodynamics - How to apply phase behavior principles and phase diagrams to design and operating problems - How to apply thermodynamic laws and principles to equipment design and operation	Executive Directors / MD's	May 7-11 Aug 27-31 Nov 26-30

Oil and Gas Technology Programs

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	**PRICE** DURATION/ Dates
1 **Introduction to Reservoir Engineering:** This course will provide the participants with top-notch training and practical experience on the basics of reservoir engineering. It will cover the role of reservoir engineers in exploration and production. Trainees will also learn	This course is designed to help participants develop a complete understanding of the reservoir life cycle, reservoir environment and formation properties, Darcy's Law, and API correlations. By the end of the course, participants will have gained a foundational understanding of reservoir engineering that they can use while moving forward in their training.	- Reservoir Engineering Basics - Reservoir Conditions - Understanding Reservoir and its Production Capacity - Reservoir Drive - Reserves - Participants will discuss the definition of reserves and the recovery factor – API correlation by hands on exercises on RF estimations.	The course is designed for engineers and geoscientists working in Exploration and Drilling within the scope of Reservoir Optimization. Exposure in oilfield is beneficial but not essential.	180,000 5 Days May 7-11 August 13-17

about fluid and rock properties used in reservoir engineering applications and the fundamental concepts of fluid flow in porous media. Multiphase situations, types of oil and gas reservoirs, reservoir drive mechanisms, the basics of material balance and decline curve analysis, and reserve definitions will also be discussed.		During this day, estimation of oil-in-place and gas-in-place concepts will be covered. The day will end with use of production decline curves in reserves estimations.		
2 **Practical Reservoir Engineering with Petrel and Eclipse:** Introduction to Reservoir Engineering covers the fundamentals, with a primary focus on understanding fluid flow in porous media. Participants will learn reservoir engineering based on the application of analytical techniques.		- Fundamentals & Darcy's Law - Well and Reservoir Concepts - Well Testing and Analysis - Principles of Reservoir Simulation - History Matching and Prediction	The course is designed for engineers and geoscientists working in Exploration and Drilling within the scope of Reservoir Optimization. Exposure in oilfield is beneficial but not essential.	300,000 Five (5) Days April 9-13 September 10-14
3 **PVT Properties of Reservoir Fluids:** Our PVT training focus is on the theoretical and practical understanding of key PVT concepts along with the use of some software; trainees will learn various methods for obtaining values of reservoir fluid properties from laboratory data and correlations.	Chemical properties of hydrocarbons, conventional laboratory PVT (Pressure-Volume-Temperature) tests and quality control will also be covered. Trainees will learn about phase diagrams, mixing rules, EOS, EOS tuning, and fluid properties while attending this course. Each day participants will be given examples and problems to solve. This is designed in such a way that the confidence and understanding of	- Fundamentals of PVT (Pressure-Volume-Temperature) - PVT Fluid Properties, Reporting and Evaluating - Development of Equation of State (EoS) Models - Tuning and Data Requirements - Oil Filed Applications	Operations, Production, and Reservoir Engineers	150,000 Five (5) Days June 11-15

	the participants will be greatly enhanced so as to manage problem concerning reservoir fluid properties.			
4 **Integrated Reservoir Management:** This course will focus on fundamental techniques deploy by asset management teams in modern reservoir management.	The training will span across Data acquisition, analysis, and modeling. The reservoir model, production operations, and reservoir management economics will also be discussed. Trainees will take part in case studies that include new field, mature fields, brown fields, waterfloods, and enhanced recovery projects across the spectrum of oil fields in the Gulf of Guinea. Integrated management examples for new and mature fields and for a waterflooding will be discussed in a workshop environment	- Reservoir Management Concepts and Processes - Characterization and Analysis - Statistical Analysis and Performance Analysis - Dynamic Model - Selecting a Project	Engineers, geoscientists, operating personnel, and asset team members.	180,000 Five (5) Days March 26-30 October 15-19
5 **Well Test Design and Analysis:** This course has been designed to help our trainees have a grasp of the different types of tests and techniques, both analytical and graphical, for data representation and analysis of well tests. Such techniques include diagnostic plots-derivative for draw down, and buildup tests.	Trainees will learn about the interpretation of complex data, such as those from well test in naturally fractured reservoirs, hydraulically fractured wells, horizontal wells, along with gas and gas condensate reservoirs. Each day participants will see examples of the types and techniques discussed along with practice problems.	- Types of Test Analysis - Diagnostic and Derivative Analysis - Types of Well Testing - Analysis Gas and Gas Condensate Reservoirs - DST	Reservoir engineers, production engineers, Wireline operators, BHP survey supervisors, engineers and technicians who need insight into BHP surveys and analysis and any field personnel involved with the design and interpretation of well tests	180,000 Five (5) Days April 16-20 September 17-21
6 **Enhanced Oil Recovery Processes: Chemical, Miscible and Thermal:**	Trainees will learn about different EOR processes, fundamental science and engineering behind	- Enhanced Oil Recovery Fundamentals - Phase Behavior	Reservoir and petroleum engineers, geologists, petrophyicists, workover and	180,000 Five (5)

This course presents a comprehensive summary of various technology use in chemical, miscible, and thermal enhanced oil recovery processes. The topics that are also covered include fractional flow theory, Cyclic Steam Stimulation (CSS), Steam Assisted Gravity Drainage (SAGD), and some other EOR methods (including the newly introduced hybrid processes). For each technique theoretical and practical aspects will be discussed in detail along with case studies and field examples.	EOR applications, fluid sampling, testing and characterization. They will also learn about Phase behavior fundamentals, EOR simulation process and workflow, fractional flow theory, minimum miscibility pressure and thermal recovery processes.	Fundamentals - Fractional Flow Theory - Minimum Miscibility Pressure - Thermal Recovery Processes	production engineers, researchers and/scientists, and others interested in EOR processes.	Days May 21-25 November 19-23
7 **Fundamentals of Field Development Planning:** This Field Development Planning course provides participants with an opportunity to learn the fundamental approach for working and writing a Field Development Plan. The plan is a document that is an output of a sequence of decision and discipline-based tasks designed to come up with a development plan. It is, also, a basis for coming up with a robust way of developing, producing, and maintaining hydrocarbon resources.	The participants will be introduced to all these concepts as they are applied to the process of coming up with a development plan in relation to the reservoir life cycle. This course will acquaint engineers, geoscientists, and operating personnel with the basic techniques used by asset management teams.	- FDP Overview - Reservoir Model – Static - Reservoir Model – Dynamic - Facilities, Economics and Optimization - Development Examples – New Field, Mature Field, Waterflood	Reservoir and petroleum engineers, geologists, petrophyicists, workover and production engineers, researchers and/scientists, and others	200,000 Five (5) Days March 12-16 July 9-13

8 **Waterflood Management:** This course will cover water flooding and the distribution of immiscible fluids in a reservoir.	During this course, participants will also learn about the process of immiscible displacement in a reservoir along with the waterflood pattern options and its effects on the selection and orientation of flood performance. Other concepts that will be covered include the prediction of waterflood performance by the application of classical waterflood predictions. Analytical techniques and linear fractional flow theory will be discussed. Participants will also be able to see a simulation of waterflooding.	- Introduction to Waterflooding - Performance and Processes of Waterflooding - Flow Theory and Analysis Methods - Analytical and Prediction Methods - Simulations and Field Examples	Same as above	180,000 Five (5) Days June 4-8 October 15-19
9 **Resources and Reserves Evaluation:** This course will include the presentation of various reserve estimating methodologies, to include the difference between resources and reserves. The classifications and definitions of these reserves and resources, along with a guideline for the application of these definitions will be covered. PRMS, SPE, WPC, AAPG, SEC, and other regulatory authority guidelines will be discussed.	The course will update G&G and reservoir engineers with the newest and most accurate methods for obtaining the value of a reserve. Following the completion of this course, all participants should be able to manage deterministic and probabilistic methods, with the aim of gaining a thorough understanding of various reserve levels and their equivalence in both systems	- Resource Classification - Petroleum Economics - Deterministic Reserves - Statistics, Probability, and Uncertainty - Reserve Estimation	Same as above	180,000 Five (5) Days March 26-30 August 27-31
10 **Formation Testing: Wireline and**	Experience professionals will provide participants with	- InSituPro Software and Well Pressure Testing	Same as above	300,000

LWD (Requires software; InSituPro): This five day course will consist of theoretical and practical classroom session with the last day of the course being devoted to Wireline, Logging While Drilling (LWD), and Pressure Volume Temperature (PVT) lab to see Formation Testing (FT) tools and PVT lab facilities/experiments. This course will also include all FT applications, including pressure surveys, gradient analysis, sampling and downhole fluid analysis, FT pressure transients, and FT In-Situ Stress testing.	presentations of tools, operations, and the latest interpretation advances. The participants will also have various practical exposure sessions with real data and InSituPro software. The class will be 50% classroom learning and 50% practical application with exercises, including visits to Wireline, LWD, and PVT laboratories	- IPTT and Downhole Fluid Analysis - LWD, CHDT, and In-Situ Stress Testing with MDT - Pressure Testing and Application - Visits and Review		Five (5) Days April 9-13 October 8-12
11 **Fundamental of Flow Assurance:** Optimum flow assurance design and operation requires the evaluation of all disciplines interfacing flow assurance, as well as careful consideration of the interactions between the fluid, reservoir, wells, pipelines, surface facilities, and the surrounding environment.	The participants' knowledge will be enhanced in various flow assurance problem, inorganic oilfield scale principles and fundamentals, Participants will learn about exotic mineral scale, prediction and modeling of inorganic scales, the design of a field scale management program, and recent developments in scale prevention. The problem, deposition site, impact, composition and structure, and detection of hydrates. They will also learn about characteristics, mechanisms and about various control, prevention and remediation methods of	Participants will be able to; - Describe fluid-related issues and how to obtain appropriate fluid samples to assess risk of those issues - provide understanding of what key project decisions that need flow assurance input -Knowledge of software and methods to assist in flow assurance engineering	FDP managers, operation managers of fields with long flow lines between wellheads and processing facilities, Aspiring Flow Assurance Engineers and Production Chemists and other Engineer in related fields.	150,000 Five (5) Days June 18-22 November 5-9

	parrafins and Asphaltenes. Additionally, organic deposition model and emulsions along with various forms of corrosion and mechanisms with special emphasis on CO_2 and H_2S corrosion with Corrosion inhibitor application and oilfield management guidelines.			
12 **Rock Physics – Integrating Petrophysical, Geomechanical and Seismic Measurements:** Rock Physics is a key component in oil and gas exploration, development, and production. It combines concepts and principles from geology, geophysics, petrophysics, applied mathematics, and other disciplines. Rock physics provides the empirical relationships, understanding and theory to connect petrophysical, geomechanical and seismic data to the intrinsic properties of rocks, such as mineralogy, porosity, pore shapes, pore fluids, pore pressures, stresses and overall architecture, such as laminations and fractures.	The participants will be taken through introduction to rock physics and petrophysics, while reviewing Hooke's law, anisotropy and elasti wave velocities, concept of the representative elementary volume, Voigt/Reuss and Hashin-Shtrikman bounds, Modulus-porosity relations, Gassmann's equation and fluid substitution. Also, diagenetic and sorting trends in velocity-porosity data etc, Biot theory, patchy saturation, squirt flow, pore pressure and the concept of the effective stress, fracture gradient and fracture reservoirs	Attendees will obtain an understanding of the sensitivity of elastic waves in the earth to mineralogy, porosity, pore shapes, pore fluids, pore pressures, stresses, and the anisotropy of the rock fabric resulting from the depositional and stress history of the rock, and how to use this understanding in quantitative interpretation of seismic data and in the construction of mechanical earth models	Geoscientists, petrophysicists, and engineers wishing to understand rock physics and learn how to work together in integrated teams to build geomechanical models.	150,000 Five (5) Days July 23-27
13 **Pore Pressure Prediction Methods using Techlog:** A predrill estimate of formation pore pressure is a key requirement	This course will cover the fundamental principles of pore pressure modeling and application to oil field problems. The basic concepts used in pore pressure prediction will be presented, and	By understanding how the pre-drill pore pressure model is built, and what kind of calibration data is necessary, the course participant will get a sense of how to update	Exploration and development geologists, petrophysicists, geophysicists, drilling engineers, completion engineers and reservoir engineers who need an	300,000 Five (5) Days July

for successful exploration and drilling. During the exploration phase, knowledge of the spatial distribution of formation pressures can be used to develop fluid migration models, to study the effectiveness of seals, and to rank prospects. During the drilling phase, a pre-drill pore pressure estimate allows the appropriate mud weight to be selected and the casing program to be optimized, thus enabling safe and economic drilling.	methods for estimating pore pressure using log and seismic data will be explained and discussed. The discussion will focus on deriving a calibrated pore pressure model from seismic velocities. This implies calibration with offset well data in order to derive a calibrated velocity-to-pore pressure transform.	and re-calibrate the model in real time while drilling. The following topics will be addressed: Processes responsible for abnormal pressure, Methods of pore pressure prediction and detection, Data requirements and how to deal with data gaps, Model calibration, Advantages and disadvantages of seismic and resistivity-based pore pressure prediction, Real time updating and uncertainty analysis.	essential understanding of the impact of pore pressure on drilling, wellbore stability, and reservoir management.	2-6
14 **Corrosion, Metallurgy failure Analysis and Prevention:** Corrosion Technology Centre This course aims to provide the participants with an understanding of why and how corrosion occurs, the metallurgical and environmental factors influencing corrosion, and practical methods of corrosion control and failure prevention.	Outstanding experience with corrosion modeling and testing, thorough knowledge of corrosion control and electrical principles, In-depth knowledge of Boiler, Piping and Pressure Vessel Code, Solid understanding of DOT regulations related to corrosion testing and record keeping, familiarity with corrosion testing and cathodic protection equipment. Facilitators must be either API or NACE certified.	Participants will be able to grasp the basic concepts related to corrosion, metallurgy and failure analysis, and to apply the state of the art technology in their workplace.	corrosion practitioners, failure analysis personnel, designers, technical managers, inspection and maintenance engineers, coatings and weld inspectors, quality control personnel and anyone who is interested in corrosion, metallurgy and materials failure analysis and its prevention.	210,000 Five (5) Days April 2-6 July 2-6 November 26-30
15 **API 571 Damage Mechanisms Affecting Fixed Equipment in the Refining and Petrochemical Industry (Training & Preparatory**	This corrosion short course aims to provide the participants with a thorough understanding of the various damage mechanisms contained in the latest edition of	Identification and understanding of the various damage mechanisms which will help when implementing the API Inspection Codes (API	Designers, Inspection Engineers, Maintenance Engineers, Plant Inspectors, Mechanical Engineers, and Process Engineers in the	180,000 Ten (10) Days

Class): This is a preparatory class for the candidate of API 571 certification examination. Where we cover all the topics related to Damage Mechanisms Affecting Fixed Equipment in the Refining and Petrochemical industry	API RP 571-2011 that can affect process equipment, the type and extent of damage that can be expected, and how this knowledge can be applied to the selection of effective inspection methods to detect size and characterize damage. The 66 damage mechanisms to be discussed in this corrosion short course are common to a variety of industries including refining and petrochemical, pulp and paper, and fossil utility	510, API 570, API 653) and in carrying out risk based inspection (RBI) per API 580 and API 581. When performing a fitness-for-service (FFS) assessment using API 579, the damage mechanisms need to be understood and need to be considered when evaluating the remaining life.	refining and petrochemical industries.	April 9-20 October 15-26
16 **CO_2 Corrosion Modelling for the Prediction of Internal Corrosion in Oil and Gas Pipelines and Production Tubing:** Corrosion Technology Centre This 5-day specialized practical course covers fundamentals of corrosion, key factors influencing CO2 corrosion, and all the details on CO2 corrosion modeling for the prediction of internal corrosion in oil and gas pipelines.	Course outline include fundamentals of corrosion, key factors influencing CO_2, overview , selection and comparison of various CO_2 Corrosion models etc.	The course will cover the overview of a dozen of empirical and mechanistic carbon dioxide corrosion models, CO2 corrosion model comparison, CO2 corrosion model selection, Co2 corrosion model validation and extensive hands-on modeling exercises. A practical guide for CO2 corrosion modeling strategy is also presented.	Contractors, Designers, Consultants involved in CO2 Corrosion Prediction. Engineers and technologists in charge of pipeline integrity. Technicians and maintenance personnel who deal with internal corrosion in oil and gas pipelines and production tubing.	200,000 Five (5) Days May 14-18
17 **Design and Operation of Pipeline Cathodic Protection Systems – Design, Installation, Operation, Maintenance, Survey and Monitoring:**	Corrosion and cathodic protection, corrosion potential, factors influencing the operation of a corrosion cell, cathodic protection design procedure, determining current requirements, calculation of cathodic protection circuit	Knowledge of fundamentals and practices in the design, installation operation, maintenance, survey, monitoring, and trouble-shooting of	Engineers and technologists who are in charge of pipeline cathodic protection systems. Designers who are interested in cathodic protection technology for corrosion	250,000 Five (5) Days June 25-29

Corrosion Technology Centre This 5-day course covers both the fundamentals and practices in the design, installation operation, maintenance, survey, monitoring, and trouble-shooting of pipeline cathodic protection systems.	resistances, calculation of system life and number of anodes, calculation of driving voltage, sample cathodic protection designs and system performance evaluation etc.	pipeline cathodic protection systems are targeted learning outcome	prevention of pipelines. Technicians and maintenance personnel who deal with installed cathodic protection systems.	
18 **Corrosion Control by Material Selection and Design:** Corrosion Technology Centre It is always easier and cheaper to erase lines on a drawing than to repair or replace failed equipment or components in service. The theme throughout the course is how to put the right material in the right place in the right way. Practical rules in selection of materials and design guidelines against many different types of corrosion will be presented. Numerous case histories of real-life problems and practical solutions will be discussed.	This course will cover importance of design in corrosion prevention, practical corrosion cells commonly encountered in design, material selection for corrosion control – Metals and Alloys, nonmetals, Design solutions to corrosion problems based on types of corrosion etc	Participants will learn practical rules and codes in selection of materials and design guidelines against many different types of corrosion.	corrosion practitioners, researchers, designers, technical managers, inspection and maintenance engineers, quality control personnel and those involved in failure analysis to update their appreciation of corrosion prevention through materials selection and design.	180,000 Five (5) Days May 21-25 September 24-28
19 **Oilfield Corrosion Management:** This course will cover the fundamentals, mechanisms, and the main causes of corrosion in the oil and gas production system. It will also cover the corrosion control and monitoring methods	- Corrosion Principles and classification - CO_2 and H_2S Corrosion and Corrosion Inhibition - Material Selection - Erosion - Pipeline External Corrosion	Participants will have learned how to identify the corrosion mechanism, estimate and predict the corrosion rate, select material for different corrosion environments, evaluate and select corrosion inhibitors for different corrosion environments, and	Corrosion engineers, production engineers, material engineers, and reliability engineers.	210,000 Five (5) Days May 7-11

used in the oil and gas production systems. This course will contain practical examples of these in the oil and gas industry.		estimate the erosion rate. Participants will also learn how to select the corrosion monitoring techniques and elaborate on a corrosion management plan for pipeline.		November 12-16
20 **Corrosion Control in Gas, Oil and Water:** This intensive training course examines the types of corrosion and corrosion control in the gas, oil and water industry and provides an overview of specific process descriptions and focuses on the examination and identification of metallurgical problems in process units and methods of corrosion monitoring, control and damage reduction.	- Fundamental corrosion principles and mechanisms - Types of corrosion that are related to the oil, gas and water - Materials of Construction for process applications - Corrosion Monitoring and inspection Methods - Aspects of Corrosion inspection and anti-corrosion management and mitigation -		Process Engineers, Inspectors and Inspection Supervisors, Equipment Engineers, Maintenance Engineers and Planners, Design Engineers, Service Company Representatives	200,000 Five (5) Days June 18-22
21 **Guidelines for Open Pit Slope Design 1 – Fundamentals and Data Collection:** This course presents an overview of the design process for open pit slopes. The course begins with a description and review of the fundamentals of slope design and then progresses from field data collection and QA/QC techniques through to the development of the	- Fundamental of Slope Design - Data Collection and QA/QC - Modelling, Techniques and Calibration - Slope Design Methods	Fundamentals of Slope Design Data Collection and QA/QC Modeling, Techniques and Calibration Slope Design Methods Management of open pit slopes	Geologists, Mining and geological engineers and technicians, and any other professionals involved in the process of data collection, design, monitoring and management of open pit slope, Attendees should have a basic background in rock mechanics and experience in feasibility stage projects or operating open pit mines.	150,000 Five (5) Days May 28-31 August 27-31

individual component models that are used to define the geotechnical model. The course explores different slope design methods and considerations.				
22 **Surface Facility Production Operations:** This course will provide participants with the fundamental and principles of production fluid behavior, conditioning, and processing from the wellhead to custody transfer. The participants will learn oilfield production handling at the surface, the treatment equipment, and the processes. Natural gas and oil physics characteristics, gathering system, separation, treatment, pigging, transportation, measurements, rotating equipment, vessel and piping design, and operations will all be covered to enhance operational efficiencies.	- Production Systems, Fluid Properties and Hydrocarbon Properties - Manifold and Gathering Systems - Pigging and Separation - Oil and Water treatment - Gas Treatment, Pump and Compressors	Participants will learn how to design and operate the surface facilities production equipment and processes through daily exercises.	Surface facility operation engineers, surface facility design engineers, production operation engineers, and production managers.	120,000 Five (5) Days March 5-9 September 3-7 November 5-9
23 **Petroleum Exploration and Exploitation for Non-Professionals (Existing):**	- Basic geological concepts - Petroleum exploration - Basic Petroleum Geology - Drilling Technology & Equipment - Production Technology & Equipment	At the end of the one week course participants will, know the functional operations of the Petroleum Industry; differentiate between the various	Non-technical personnel from Petroleum exploitation companies, Government agencies with duties related to oil and gas exploitation business, Journalists and gas	180,000 Five (5) Days March

	- Field gathering, treatment and storage of oil and gas - Measurement of oil & gas and reserves estimates - Refining crude oil, refining processes for gas, kerosene, petrol, diesel, etc.	operating divisions of the industry, e.g. Exploration, Drilling, Exploitation, Refining. Be acquainted with good knowledge of operational processes of each of the divisions. Update their knowledge on petroleum exploration and exploitation.	correspondents, Non-petroleum engineers, lecturers, Instructors, Technological Assistants, field operators in the petroleum industry.	19-23 September 10-14
24 **Wireline (Slickline) Operations & Maintenance (Existing):**	- Introduction - Well completion - Spacing out completion string - Surface equipment - Wireline string - Mandrels and Landing nipples - Control and Maintenance tools - Running and Pulling tools - Special Oil and Gas well problems - Safety in Wireline Operations.	At the end of the course, Production Personnel should be introduced to workover operations. Know the use of wireline, tubular and wireline for well repairs.	Engineers and Operation Supervising Geologist, Field Technicians, Managers, Petroleum Inspectors and Wireline Operators.	180,000 Five (5) Days March 26-30 May 7-11 October 15-19
25 **Fishing, Perforating and other Slickline Applications (International Standard):** The course is a practical approach to special slickline applications and detailed description of downhole tools: procedures and tools for fishing and perforating, types of landing nipples, shifting tools, plugs, circulating devices,	- Review of basic Slickline Tools and Operations - Practical Review of Tools and Plugs shifting tools, Gas lift equipment, rigging up and tubing control - Practical: Running plugs and safety valve, fishing tools, fishing tools and gas lift equipment - Braided line and pressure equipment, fishing, SL Perforating , Downhole		Engineers and Operation Supervising Geologist, Field Technicians, Managers, Petroleum Inspectors and Wireline Operators.Slick line operators and supervisors, as well as other personnel involved in slickline operations (completion and well intervention engineers and supervisors)	210,000 Five (5) Days

procedures and kickover tools for installing/retrieving GLM valves and subsurface safety valves. The course is designed for personnel initiated with basic slickline knowledge, to upgrade their ability to Skills Level in operating and supervising.	measurement and new developments			
26 **Introduction to coiled Tubing Operations:** The course overviews Coiled Tubing Equipment, Manufacturing and Applications, including operations performed with nitrogen.	- Coiled tubing equipment and well control - CT Logging, Fill Clean-Out and Job Design - Tools - Nitrogen Application	Participants will be acquainted with coil tubing surface equipment rigging up and down same and have an effective Supervision of the job at the end of the course.	All Production and Petroleum Personnel	120,000 Five (5) Days March 12-16 August 13-17
27 **Coiled Tubing Operations:**	- Introduction - Coil Tubing Surface equipment - Computation for field operation - Downhole tools - Coiled tubing services - Drilling - Testing - Completion - Production - Workover	Participants will be acquainted with coil tubing surface equipment rigging up and down same and have an effective Supervision of the job at the end of the course.	All Production and Petroleum Personnel	180,000 Five (5) Days April 16-20 September 3-7
28 **Elements of Petroleum Exploration (Existing):**	- Introduction to Basic Geology - Exploration Methods - Principles of Seismic Exploration - Origin of Petroleum/Petroleum Geology - Basic Structural Geology	To expose the participants to the fundamental operations in the Petroleum Industry	Non-technical staff from the public and private sectors.	120,000 Five (5) Days March

	- Formation Evaluation - Sedimentology & Stratigraphy			12-16 June 11-15 November 26-30
29 **Terminal Operations for Crude Oil Export:**	- The Nigerian crude oil export market and procedures. - Crude oil marketing in Nigeria, development, trends and prospects. - Petroleum product knowledge, sampling and analysis techniques. - The characteristics of Nigeria's Crude Oil. - Terminal operations storage and measurement techniques. - Crude oil terminal operations, Records/Documentation, Reporting Techniques and Procedures. - Meter proofing - Safety and fire fighting in terminal operations. - Crude oil pipeline and Marine Transportation. - The Law of contract and the sale of goods Acts. - Petroleum Marketing Laws and Regulations in Nigeria. - Communication skills, techniques and Methods of effective Terminal export operations.	On completing this course, participants would appreciate, update and improve upon their knowledge, skills and abilities in the various Terminal Operations for Crude oil export.	Crude oil marketers, Depot supervisors and Managers, Crude Oil Marketing Terminal/Depot, Task Force Officials, Crude Oil exporters and their representatives.	150,000 Five (5) Days March 5-9 June 4-8 November 5-9

	- Basic Management concepts and Techniques for effective Terminal operations for Crude Oil Export.			
30 **Crude Oil Custody Transfer Operations:**	- Crude oil chemical and physical properties - Static measurement of crude oil - Fiscalisation of crude oil storage tanks. - Positive Displacement Meter/Lact Units - Dynamic Flow Method of Crude Oil Measurements - Automatic Sampling Device - Crude Oil Gauging and Sampling Methods - DPR Procedure guide for static measurement of crude oil volumes by tank gauging. - Test and Analysis of crude oil. - Types of Storage tanks.	To update the skills, practices and principles of the course participants in petroleum measurement as it affects custody transfer in Nigeria.	Operating Engineers, Chemists, Laboratory Technicians, Operating Personnel, Terminal Operators etc.	150,000 Five (5) Days March 5-9 July 2-6 November 12-16
31 **Basic Reservoir Engineering:**	- Reservoir fluid properties - Reservoir rock properties - Fundamental of fluid flow - Reservoir classification - Reservoir Drive Mechanism - Well performance - Oil Displacement concept - Reserve estimation etc.	To help the participants to develop a more complete understanding of the Oil and Gas reservoir characteristics. At the end of the course the participants would understand fluid and rock properties, development plan, classification, drive mechanism and production of the reservoir. All these would help the participants to take or make useful decision/suggestions in	Geologists, geophysicists, engineers, engineering trainees, production personnel, technical managers, technical assistants, technicians, chemists, physicists, technical supervisors, service company personnel, sales representatives, Data processing personnel and supporting staff whose work has to do with reservoir.	150,000 Five (5) Days March 12-16 April 23-27 September 10-14

		reservoir development.		
32 **Basic Well Testing:**	- conditions in respect of well testing - Different types of Sub-surface well testing. - Analysis of results. - Field Importance of Well Testing - Surface Well Testing - Reservoir application of the results.	To give the participants a sound theoretical background in well testing. At the end of the course, the participant would appreciate the field operations.	Geoscientists, technical personnel whose jobs have to do with well testing. Supervisors and technicians from servicing and operating companies	150,000 Five (5) Days February 19-23 June 2-6 October 22-26
33 **Crude Oil Treatment Techniques in the Oil and Gas Industry:**	- Introduction. - Chemistry of Crude Oil. - Crude Oil Flow Station Circuit. - Characterization of Crude Oil. - Crude Oil Emulsions - Treatment Methods - Thermal Treatment - Chemical Treatment, etc	At the end of the Course, Participants will be able to understand Crude Oil Impurities and their Effects, Flow Station Circuits, and become knowledgeable in all methods of Crude Oil Treatment Techniques	Production Engineers, Field Chemists, Field Supervisors, Technologists, Technicians, Gaugers, e.t.c	120,000 Five (5) Days June 4-8 October 8-12
34 **Drilling Fluid Technology- Theory and Practice:**	- Introduction - Clay And Clay Chemistry - Drilling Fluid Classification and Preparation. - Fundamental Characteristics of Drilling Fluid. - Drilling Fluid Testing Procedures, Equipment and Parameters - Drilling Fluid Contaminants And	At the end of this Course, Participants will be able to understand the Basic Techniques used in Characterizing and Preparing Drilling Mud and be able to identify Various Mud Contaminants and the Additives Suitable for Mud	Mud Engineers, Mug Loggers, Technologists, Technicians, etc	150,000 Five (5) Days March 26-30 July

	Additives - Drilling Fluid Conditioning Techniques (mud Treatment) - Mud Problem Identification And Solving	Treatment.		9-13
35 **Well Control:**	- General Information - Pressure Concepts - Causes of kick and kick indicators - Kill Methods - BOP equipment hook up and test procedures - Well control from a floating vessel - Stripping and Snubbing - Gas kicks and Regulations	At the end of the course, the participants should be able to appreciate the importance of pressures control in drilling, recognize kicks and their warning signals, rigging up and testing of well control equipment, know the rig personnel in well control and pass the qualifying well control examination.	Rig Senior personnel, Drillers and assistant, Rig personnel; Rig services personnel, Mud engineers, Mud Loggers, ADT, etc.	180,000 Five (5) Days March 5-9 June 11-15 September 24-28
36 **Basic Well Completion:**	- Introduction - Completion types configuration - Completion Tubular - Subsurface completion equipments - Spacing out completion strings - Basic work over Operations	At the end of the course, the participants should be able to identify completion configurations, know the factors considered in well completion, know spacing out completion tubular, identify completions equipments and knowing basic work over operations.	Petroleum Engineers, Completion Personnel, Production & Workover technologist & Technicians, Well Head Services Personnel, Oil & Gas Policy makers, etc.	150,000 Five (5) Days February 19-23 June 18-22 October 15-19
37 **Seismic Data Acquisition, Data Reduction and Quality Control:**	- Introduction. - Data Acquisition Survey Design. - Acoustic Impedance and Reflectivity.	At the end of the Course, Participants will be able to execute 2D, 3D, 4D Seismic Survey and access the	Geologists, Geophysicists, Engineers, Supervisors, Executives and Managers, etc.	150,000 Five (5) Days

	- Common Dip Point (CDP) Stacking, Normal Movement (NMO) Correction. - Data Acquisition Operations and Survey Design Principles. - Computer Application.	Quality of Field Data.		April 2-6 September 10-14
38 **Basic Formation Evaluation:**	- Introduction - Principles of Well Logging for Reservoir Exploration. - The Borehole and its environment - Logging Methods (Physical Principles, Petrophysical Background) - Interpretation	At the end of the Course, Participants will be able to understand the Basic Principles of Wireline Logging, its Operation and Interpretation in Evaluating Reservoirs.	Managers, Executives, Engineers, Geoscientists, etc. with little or no background in Formation Evaluation.	150,000 Five (5) Days February 19-23 July 2-6
39 **Best Practices of Enhanced Oil Recovery (EOR) Projects:** The training course is designed to provide attendants with solid understanding of different design aspects, types, screening criteria, and field application of current and advanced types of Enhanced oil Recovery (EOR) processes. Today, it is better to apply EOR in a secondary mode. This training course presents basics, applications, problems, uncertainties and field development of each EOR method. Reservoir characterization	- Rock and fluid properties for better reservoir characterization - How to screen actual reservoir to select the suitable EOR method - Different types, sub-types, and results of EOR field cases (chemical, miscible, and thermal) - Required data, lab design approach, and analysis of different EOR methods - Current industry simulators and new advancements of EOR methods -	- Describe and apply different EOR processes - Reservoir characterization and screening actual fields for EOR methods - How to maximize oil recovery using Mobility Ratio and Capillary Number - Chemical EOR: polymer, alkaline-polymer, and alkaline/surfactant/polymer - Miscible and thermal EOR techniques and new advancements in EOR techniques -	Petroleum, Production & Reservoir Engineers, Processing engineers & other discipline engineers, Geologists &Petro-physicists, Engineers who are new to the profession, Other individuals who need to know about EOR technologies	150,000 Five (5) Days March 12-16 August 27-31

techniques required for EOR will be explained and compared. Detailed EOR methods will be covered with many actual field cases worldwide will be presented and discussed. The course is designed as an interactive learning environment of lecturing, industry videos, and screening field cases.				
40 **Applied Coring and Well Logging for Enhanced Reservoir Characterization:** This unique training course is designed to provide deep understanding of core analysis and well logging for better reservoir characterization. Accurate measurements of routine and special (RCAL & SCAL) rock properties using core analysis and well logging reveal good evidence of hydrocarbon presence, reservoir storage capacity and flow capability. Coring and well logging offer the most tangible and direct means of determining critical reservoir parameters for making important and critical decisions about reservoir management and/or development plus enhanced oil recovery projects.	- Design of coring program and coring protocol - Routine and Special Core Analyses (RCAL & SCAL) - Laboratory measurements of different rock properties - Well logging methods, interpretations, and applications - Rock properties from well logging for clean and shaly formation - Integration of various data for better identification of reservoir flow units -	- Design good coring program and minimize rock alteration - Determine rock properties using routine and special core analyses - Interpret, and apply different logging methods for clean and shale reservoirs - Integrate/correlate core and log data for well correlations - Apply different techniques for identification/characterization of flow units. -	Petroleum Engineers & Reservoir Engineers, Geologists, Petrophysicists, and Geophysicists, Geological engineers & other discipline engineers, Engineers who are new to the profession and other individuals who need to know about current & advanced techniques of in reservoir characterization	150,000 Five (5) Days March 19-23 October 22-26
41 **Elements of Land Surveying:**	- Introduction. - Surveying Equipment.	At the end of the Course, Participants will be able to	Construction Site Managers, Engineers, Geologists,	100,000

	- Surveying Techniques - Computation - Field Practice - Safety.	understand the Basic Principles of Land Surveying, Process and Compute Survey Data.	Explorationists, Survey Assistants, etc.	Five (5) Days April 26-30 October 8-12
42 **Elements of Open-Cast Mining Operations:**	- Introduction. - Basic Elements of Excavation. - Open Cast Excavation Tools/Equipment. - Basic Fragmentation Techniques - Mucking. - Beneficiation Techniques. - Ore Reserve Estimate. - Safety.	At the end of the Course, Participants will be able to understand Basic techniques in Open Cast Excavation.	Managers and site construction Engineers, Supervisors, Field Operators, Foremen, Drillers, Drilling Assistants, Pickers, etc.	100,000 Five (5) Days May 7-11 October 15-19
43 **Explosives and its Environmental Effects:**	- Introduction. - Chemistry of Explosive. - Principles of Rock Fragmentation. - Storage and Transportation. - Environmental Effects. - Safety.	At the end of the Course, Participants will be able to understand Basic Principles of Explosives and manage Explosives, Fragmentation and its Effect on the Environment.	Quarry Managers, Engineers, Supervisors, Foremen, Blasters, Safety Officers, Drillers and Pickers, etc.	100,000 Five (5) Days March 12-16 August 20-24
44 **Drilling Technology:**	- Origin of Petroleum/Reservoir Traps - Exploration Methods - Basic Formation Evaluation - Casing & Cementation - Workover Operations - Principles of Hole-making	At the end of the course, participants should be able to understand the basic principles of hole making, solving encountered hole problems, Well Control & Workover operations	Technical Personnel (Drillers & Assistant Drillers), Rig Supervisors, Floor men, Workover Technologists/Technicians, Oil & Gas Policy Makers	120,000 Five (5) Days February 19-23

	- Introduction to Well Control			June 11-15 August 20-24
45 **Mud School –PTI Learning Centre:** The core content of this course will cover all the main pillars of drilling fluids activities linked to drilling and completion operations, with safety best practices being a primary focus throughout the course. This course will be articulated around detailed theoretical knowledge for drilling fluids (both WBM and OBM) and completion fluids, followed by hands on practical experiments in a dedicated laboratory environment.	- School Induction and Drilling Fluid Functions - Basic Chemistry of Drilling Fluids - Clay Chemistry and Composition - Polymers and Their Function - Rheology - Standard Mud Tests with Lab Session - Composition of Water Based Drilling Fluids with Lab Session - Water Based Systems and Additives - High Performance and HPHT Water Based Muds with Lab Session - Filtration Control with Lab Session - Mud Contamination and Treatment with Lab Session - Lost Circulation with Lab Session – Basic Mud Check - Corrosion - Solid Analysis with Lab Session - Safety Data Sheets (SDS or MSDS) with Lab Session - Oil and Synthetic Based Mud Products and Systems - Standard Mud Tests for OBM/SBM	The Training Officer will set step by step learning objectives for the participants, in order to capitalize from the acquired theoretical knowledge. The laboratory is fully equipped for Water and Oil based fluids applications. As an overall indication, the course content will be around 60% theoretical and 40% practical with experiments in the training laboratory.	Drilling Engineers, Drilling Supervisors, Production Engineers, Drilling Fluids Supervisor and Drilling Fluids Superintendent.	450,000 Thirty (30) Days

	- Lab Session – Conventional and Synthetic Muds - Lab Sessions – Oil Systems with Relaxed or High Filterate and Megadril – All-in-one Emulsifier Package - HPHT Challenges, Applications and Systems - Solid Control Equipment and Drilling Waste Management - Solid Control and Drilling Waste Management with Lab Session - Lab Sessions: Build Bentonitic Mud System and Build a Polymer Mud System - Stuck Pipe Problems - Lab Session Methylen Blue test and Effect of Solids Content on Mud properties - Hole Cleaning and Lab Session for WBM Problems - Reservoir Drill-in Fluids and Completion Fluids - Well Clean Up and Displacement Procedures - Lab Session – Final Lab Session – Treat contaminated Mud System.			

Course Title and Introduction	**Course Content**	**Learning Outcomes**	**Target Audience**	**PRICE** DURATION/ Dates

46 Practical Training in Crude Oil Analysis: A practical training course in Crude Oil Analysis covers the characterization of Crude oil product for the purpose of quality determination. The crude oil analysis classifies the crude product as sweet or sour and whether it is heavy, medium and light. It determines its market value base on estimate product yields during refining.	- Introduction to formation chemistry of crude - Density, Specific gravity and API gravity (Hydrometer Method ASTM D1298) - Water and Sediment in Crude oil (centrifugal method ASTM D4007) - Water in crude oil by distillation (Dean & Stark Method ASTM D4006) - Pour Point of petroleum oils (ASTM D97) - Vapour pressure of petroleum products (Reid Method ASTM D4323) - Flash point by pensky-martens closed tester (ASTM D93) - Salt in crude oil (Electrometric Method ASTM D3230) - Sulphur content (ASTM D1551) - Metal content in crude (ASTM D2788)	-Identify the equipment used in the determination of the parameters shown in the course outline -Describe the processes involved in determining each of the parameters. -Identify the standard methods (e.g. ASTM, IP etc) determination for each of the parameters -Carry out the determination of each of the parameters -Identify relevant standards/specifications for quality definition of the parameters	Petroleum analysts, Scientist, Petroleum refining officers, Laboratory Managers, Petroleum marketers, Chemists, Oil regulators and Law enforcement officers.	180,000 5 days April 9-13 August 27-31
47 Practical Training in Petroleum Products Analysis: A practical training course in Petroleum Products Analysis identifies key performance as well as safety parameters as quality indicators of the products. Quality of the is imperative for effective use, storage and custody transfer as well as in setting government regulation for products control and monitoring.	Introduction to petroleum products classification and their chemistry. Density, Specific gravity and API gravity (Hydrometer Method ASTM D1298) Water in Petroleum products by distillation (Dean & Stark Method ASTM D95) Pour Point of petroleum oils (ASTM D97) Vapour pressure of petroleum products (Reid Method ASTM D323) Flash point by pensky-martens closed tester (ASTM D93) Aniline point (ASTM D611) Smoke point Kerosene (ASTM D1322) Kinematic viscosity (ASTM D445)	-Identify the key performance parameters as well safety parameters for each products -Describe the processes involved in determining each of the parameters. -Identify the standard methods (e.g. ASTM) determination for each of the parameters -Carry out the determination of each of the parameters	Petroleum analysts, Scientist, Petroleum refining officers, Laboratory Managers, Quality control officers in Petroleum Laboratory, Petroleum marketers, Chemists, Oil regulators and Law enforcement officers	180,000 5 days May 7-11 October 22-26

	Conradsoncarbon residue (ASTM D189) Total Acid number (ASTM D664) Cetane Number (ASTM D976) Copper corrosion (ASTM D130) Metal content in crude (ASTM D2788)	-Identify relevant standards/specifications for quality definition of the parameters -Ascertain quality products as well as the adulterated ones		
48 Practical Training in Potable Effluent Water Analysis: The course Identifies specific equipment and or method used to determine the certain parameters in potable and wastewater from industrial discharges. The values are used to match against standard specification values issued by regulators. It is very paramount for healthy living, safe and sustainable environment.	The following parameters will be determined: - pH and conductivity - Turbidity - Total suspended solids and total dissolved solids - Alkalinity - Hardness as carbonate and bicarbonate - Chloride - Nitrates - Oil and grease - DO - Chemical oxygen demand (COD) - Metal content - TPH - BTEX - PAH - Coliform bacteria - BOD	-Identify relevant parameters that determine the quality of potable as well as effluent water -Determine the parameters spelt out in the course outline -Identify and use the appropriate equipment and methods needed for each test -Ascertain the quality of both potable and effluent through comparison with standard Values (WHO, DPR etc)	Scientists, Technologists, Water plant operators, Environmentalists, Water engineers, Laboratory regulators, Chemical analysts, Quality control officers and Managers in tertiary institutions, Research centers, industries as well as private sectors	180,000 5 days March 19-23 September 24-28
49 Quality Assurance and Quality Control for Analytical Laboratory: A training course in Quality Assurance and Quality Control prepares Analytical Laboratory and personnel to	Selecting and validation of analytical methods and standard operating procedures Traceability procedure Key performance criteria in quality assurance procedure Components of good quality control	-Develop quality assurance manual and design implementation and management program -Design and implement quality	Scientists, Technologists, Laboratory auditors, Laboratory regulators, Chemical analysts, Quality control officers and Managers in tertiary institutions, research centers, industries as well as private sectors	100,000 5 days April 16-20

be highly meticulous in job planning, execution, validating, review and documentation. Known QA/QC measures instituted in work programmes assures confidence for acceptability of result or products administered to the public.	program Quality control and proficient testing program System suitability and specification Quality standard and regulation VAM Principles Accreditation requirement Documentation and review	assurance record requirements -Prepare laboratory for ISO 17025 accreditation -Identify relevant components of standard operating procedure and develop additional SOPs -Conduct an effective internal laboratory audit and inspection		November 19-23
50 Instrumentation, Application, Use and Maintenance of Atomic Absorption Spectrophotometer (AAS): Atomic Absorption Spectrometer (AAS) is the best technology for metal determination from all samples ranging crude, water, soil limestone etc. The course highlights sample preparation methods like dry and wet.	-Basic and advanced concept of Atomic Absorption Spectrophotometer. -Components of Atomic Absorption Spectrophotometer. -Principle and operation of Atomic Absorption Spectrophotometer. -Preparation of Standard, Calibration and Data interpretation -Sample collection, storage and preparation -Application of Atomic Absorption Spectrophotometer. -Troubleshooting and maintenance of Atomic Absorption Spectrophotometer.	-Explain the science of atomicity -Identify the various components of AAS -Describe the working principle and operation of the instrument -Prepare working standards and calibrate AAS -Prepare all forms of samples for metal analysis using AAS -Determine metal using AAS -List various areas of application of AAS -Carry out basic care and maintenance of AAS	Scientists, Technologists, Chemical analysts, Quality control officers and Managers in tertiary institutions, research centres, industries as well as private sectors	180,000 5 days June 11-15 October 8-12

51 Instrumentation, Application, Use and Maintenance Of High Performance Liquid Chromatography (HPLC): High Performance Liquid Chromatography (HPLC) is one of the latest technologies for assay and fingerprinting of organic sample. A good separation and detection methods employed in the industry.	-Basic concept of HPLC technique. -Methods of analysis -Application of HPLC. -Troubleshooting and maintenance of HPLC -Methods of sample preparation -Different methods of clean-up for HPLC -Preparation methods of standards for HPLC. -Column efficiency performance test -Installation methods for HPLC. -Operational techniques for HPLC	-Explain the process of chromatographic and other separation methods -Identify the various components of HPLC -Describe the working principle and operation of the instrument -Prepare working standards and calibrate HPLC -Prepare all forms of samples for analysis using HPLC -Determine and estimate sample using HPLC -List various areas of application of HPLC -Carry out basic care and maintenance of HPLC	Scientists, Technologists, Chemical analysts, Quality control officers and Managers in tertiary institutions, research centers, industries as well as private sectors	180,000 5 days March 26-30 August 27-31

Mechanical/Materials Technology & Maintenance Programs

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	PRICE DURATION/ Dates
1 **Process Plant Troubleshooting and Engineering Problem Solving:** This intensive 5 Days training course is a must if your company's goals include reducing costs and preserving the lives of your employees because it delivers a wide range of pro-active, efficient troubleshooting skills. It has been proven that technical competence alone is no longer enough to ensure consistent operational performance. Excellent troubleshooting skills are considered a core competency for 'Best-in-Class' modern industrial companies.	- Introductory Concepts - Tools and Techniques – Practical Experience - Managing change via the Transition Matrix - Cross functional problem solving - Development of Maintenance strategy - Life Cycle Analysis, - Design for Operation, Design for Maintenance - Variability Analysis - Strategies; Planning; and Protocols - Concepts, Tools and Techniques applied to problems	- Appreciate the difference and consequences between pro-active and reactive problem solving - Develop a structured approach to troubleshooting and problem solving - Understand continuous improvement in the way you run your processes - Implement teamwork and leadership principles; support and cooperation practices - Understand work practices which "allow" success in troubleshooting and problem solving -	•Employees who are responsible for leading and directing people to achieve and improve productivity levels •Those faced with the challenge of solving plant related problems •Production, Maintenance Engineering and Process Engineering personnel •Supervisors who are involved in the Operations / Maintenance function •Planners, Coordinators, Engineers and Technologists	180,000 5 Days March 12-16 August 27-31
2 **Maintenance Management Best Practices:** Maintenance Management Best Practices are critical for every successful individual and company. This comprehensive 5-day training course has been designed to benefit both qualified new professionals as well as experienced professionals who might need to refresh their skills. It covers all the fundamentals of Maintenance Management that a suitably qualified professional would be expected to carry out during his duty starting with the first steps and building up in a stair case fashion to a fully functional maintenance organisation.	- An Overview of Key Maintenance Work Processes - Maintenance Management Systems - Preventive Maintenance and Maintenance Strategy - Maintenance Logistics and Cost Control - Introduction to Life Cycle Cost Concepts - Maintenance Team Work - Implementing Team Based Continuous Improvement in Maintenance	- To instruct Maintenance Management optimization best practice techniques - To provide opportunities to discuss the application of these best practices - Provide an opportunity to learn these concepts through practical exercises -	It is highly recommended that all Maintenance, Reliability, Engineering and technical support staff including leadership and management attend this PTI training course. If you and your company are interested in greatly increasing productivity, this will be a very valuable training course.	150,000 5 Days April 2-6 August 6-10

3 **Maintenance Management & Technology Best Practices:** Maintenance Best Practices are critical for every successful individual and company. This comprehensive 2 – weeks training course has been designed to benefit both qualified new professionals as well as experienced professionals who might need to refresh their skills. It covers all the fundamentals of Maintenance that a suitably qualified professional would be expected to carry out during his duty starting with the first steps and building up in a stair case fashion to a fully functional maintenance organisation.	- Systems, Tools & Techniques - An Overview of Key Maintenance Work Processes - Maintenance Management Systems - Preventive Maintenance and Maintenance Strategy - Maintenance Logistics and Cost Control - Introduction to Life Cycle Cost Concepts - Maintenance Team Work - Implementing Team Based Continuous Improvement in Maintenance - Module 2 Inspection, Analysis & Monitoring - Failure of Machines and Inspection Based Failure Analysis - Statistical Failure Analysis and Reliability - Condition Based Maintenance - Machinery Condition Monitoring - Vibration Analysis	- To provide a step-by-step guide to maintenance best practice starting with foundations and building up to best practice that will deliver maximum business benefits - To instruct Maintenance optimization best practice techniques - To provide opportunities to discuss the application of these best practices - Provide an opportunity to learn these concepts through practical exercises -	It is highly recommended that all Maintenance, Reliability, Engineering and technical support staff including leadership and management attend this training course. If you and your company are interested in greatly increasing productivity, this will be a very valuable training course.	250,000 10 Days July 9-20
4 **Maintenance Technology Best Practices: Inspection, Analysis & Monitoring:** Maintenance Best Practices are critical for every successful individual and company. It is the job of the maintenance professional to optimise the maintenance effort using a structured and systematic approach. This training course covers all the fundamentals of Maintenance that a suitably qualified professional would be expected to carry out during his duty starting with the first steps and building up in a stair case fashion to a fully functional maintenance organisation.	- Failure of Machines and Inspection Based Failure Analysis - Statistical Failure Analysis and Reliability - Condition Based Maintenance - Machinery Condition Monitoring - Vibration Analysis	- A solid understanding of Maintenance optimization best practice techniques - An understanding of a range of equipment failures and their implications to the operational organisation. - The ability to design a maintenance plan for the upkeep and maintenance inspections of static and rotating plant. - A practical approach to developing an action plan to utilise these technologies in their own areas of responsibility, fitting them into the	This comprehensive 5-day training course has been designed to benefit both qualified new professionals as well as experienced professionals who might need to refresh their skills It is highly recommended that all Maintenance, Reliability, Engineering and technical support staff including leadership and management attend this training course. If you and your company are interested in greatly	180,000 5 Days April 9-13 September 10-14

		overall maintenance strategy, and measuring benefits -	increasing productivity, this will be a very valuable training course.	
5 **Process Equipment & Piping Systems: Design, Operation, Failure Evaluation & Repairs:** This Process Equipment & Piping Systems training course is designed to provide practical aspects of the mechanical design of pressure vessels, storage tanks, thermal equipment, piping systems and fluid transport machinery. This training course will discuss the performance of these components under various operating conditions including in-depth explanation on the process of material degradation such as corrosion, erosion, fatigue and others that may lead to component failure.	- Overview of Design Features of Process Equipment and Piping System - Overview of Operation Issues of Components of Process Equipment - Failure Modes and Fracture Mechanisms - Design and Operation of Fluid Handling Equipment - Repairs, Alterations and Rerating of Process Equipment	- Understand the safe design and operation of pressurized process equipment - Follow the procedure for inspection and testing of process equipment - Apply the fundamental concepts and strategies to prevent failures - Use the best practices of FFS to estimate the remaining life of operating equipment - Select the methods of repair and alteration of pressurized process equipment	Process, Mechanical and Chemical Engineers Operation and Maintenance Engineers Project Engineers, Supervisors and Managers Technical Personnel involved in inspection	200,000 5 Days June 4-8 October 8-12
6 **Rotating Equipment: Start-up, Operation, Maintenance, & Troubleshooting:** This intensive training course will introduce delegates to different types of pumps, compressors, turbines and associated equipment, such as bearings, seals, filters, separators, etc. The focus of the training course will be on the start-up and operation of these machines and their optimal maintenance, diagnostics and troubleshooting techniques.	- Principles of pump, compressor and turbine start up and operation - Best practices for maintenance and repair - Measurement and control of performance of these machines - Inspection and diagnosing the root cause of problems - Troubleshooting techniques for operational problems of pumps, compressors and turbines -	- Understand different types of pumps, compressors and turbines. - Operate pumps, compressors and turbines close to the design efficiency. - Monitor pump compressor and turbine reliability and availability and cost effectiveness - Select the best operation and maintenance strategy - Troubleshoot pump, compressor and turbine problems	Technical Personnel in charge of production Maintenance and Operation Engineers Operators Supervisors Engineering Managers	150,000 5 Days March 26-30 November 5-9
7 **Process Engineering Essentials: Upstream & Downstream Process Control &Optimization:**	- Introduction and Fundamentals of Process Engineering - Hydraulics and Fluid Flow - Heat Transfer and Reaction Engineering	- Understand fundamental principles used in processes and facilities. - Apply practical understanding of hydraulics and fluid flow.	Plant/Operations Personnel and Managers Petroleum Engineers Production Engineers Trainee Process Engineers	180,000 5 days May

The Process Engineering Essentials training course in is well-matched to those professionals and practitioners who require familiarity not only with chemical engineering principles, but also with many of the other engineering disciplines including mechanical, electrical and instrumentation. This is essential since Process Engineering is at the heart of much of the chemical, oil, gas, and petrochemical industries. Process Engineers are interested in the transportation and transformation of solids, liquids and gases. In the oil and gas sector, of specific importance are separation processes including distillation, heat transfer, hydraulics and fluid flow, reaction engineering, but also process control and economics. This training course focuses on the central areas of process engineering and guides the delegates in developing both fundamental and practical understandings of key issues.	- Distillation Processes and Equipment - Process Control and Economics -	- Apply learning from historical safety incidents. - Perform relevant calculations & analyses to assist in operation, sizing, & troubleshooting. - Develop perspective & focus from a company viewpoint of interaction of different engineering disciplines. -	R&D Chemists, Plant Chemists Economists and Business Managers	7-11 August 13-17
8 **Process & Mechanical Engineering Essentials:** This intensive and combined training course focuses on the central areas of Process and Mechanical Engineering and guides the delegates in developing both fundamental and practical understandings of key issues. Process engineering is at the heart of much of the chemical, oil, gas, and petrochemical industries.	- Module 1 Process Engineering Essentials: Upstream & Downstream Process Control &Optimization - Introduction and Fundamentals of Process Engineering - Hydraulics and Fluid Flow - Heat Transfer and Reaction Engineering - Distillation Processes and Equipment - Process Control and Economics - Module 2 - Mechanical Engineering Essentials: Rotating & Static Equipment & Structural Integrity - Module 2: Mechanical Engineering Essentials: Rotating & Static Equipment & Structural Integrity	- Apply practical understanding of central issues in process & mechanical engineering in oil, gas, petrochemical, chemical, and allied facilities - Understand fundamental principles used in processes & facilities & apply practical understanding of essential process units & classes of units involved in separations, heat exchange & reactions. - Apply practical understanding to static & rotating mechanical equipment & related condition mentoring & inspection techniques. - Understand mechanical testing	Petroleum Engineers Maintenance & Production Engineers Process Engineers R&D Chemists, Plant Chemists Economists & Business Managers	250,000 10 Days June 11-22

	- Introduction & Fundamentals of Materials Selection, Types & Failures - Static Equipment, Valves, Piping & Fitness for Service - Rotating Equipment, Pumps & Compressors - Corrosion & Corrosion Protection - Code and Standards, Condition Monitoring &Non Destructive Inspection techniques	methods, Failure Mechanisms & Fitness for Service, NDT & principles of corrosion & corrosion protection. - Perform relevant calculations & analyses to assist in operation, sizing, & troubleshooting of chemical processes & mechanical equipment. -		
9 **Decision Analysis for Operation & Maintenance Professionals:** This comprehensive training course examines techniques for decision analysis with emphasis on prioritization and the decision-making process to be carried out by Operation & Maintenance Professionals. Decision-making is the most central human activity, intrinsic in our biology and done both consciously and unconsciously. We need it to survive. Taking a decision is not just a question of selecting the best alternative. Often one needs to prioritize all the alternatives for resource allocation among a portfolio of option, or to examine the effect of changes introduced to initial judgments. We need to set priorities on these solutions according to their effectiveness by considering their benefits, costs, risks, and opportunities, and the resources they need.	- Breaking a problem down into its constituent parts or components, in the framework of a hierarchy - Establishing importance or priority to rank the alternatives is a comprehensive & general way to look at the problem in a formal manner - Application of multi criteria decision-making (MCDM) to practical problems - Introduction to different operational research & management science methods - Enhance decision-making with goals and criteria & show how to measure and rank them -	- Improve productivity through use of better, timelier information - Understand how world-class organisations solve common asset management problems - Optimise planning and scheduling resources, carry out optimised failure analyses - Optimise asset management budgets by avoidance of unplanned equipment failures in service - Develop a practical approach of an action plan to utilise these technologies in their own areas of responsibility -	Operation and Maintenance Professionals Key Operations Supervisors Internal Improvement Consultants	180,000 5 Days May 14-18 November 12-16
10 **Mechanical Engineering Essentials: Rotating & Static Equipment & Structural Integrity:**	- Materials selection, testing and failure - Corrosion principles and protection - Static equipment including pipes and valves	- Understand Failure Mechanisms & Fitness for Service associated with engineering materials. - Have a sound understanding of corrosion mechanisms and	Technical & non-technical personnel in the chemical, petrochemical, oil & mechanical industries with a need to understand and	180,000 5 Days March 19-23

The Mechanical Engineering Essentials training course will enable Technical personnel to familiarise not only with sound engineering principles, but also with other engineering techniques including inspection; monitoring and condition evaluation. This intensive training course is designed to allow individuals working in fields such as mechanical, process and petrochemical engineering, and other related fields, an opportunity to update their skills and improve their basic knowledge of modern Mechanical Engineering skills.	- Rotating equipment including pumps and compressors - Condition monitoring, inspection & NDT (Non-Destructive Testing) -	protection against corrosion. - Develop their knowledge of static equipment related to piping systems and valves. - Consolidate their understanding of rotating equipment including pumps and compressors. - Appreciate topics related to condition mentoring, inspection and Non-Destructive Testing. -	discuss fundamental mechanical engineering issues Maintenance and project engineers, production engineers, trainee mechanical engineers and plant operators Non-experienced personnel needing a basic understanding of Mechanical Engineering concepts	June 25-29 September 24-28
11 **Process Control Valves and Actuators: Sizing, Selection, Installation & Maintenance:** The Process Control Valves and Actuators training course has been designed to take all plant employees (regardless of their background knowledge), and build them up to be versatile and proficient in the use and operation of the various control valves, as well as the devices that are used to operate the control valves, themselves. This training course has been designed to focus on applications and practical examples that would be deemed relevant, and the working environment of the delegates will be very carefully enquired about, so that all exercises remain work-related, for the delegates	- Essentials and characteristics of control valves - Actuators, positioners and other related hardware - Sizing and selection, using various techniques - Valve installation and maintenance - PID Tuning methods used on processes, that make use of control valves -	- Recognize and understand how a valve works - Appreciate the different types of valves available - Apply valve sizing techniques, using software and other methods of calculation - Appraise the advantages and disadvantages of various types of positioners - Experiment with correctly tuning a control valve -	Process Control Engineers, Electrical Engineers, Mechanical Engineers, Industrial Engineers, Designers and the like	180,000 5 Days March 5-9 July 23-27 October 15-19
12 **Process Utility Systems: Operations, Maintenance and Optimization:**	- Knowledge for selection of different process plant utilities: steam, water, compressed air, refrigerants, inert gas, fuels, electricity and others	- Understand the operation and maintenance of main process plant utilities - Analyse optimization of steam	Plant operators dealing with process utilities Maintenance Professionals Plant facility engineers	180,000 5 Days

The Process Utility Systems training course will feature the importance and relevance of process utilities used in today industrial operations. It will familiarise the delegates with the various practices used for selection, operation and maintenance of various equipment used in process utilities. It will be demonstrated how these utility systems are efficiently integrated into oil and gas facilities. This training course will also cover important practical aspects useful for engineers and operators in dealing with their basic utilities, including maintenance and troubleshooting of equipment and components.	- Types of equipment used to run process plant with different utilities. - Basic aspects of steam generation and distribution, water handling, compressed air utilization and other process utilities - Different types of equipment used to run process plant with different utilities. -	generation, utilization and distribution - Evaluate parameters of water preparation systems - Determine the correct selection criteria for compressed air systems - Optimize the use of refrigeration, inert gas, fuel supply and electric systems -	Technical Managers Process Supervisors Inspection Personnel	May 28-31 August 13-17
13 **Mechanical Equipment: Compressors, Pumps, Seals, Motors, and Variable - Speed Drives:** This Mechanical Equipment training course will provide a comprehensive understanding of equipment operating characteristics. It will introduce delegates to essential types of mechanical equipment, including positive displacement and dynamic pumps and compressors, motors and drives and their associated systems and components. The applications of these equipments will be discussed along with their suitability for different operational duties and selection criteria. In addition, the seminar will focus on associated equipment including packing, mechanical sealing systems, bearings and valves. This training course will focus on maximising the efficiency, reliability, and longevity of this equipment by providing a thorough	- Pumps and pumping systems - Compressors and compression systems - Motors and Variable Speed Drives - Discussion of associated equipment such as mechanical seal design, bearings, & valves - Condition monitoring and Predictive Maintenance techniques	- Identify the different types of pumps & compressors, & learn about selection, operation & maintenance strategies. - Operate pumps & compressors as close as possible to the design efficiency & monitor their availability & reliability. - Identify & learn about associated components such as mechanical seals & bearings & identify their failure mechanisms. - Condition, monitor and troubleshoot pump and compressor problems. - Specify, operate and maintain fluid movers (Motors) and drivers (Variable Speed Drives). -	Professionals in Maintenance, Engineering and Production Those with little or no prior formal background who function as Managers, Planners, Inspectors, Designers, Researchers, Investors or Procurers Those who are or will become involve at any stage in project applications and applicable maintenance technologies	180,000 5 Days April 23-27 August 6-10 November 12-16

understanding of the characteristics, common problems, condition monitoring and maintenance criteria related to machinery and equipment operation.				
14 **Certified Quality Inspector Certification Preparation:** This comprehensive training course prepare the delegate for ASQ's Certified Quality Inspector (CQI) exam that includes industry-relevant content, pertinent examples and exam-style practice questions. Use the printable PDF for quick and easy reference during your preparation. The course reviews all the topics in the CQI Body of Knowledge (BoK) so that you can reinforce your current knowledge, refresh concepts and applications that may not be used in everyday work and strengthen your exam preparation process.	Technical Mathematics - Measurement Systems - Numeric Conversions Metrology - Common Gauges and Measurement Instruments - Calibration Inspection and Test - Blueprints, Drawings, Geometric Dimensioning & Tolerancing (GD&T) Quality Assurance - Basic Statistics and Applications - Statistical Process Control	- Review the content covered by the four sections in the Certified Quality Inspector BoK - Guide your study by identifying your specific areas of strengths and weaknesses as it pertains to the CQI BoK - Become familiar with questions similar to those on the ASQ Certified Quality Inspector exam	The CQI certification preparation course is an excellent tool for anyone interested in preparing for and pursuing the CQI certification. Note that the questions in this product are not actual ASQ exam questions. Your performance on the exam simulation is for study purposes only and may or may not reflect performance on an actual certification exam.	180,000 5 Days June 25-29 October 22-26
15 **Certified Quality Technician Certification Preparation:** Reinforce your current understanding of the Certified Quality Technician (CQT) Body of Knowledge. Get practice in applications that may not be used every day and become familiar with "exam-style" questions throughout the course.	Quality concepts and tools Statistical techniques Metrology and calibration - Measurement and test equipment (m&te) - Calibration Inspection and test - Blueprint reading and interpretation - Inspection concepts Quality audits Preventive and corrective action	- Understand the content covered by the six main domains in the ASQ Certified Quality Technician Body of Knowledge (CQT BoK). - Practice the concepts contained in the ASQ.CQT BoK. - Become familiar with questions similar to those on the ASQ CQT exam. -	This material is designed to aid quality technicians or individuals looking to achieve their CQT certification. Attendees of this course should have some prior knowledge of statistics, metrology, calibration, and inspection and test, as this course is designed as a review of the subject areas needed for the CQT exam.	180,000 5 Days May 19-23 September 17-21
16 **Fundamentals of Quality Inspection:** In this course you will learn the skills and knowledge required for quality inspection	Technical Math Metrology Engineering Drawings - Drawing Types - GD&T	- Understand what is required for quality inspection - Know how inspection fits in a QMS - Learn basic math for quality inspections	Those new to quality inspection or wishing to refresh their knowledge of quality inspection, This material follows the ASQ Body	180,000 3 Days May 2-4

and how inspection fits in a quality management system. Learn the basic math required including algebra, geometry and trigonometry. You will understand inspection plans and sampling methods. Learn how to read engineering drawings including the symbols, terms, notes and views associated with the drawings as well as the basics of geometric dimensioning and tolerancing system.	- Sampling Inspection - AQL Sample Inspection Quality Assurance and Improvements - Control of nonconforming material - Basic Statistics and applications - Statistical Process Control (SPC) - Process Capability (Cp) - Quality Improvement PDCA, tools and techniques - Lean and six-sigma methods	- Know equipment and its use - Read engineering drawings - Learn basics of GD&T - Understand inspection plans and AQL sampling methods -	of Knowledge for Certified Quality Inspector and is a good first step for those may be considering certification in the future.	August 1-3 October 29-31
17 **Quality Assurance and Quality Control in Engineering Design and Practice:** In this course you will learn the skills and knowledge required for quality inspection and how inspection fits in a quality management system. The course also provides an introduction to basic concepts for charting process behavior using statistical process control charts, (SPC). Participants will receive a basic understanding of tools and methods used to measure and understand process behavior over time, and also learn how quality fundamentals can transform your organization. Review and apply the commonly used quality tools and techniques for problem solving and process improvement. Build basic quality awareness and competency in your organization and set a foundation on which you can build more advanced quality methods and tools. Increase your knowledge and understanding of how to	Historical perspective - The Need for Quality - What is Quality? - Advantages of Quality Systems - Quality Codes and Standards Quality Management (Planning, Control & Improvement) - Basic Statistics and Applications - SPC - Quality Audits - Quality Improvement - Quality Tools and Techniques - Understanding Variations Inspection, Test and Process Capability - Blueprints Interpretation, Geometric Dimensioning & Tolerancing (GD&T) - Inspection Techniques and Processes - Process Capability - Relative Capability - Capability Studies Quality in Engineering Design	- Understand how quality benefits employees, the organization, and customers. - Review and apply the commonly used quality tools and techniques for problem solving and process improvement. - Construct and interpret Statistical Process Control charts for variable and attribute data - Perform a capability analysis - Recognize when to apply the tools and techniques to complete the measure, analyze, or control phase of a Six Sigma project - Perform calculations as required - Understand the differences between common cause and special cause variation - Analyze process variation -		180,000 4 Days April 2-5 August 20-23 November 26-29

use quality practices and principles.	- The Taguchi's Approach - Areas of Application of Quality in Engineering - Case Studies			
18 **The Complete Course on Facilities Management: Facilities Management Specialist:** This highly popular training course features how to establish, implement, manage and continually improve your facility department to get the best out of your facilities within the given boundaries of costs, performance and other important factors during its total lifetime. This training course is designed to develop delegate's skills in managing facility staff and corporate assets while minimizing risk exposure in the workplace. As the Facilities Management (FM) function continues to evolve, this training course offers the latest thinking in the profession, right balance between asset performance (functionality, availability, reliability, safety), and will tackle specific issues encountered on the ground and apply best practices in discussing real solutions.	- Proper knowledge of the basics principles of facilities management - How to apply best practices according to several norms - Understanding how to operate and maintain facilities as a "business within a business" - Sharing of facilities management experience - Insights regarding current state of facilities management processes and possibilities to improve them	- Understand the basics of facilities management - Understand how to draw up a preventive maintenance concept, based on risk - Develop strategies to decide when and what to outsource - Understand the different contract types - Identify and monitor the facilities management-processes performance -	Professionals who are responsible for the management, operation and maintenance of facilities (buildings, production facilities, utilities, power and water distributions networks landscaping, etc.) Professionals aiming to update themselves on the basic elements, best practices and implementation aspects of facilities management.	250,000 5 Days May 14-18 September 17-21
19 **Asset Integrity Management for the Petroleum Industry:** This is a highly informative training course with the concept of Asset Management (AM) in the offshore and onshore industry (ISO 55000). Then, it focuses on the concept of AIM (i.e. design, technical and operation integrity) in the safeguarding of operational	Asset Integrity Management - Introduction to concept of Asset Management& Asset Integrity Management - International standard on Asset Management: ISO 55000 Risk & Risk Assessment - Identification & assessment of risk	- Manage assets in petroleum industry in sustainable and safe manner - Assess & control Asset Integrity of operational assets in production & process systems - Perform integrity management on topside and sub-sea systems - Realize overall asset process in a systems engineering perspective	Engineering Asset Management & Asset Integrity Management personnel, Technical Safety personnel, Engineers involved in maintenance and modification projects, Inspection and maintenance analysis and planning personnel, Project managers	200,000 5 Days May 28-31 August 20-24

system. The approaches to reliability centered maintenance (RCM), failure mode effect and criticality analysis (FMECA), risk-based maintenance (RBI), inspection of static process equipment, maintenance planning of rotating equipment, mitigate the challenges due to human factor, effective project management strategies, etc. are delivered.	- Risk management: using the risk matrix, risk register & hazard log Risk Based Maintenance - RBM, RCM & FMECA - Failure behaviour of onshore & offshore systems Life Cycle Management Aspects - Systems Engineering & RAMS specification - Life time extension - KPI's The Way Forward: Improvement Plan Workshop - Assessment of current Asset Management performance (specific aspects) - Drawing up an improvement plan / individual improvement plans to optimize the cost/ benefits -	- Use of adaptive technologies and techniques in engineering projects -	and project engineers, Technical discipline responsible personnel	
21 **Facility Management and Maintenance:** This is a course designed for Facility Managers and Office Personnel. It is intended to give them the know-how to effectively manage the physical assets and to implement maintenance best practices as part of integrated facilities management in their organization. It provides an overview of the latest tools and techniques for facilities maintenance and asset management, their benefit and potential pitfalls and when and how to apply them for maximum impact on the growth and performance improvement of the	- Property and Facilities Management? - Developing Facilities Management Strategy - Procurement of FM services - Operational Management - Asset Management - Maintenance Management - Managing Office Workplace - Performance Review - Whole Life Economics Space - Financial Management in FM - Management Information Systems - Risk Management in FM - Sustainability in FM - Troubleshooting Emergency		The course is designed for facility managers, officer administrator and those performing similar responsibilities in the management of assets in organizations. It is also suitable for young and middle level personnel transitioning to facility management responsibilities.	250,000 3 Days June 4-6 October 3-5

organization.	Recovery - Managing Information Systems in FM			
22 **Reliability, Availability and Maintainability (RAM) FOR OIL AND GAS OPERATIONS:** This training course introduces participants to best practices, principles and processes for RAM in oil and gas operations	- Reliability, Availability and Maintainability - Reliability & Maintenance - RAM Methodology - RAM Case Studies -	- To understand and apply the Reliability concept. - Understand and apply the Availability concept - Understand and apply the Maintainability concept - Understand and implement the RAM methodology applied to different asset lifecycle phases. - Understand how to organize and assess the historical failure and repair database. - Understand how to use specialist opinion to predict Reliability and maintainability. - Understand and apply the methods to define type Probability Density function (PDF) in order to predict PDF parameters, reliability, failure rate. - Be able to model the equipment in component level applying RBD and FTA. - Understand the effect of preventive maintenance and inspection in equipment reliability and operational availability. - To understand and apply the concept of preventive maintenance optimization, that means, define the preventive maintenance interval which leads to the minimum cost (LCC) with higher operational availability. - To understand how to integrate	Asset Managers, Maintenance Managers, Production Managers;Reliability Engineer/Maintenance Engineer/ Supervisor;Rotating Engineer/ Static Engineer/Supervisor; Design Engineer/Production Engineer;Everybody who wants to broaden knowledge and interest in this topic.	180,000 5 days April 23-27 October 15-19

		FMEA, RCM and RAM analysis to support asset management. -		
23 **BASIC HYDRAULIC COURSE:** The Basic Hydraulics training course covers hydraulic principles of mechanical maintenance, types of hydraulic fluids and their characteristics. Describes components of the hydraulic system and their functions for maintenance procedures, including filters and strainers, reservoirs and accumulators, pumps, piping, tubing and hoses, control valves, relief valves, and actuating devices. This hydraulics course covers a variety of cylinders and training on hydraulic motors.	- Introduction - Principles of hydraulics - Fluid Power Concepts - Schematics and Symbols - Hydraulic Circuitry - Safety Tips -	- Understand hydraulic principles - Explain schematics and symbols - Understand fluid power concepts - Understand hazards and risks	This course is designed for maintenance technicians, electricians, millwrights, supervisors, reliability technicians and anyone who is responsible for the hydraulic maintenance of your plant machinery. The course will also benefit those graduates who may want to develop their career in Maintenance plant machineries.	150,000 3 days May 2-4 August 1-3
24 **ADVANCED HYDRAULIC COURSE:** An advanced Hydraulics training course covering hydraulic principles of mechanical maintenance, types of hydraulic fluids and their characteristics. Describes components of the hydraulic system and their functions for maintenance procedures, including filters and strainers, reservoirs and accumulators, pumps, piping, tubing and hoses, control valves, relief valves, and actuating devices. This hydraulics course covers a variety of cylinders and training on hydraulic motors.	- An Overview of Basic Hydraulics - Hydraulic Circuit Components -	- Reading and Understanding Hydraulic Drawings - Maintenance of Hydraulic Circuit - Troubleshooting	maintenance technicians, electricians, millwrights, supervisors, reliability technicians and anyone who is responsible for the hydraulic maintenance of your plant machinery. The course will also benefit those graduates who may want to develop their career in Maintenance plant machineries.	180,000 3 days June 26-28 October 29-31
25 **Pipeline Operations and Maintenance:** Pipeline systems for oil and gas industry play important role in modern industrial	Overview of Technical Characteristics of Pipelines - Overview of main elements of oil and gas pipeline systems - Selection & sizing of pipelines:	- Identification of basic principles of safe operation & efficient maintenance of pipelines for various industrial applications. - Developing deep understanding &	- Process, chemical and mechanical engineers working in petrochemical and process industry, including oil refineries and	200,000 5 Days April

operations. The purpose of this training course is to present basic characteristics of efficient operation of pipelines in various engineering applications This training course will cover the interaction of pipelines with flow moving equipment, i.e. pumps and compressors and technical characteristics of operation of pump and compressor stations The delegates will be introduced to main points of inspection and testing according to relevant API standards	- Use of ASME B31.G - Pipeline materials - Pipeline flow and measurements Operation & Material Degradation - Erosion, corrosion & stress corrosion cracking - Corrosion Direct Assessment: External (ECDA) and internal (ICDA) Methods - Pipeline protection - Metal loss inline inspection (ILI) and smart pigging (NDT) monitoring - Pipeline fatigue, cracks, seam defects and ruptures Operation & Safety Management - Safety & Instrumentation, - Pipeline failure prevention & root cause analysis - Leak detection methods (LDAR) and patrolling & surveillance: SCADA - Inspection (RBI), Hydrostatic test methodology Maintenance Technologies - Pipeline reconditioning - Vibrations and support integrity - Repair technologies - Maintenance of valves, fittings and accessories - Valve repair: hot tapping, temporary plugging (stopple) Testing & Monitoring in Operation - Hydrostatic testing - Reliability and availability of pipelines in operation	familiarity with the practical aspects of operation and maintenance activities. - Illustrate the concepts discussed and be provided with necessary experience in applying them. - Use & follow the guidelines & best industrial practices related to operation, control, inspection & testing of pipelines. -	gas production companies where operation and maintenance of pipelines are high importance - Operation, technical service and maintenance professionals from various processing plants involved in everyday operation, control, inspection and maintenance of pipelines - Engineers and consultants dealing with planning of new production lines and retrofitting plants and introducing new technologies - Technical professionals responsible for maintenance and repair of equipment -	23-27 November 19-23

	- Risk based inspection (RBI) - Fitness for Service (FFS) - Estimate of remaining life of equipment			
26 **Pump and Valve Maintenance:** Pump and valve preventative maintenance can save you the costly expense and headaches of unscheduled downtime. This course is designed to provide support engineers and technicians the knowledge and skills needed to keep pumps and valves operating at peak efficiency.	- General Principles of Machinery Maintenance. - Fundamental Principles of Fluid Flow and Control. - Pump Operations and Maintenance. - Valve Drives and Transmission. - Pipes and Piping. - Automatic Control Systems. - Pumps and valve Maintenance Demonstration.	To enable participants to understand basic principles and operations of pumps and valves. Diagnose faults and remedies.	Marine Engineers, Marine Superintendents, Diesel Engine Technicians/Fitters, Supervisors and other Engineering Personnel interested in Diesel Engine.	120,000 5 Days March 12-16 August 6-10 November 26-30
27 **Diesel Engine Maintenance:** This practical training course is intended to provide support engineers and technicians working in power plants, petroleum industries, and fleet management and maintenance. It will show how to safely use diesel engines economically, safely and environment friendly. The training will emphasize the application of related recommended operation and maintenance practices advised by the most reputable manufacturers and by the relevant standards, focus on proper diesel engine selection for specific jobs, retrieval and interpretation of data from diesel engines manuals.	- General Principles/Overview of Internal Combustion - Engines (ICE). - Operation of Diesel Engines. - Classification of Diesel Engines. - Construction and Basic Design. - Details of Design Parts. - Combustion Chamber Types. - Fuel Injectors and Injection Systems - Atomizing Fuel - Cooling System - Exhaust System - Filters-Air and Fuel - Stating and Cooling System - Governors - Maintenance-Reconditioning Diesel Engine/Workshop Activity - Maintenance-Tune-Up and Trouble Shooting/Workshop - Activity - Maintenance/Workshop Activity/Demonstration	To give the participants a complete picture of General Diesel Engine Specification, Diesel Engine Components, and their Functions/Maintenance.	Marine Engineers, Marine Superintendents, Diesel Engine Technicians/Fitters, Supervisors and other Engineering Personnel interested in Diesel Engine.	120,000 5 Days April 9-13 June 18-22 November 12-16

	- Glossary of Technical Terms and Technical Data			
28 **Machine Vibration: Monitoring and Control:** All physical structures and machinery that are associated with dynamic components or parts give rise to vibration. The vibrations generated in machinery or structures by its dynamic components have become a well utilized parameter for condition monitoring – Predictive Maintenance. It has been established that a change in the physical or running condition of mechanical systems, almost always result to a corresponding change in the vibration characteristics produced by them. By measuring and analyzing such vibrations, we obtain vital information about the mechanical condition of the mechanical system. This course therefore will introduce participants to monitoring Causes of vibration Effects of vibration, and Control of vibration	- Introduction to vibration and causes of machinery failures - Fundamental Principles of Vibrations - Vibration and Machinery condition - Cause of Vibration - Vibration Monitoring - Effects and control strategy of vibration - Alignment. - Lab Demonstration Activity.	This training is designed to equip participants with the fundamentals of vibration with special emphasis on: Causes of vibration Effects of vibration, and Control of vibration	This course is designed for engineers, maintenance technicians, electricians, millwrights, supervisors, reliability technicians and anyone who is responsible for the hydraulic maintenance of your plant machinery. The course will also benefit those graduates who may want to develop their career in Maintenance plant machineries.	120,000 5 Days May 7-11 September 10-14 November 5-9
29 **Maintenance of Hydraulic and Pneumatic Machines:** This course covers hydraulic & pneumatic principles of mechanical maintenance, types of hydraulic fluids and their characteristics. Describes components of the hydraulic/pneumatic system and their functions for maintenance procedures, including filters and strainers, reservoirs and	- Historical Overview - Principles of hydraulics & Pneumatic systems - Fluid Power Concepts - Schematics and Symbols - Hydraulic & Pneumatic Circuitry - Safety Tips - Hands on maintenance workshop	- Understand hydraulic &pneumatic principles - Explain schematics and symbols - Understand fluid power concepts - Understand hazards and risks -	This course is designed for maintenance technicians, electricians, millwrights, supervisors, reliability technicians and anyone who is responsible for the hydraulic maintenance of your plant machinery. The course will also benefit those graduates who may want to develop their career in	120,000 5 Days March 12-16 September 17-21

accumulators, pumps, piping, tubing and hoses, control valves, relief valves, and actuating devices. This course covers a variety of cylinders and training on hydraulic motors.			Maintenance plant machineries.	

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Computer Lab for CBTs

Instrumentation
& Control Lab
Speed Control Unit

Chemical Analysis Lab

Filling Station Mart for Marketing Students

2018 PROFESSIONAL &
SPECIALIZED TRAINING COURSES

OIL & GAS BUSINESS MANAGEMENT PROGRAMS
INFORMATION TECHNOLOGY MANAGEMENT PROGRAMS
HEALTH, SAFETY AND ENVIRONMENT PROGRAMS
ELECTRICAL, INSTRUMENTATION & MAINTENANCE PROGRAMS

1

2

3

1. **Engine Test Bed** [Unit Operations Lab]
2. **Valve Maintenance Practice**
3. **Mechatronics Workshop**

Oil and Gas Business Management Programs

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	PRICE DURATION/ Dates
1 The Petroleum Industry: From Upstream to Downstream : This comprehensive oil & gas training course recognizes the need for professionals to have a comprehensive and broad understanding of the Petroleum Industry from A to Z - from upstream to downstream. Oil and gas are the world's most important energy resources driving the global economy. The processes and systems required for oil and gas production, refining and distribution are highly complex, capital-intensive and require state-of-the-art technology. This training course will serve as an introduction to the petroleum industry and will greatly assist those who need to progress to a detailed knowledge of the industry.	- Details of oil & gas processing including exploration, refining, storage transportation and retailing - Understanding of the value chain from the well to consumer - Understanding of the fundamental technologies of both upstream and downstream oil & gas industries - Understanding of the ways the oil & gas industries are organized to operate effectively and efficiently - Develop the necessary skills to evaluate and make effective decisions related to the oil & gas industry -	- Identify key process operations related to the exploration & production of upstream industry feedstock - Analyze the key process operations related to refining and production of downstream products - Recognize the total spectrum of the oil and gas industry and the challenges faced - Develop skills to assist in the evaluation of corporate opportunities - Understand the structure of the oil and gas business	Technologists, Mechanical engineers, Safety and Inspection engineers, Operations, Maintenance or project engineers and anyone requiring a broad understanding of the structure, operations and economics of the oil and gas industries	150,000 5 Days Mar 27-31 Aug 21-24
2 Service Station Management: This course is designed to give participants a fundamental foundation in the operation of a service station	- Introduction to Service Station - Management Principles for Service Station - Health Safety and Environment management in a Service Station	Delegates will be acquainted with and be able to implement the applicable principles performing maintenance functions, forecourtmanagement,the operational management requirements to execute an overall control system as part of the	Service Station Managers/Supervisors, Company Retail/Sales Managers, Sales Representatives, Dealers, Petroleum Marketers, Service Station personnel and other	150,000 4 Days Mar 19-23

with emphasis on leadership, time management, analytical thinking, problem solving skills, sales orientation, and how the employee impacts the customer experience.	- Pump Maintenance - Forecourt Management - Employee Management - Customer Care - Record Keeping and Stock Taking - Accounting Principles	operational strategy to successfully manage a service station in the petroleum industry.	professionals in the downstream sector of the oil and gas industry	Aug 20-24
3 Crude Oil Marketing: Operations and Regulatory Compliance: This course focuses on the dynamics of the crude oil market and is designed for all participants in the crude oil marketing value chain; depot supervisors/managers, oil marketers, regulators and others who might want to gain professional and up-to-date insight on how the crude oil market works and the attendant opportunities.	- The Nigerian Crude Oil Market: Trends, opportunities and Challenges - Petroleum Marketing Legislations and Regulations in Nigeria - Sales of Crude Oil in Nigeria: Procedures and Legal Framework	- Understand the crude oil market in Nigeria - Understand petroleum marketing legislations and compliance requirements -	Service Station Managers/Supervisors, Company Retail/Sales Managers, Sales Representatives, Dealers, Petroleum Marketers, Service Station personnel and other professionals in the downstream sector of the oil and gas industry	180,000 4 Days April 9-12 Oct 8-11
4 Leadership Strategy - Crisis Management, Problem Solving & Decision Making: Considering the challenges bedeviling the oil and gas and other allied sectors in Nigeria, a demand exists for leaders who can understand the intricate nature of the environment in which their organizations conduct business, identify potential conflicts, proffer solutions and make the right decisions. This course is designed to arm the current or emerging leader with the skills necessary to meet this demand in the global business terrain.	- Leadership Styles and strategies - Crisis Management - Gap analysis, need assessment and problem awareness - Problem solving techniques - Regulatory Compliance Management - Risk identification, analysis and management - Planning and Goal Setting: Strategy and Execution - Decision Making process and communication skills	- Identify individual Leadership Styles and strategies - Know how to manage crisis and proffer workable solutions - Gain modern Problem-solving skills and techniques - Understanding corporate social responsibility - Improve Decision Making process and communication skills	Top Management, HR Managers, Administrators, Supervisors, Managers, Team Leaders, Business Owners/Executives and other professionals.	180,000 3 Days April 2-4 July 2-4 Nov 5-7

5 Petroleum Depot Operations Management: This course is designed to meet the skill requirements of personnel working in petroleum depot operations. Attendees will gain knowledge of best practices/guidance on day to day operations of depots, roles and responsibilities, applicable construction/design codes and standards and developing required control measures.	- Depot Operations: Overview - Depot Construction and Design: Technical Codes and Standards - Product Quality Control - Record Keeping: Stock Accounting and Control - Risk Identification and Management - Emergency Preparedness and Contingency Planning - Product receipts, handling and storage - Equipment Integrity: Maintenance and Calibration	- Understand depot operations - Understand product accounting procedures - Understand HSE principles for depots - Understand equipment integrity and maintenance issues for depots	Depot Managers, Service Station Managers/Supervisors, Company Retail/Sales Managers, Sales Representatives, Dealers, Petroleum Marketers, Service Station personnel and other professionals in the downstream sector of the oil and gas industry.	200,000 4 Days April 23-26 Nov 26-29
6 Negotiation Skills for the Petroleum Industry: This highly-interactive workshop demonstrates a structured approach to effective negotiating and introduces Breakthrough Negotiation Strategy to achieve results in difficult and complex negotiations. Participants will, practice the negotiation techniques in real oil and gas scenarios, learn how to improve communication skills to achieve better results and become a more effective negotiator in both contract content and style of negotiation.	- Negotiation Process and Negotiating Outcomes -Communication and Human Behavior in Negotiations -Bringing the Deal to a Successful Conclusion -Conflict Management Styles	- Understanding the Negotiation Process and Negotiating Outcomes - Understand human behavior and proper communication techniques -Understand how to close deals during negotiations -Understand best practices for managing conflict	Oil & Gas Lawyers & Contract Negotiators who want to refresh their negotiating skills Commercial, Technical and Legal Managers & Executives who are expected to undertake or support major negotiations. Professionals and support staff working with contracts and agreements or working in project teams from across the industry	150,000 3 Days Mar 19-21 June 11-13 Oct 29-31
7 International Oil and Gas Law: This course offers participants the	-Overview of World Petroleum Agreements and the Oil and Gas Industry -Jurisdictional issues and the	Understand the legal aspects of the oil and gas industry and be able to utilize same to improve business decisions.	Petroleum Managers, Legal Managers, Top Management, Contract Managers, other professionals	180,000 3 Days

opportunity to study the legal aspects of the oil & gas industry, develop a practical expertise, and confidently identify potential legal problems, address them before they become serious, and facilitate the smooth interaction between oil and gas professionals, host government representatives, and their lawyers.	international legal framework -Tax and Fiscal Policy: Harvesting sovereign resources -Decommissioning -Contractual Risk Management -Environmental Regulation, Renewables and the emerging onshore sector			May 7-9 Nov 26-28
8 Gas Business Analysis, Development and Financial Management in Nigeria: This course offers participants the opportunity to understand and analyze gas business, its development and marketing and financial requirements as relates to the Nigerian market.	-Overview of the global petroleum, oil & gas Industry -Gas business analysis and development -Marketing, Transportation & Distribution of Petroleum (Gas) -Financial Management, Statement & Analysis -Statistics for Decision Making -Industry Regulation, Deregulation & Convergence -Managing Petroleum Price and Volume -Leadership, Strategic Planning & Implementation -Petroleum Industry Accounting and Taxation -Effective Business Communication -Petroleum Contracts & Economy -Project & Risk Management -Legal Aspect of Petroleum, Oil & Gas	- Understand the Gas Business in Nigeria - Identify Gas Business Opportunities in Nigeria - Analyze the gas market in Nigeria and make recommendations for expansion - Understand marketing of gas in Nigeria - Understand the financial aspects of gas market - HSE and management in the gas industry	Business Managers, Gas Managers, Professionals and support staff working with Gas Businesses in project teams from across the industry.	200,000 4 Days May 21-24 Nov 26-29
9 Introduction to Petroleum Economics:	-Petroleum economics theory based on discounted cashflow -Key economic metrics for	- Engage with decision makers using their language - Calculate the profitability of a	Managers, Engineers, and professionals looking to develop their understanding of	150,000

This course will introduce a variety of fundamental petroleum economic principles including revenue, expenditures, fiscal systems, risk analysis, and investment analysis and is designed to provide both commercial and technical personnel with a fundamental understanding of the economic theories and methodologies used to value oil & gas projects.	investment decision-making -Engineering & geological inputs to the cash flow model -Oil & gas pricing and forecasting -Variation between fiscal systems across the globe	project with confidence - Calculate and understand the role of taxation in upstream Projects	upstream petroleum economics theory and practice, regardless of whether they have a technical or commercial background	3 Days April 2-5 July 16-18 Oct 2-4
10 Supply Chain Management in Oil and Gas Industry: Supply Chain Management activities support all segments of the value chain in the oil and gas industry, from Exploration and Production to Refining and Marketing. Ensuring that the right materials and services are at the right place at the right time can have a positive impact on project success. This highly interactive course provides participants with an in depth understanding of the strategic, contractual and operational issues arising in the management of upstream oil and gas supply chains.	-Supply Chain Management Overview -Procurement Management -Logistics Management -Inventory Management -Warehousing Management	- Understandcontracts, procurement, logistics and supply chain principles as well as the processes involved in them. - Develop supply chain leadership skills - Positively affect lead times, inventory, productivity and bottom-line profitability - Manage the integration and co-ordination of activities to reduce costs and to increase efficiencies and customer service - Gain the knowledge to effectively and efficiently manage global supply chain activities	Supply Chain Managers, Supervisors, Procurement specialists, Logistics & Sourcing specialists, Category Managers, Stock analysts and other professionals who work in procurement /supply chain department of oil and gas and related companies.	180,000 5 Days June 4-8 Sept 24-28
11 Project and Contract Management: This training course will equip participants with the skills and knowledge needed to excel in projects and contract management positions and effectively manage team members.	-Project Management Framework -Contract planning and Pre-contract Considerations -Project organization -Tendering process in contract negotiation -Project Appraisal	- Understand Contracts - Develop skills to effectively and efficiently manage projects and contracts - Understand how to boost productivity, collaboration and innovation in projects and contracts	Contract Managers, Project Coordinators, Project Leaders, Project Managers, Project Supervisors, IT Professionals, Telecoms Engineers, Product Managers, Bankers, Consultants, Business Starters, SME Entrepreneurs, Government Contractors,	120,000 4 Days May 28-31 Oct 28-31

			Engineers, Architects.	
12 Project Management Professional Training: This PMP Certification training prepares participants for the Project Management Professional, Certified Associate in Project Management, and Project Risk Management certification exams conducted by the Project Management Institute (PMI).	-Project management framework -Project management process group -Project integration management -Project scope management -Project time management -Project cost management -Project human resources management -Project communication management -Project risk management -Project procurement management -Project quality management -Project Stakeholder Management - Professional and social responsibility of project managers	- Implement fundamental project management strategies, - Understand how to reach desired goals and achieve those goals within specific time and cost perimeters. - Understand the nine bodies of knowledge outlined in PMBOK® Guide, developed by the Project Management Institute (PMI). - Understand fundamentals of project management in terms of scope, time, risk, communication, resource allocation	Project Coordinators, Project Leaders, Project Managers, Project Supervisors, IT Professionals, Telecoms Engineers, Product Managers, Bankers, Consultants, Business Starters, SME Entrepreneurs, Government Contractors, Engineers, Architects.	150,000 4 Days April 9-12 July 23-26 Oct 15-18
13 Procurement in Oil and Gas:: This course provides participants the knowledge and skill to management procurement challenges in the oil and gas industry including highly visible spend, restricted supply-base, technical and contractual complexity, remote and difficult locations to support, and the need to operate in an environment with JV's and other risk sharing mechanisms.	-Procurement strategic planning -Procurement policy procedure and practices -Procurement and contract management -Procurement best practices	- Organizing the spend profile - Ways in dealing with economic uncertainties - Questions for internal surveys to enhance purchasing performance - How to develop a "Purchasing Coding System" - Steps in the development of a Composite Purchase Price Index - How to get more time to work on strategic issues - Critical steps in negotiation planning and strategies	Supply Chain Managers, Supervisors, Procurement specialists, Logistics & Sourcing specialists, Category Managers, Stock analysts and other professionals who work in procurement /supply chain department of oil and gas and related companies.	120,000 3 Days Mar 19-21 Aug 1-3 Nov 5-7

		- To understand the elements of cost that make up a supplier's price - Categories that should be included in a purchased materials/services strategic plan outline		
14 Certified Professional in Supply Management Training: The Certified Professional in Supply Management® is recognized globally as a standard of excellence for professionals in procurement, supply management and supply chain management. This CPSM Certification training prepares participants for the CPSM certification exams conducted by the Institute for Supply Management (ISM).	-Foundation of Supply Management -Effective Supply Management Performance -Leadership in Supply Management	- Understand critical concepts in procurement and sourcing, negotiating, contracts and leadership. - Enable students pass the CPSM certification exams conducted by the Institute for Supply Management (ISM).	Supply Chain Managers, Supervisors, Procurement specialists, Logistics & Sourcing specialists, Category Managers, Stock analysts and other professionals who work in procurement /supply chain department of oil and gas and related companies.	250,000 4 Days May 7-10 Aug 13-16 Nov 19-22
15 Human Resource Development in Oil and Gas Industry: This course is designed to help personnel saddled with human resources and leadership and development responsibilities with the knowledge and skills to make the right fit between the core skills of human resources development and industry requirements, so that they are more aligned to deliver greater strategic value whilst organizations are consistently improved.	- The oil and gas value chain - HR trends, insights and practices in the global oil & gas industry - Manpower planning and organizational scanning for strategic fit - Industry Best practices in HR policies and procedures - Performance management frameworks - Competency mapping in a skills-intensive industry - Aligning L&D strategy to the business strategy - Coaching and mentoring fundamentals - Inspiring Workplace: Employee engagement	- Gain a working understanding of the oil industry, so that you are more proactive and creative in supporting operations across other departments - Explore various HRD frameworks to achieve greater strategic fit - Build skills for industry and organizational scanning - Learn how to establish employee job-fit in an industry that is increasingly pressed for quality workforce. - Be a more proactive and confident HR Partner in your organization	HR Managers, Administrators, Supervisors, Managers, Team Leaders, Business Owners/Executives and other professionals.	120,000 3 Days April 23-25 July 23-25 Oct 15-17

	frameworks - Competency based interviewing - High performance team cultures			
16 Petroleum Finance and Accounting Principles: This course is designed to enhance the knowledge and skill of personnel who hold finance and accounting responsibilities within the Exploration &Production industry.	-Financial terms and definitions, the language of business; accounting rules, standards, and policies -Constructing the basic financial statements -Classifying revenues, assets, liabilities, and equity -Comparing different accounting elements -Accounting for joint operations -Accounting and reporting	Delegates will be able to improve job performance through the understanding of current international practices in finance and accounting within the petroleum industry.	Financial/Accounting Personnel, Personnel new to the oil and gas accounting industry - accounting, finance, economists, others desiring to understand or refresh their knowledge of basic petroleum accounting concepts.	100,000 3 Days June 4-6 Sept 17-19
17 Entrepreneurship and Value Creation in Business Organizations: In a global, knowledge-based economy, entrepreneurship and innovation are important for the creation of values and welfare. Organization's abilities to adapt and be innovative are important elements for society. This course seeks to help individuals to develop personal qualities and attitudes, impart knowledge and insight into how organizations can see opportunities and develop these in sustainable business enterprises.	-Entrepreneurship -Entrepreneurship and value creation -Business Development -Innovation -Social entrepreneurship	- Understand entrepreneurship within organizations - Understand the role of entrepreneurship in developing competitive advantage - Understand how entrepreneurship creates value	Top Management, CR Managers, Business Managers, other professionals and support staff involved in business development within organizations.	100,000 3 Days May 2-4 Sept 3-5

18 Economic Framework of Refining : This course provides a complete view of all the fundamental aspects and challenges of the economic framework in which the refining industry is evolving.	- Brief technical presentation of the main refining units: distillation, conversion, blending, etc. - Refinery scheme evolution. - Oil Markets and Trading - Refining Context - Refining Margin and Costs - Optimization of Refining Operations – Linear Programming - Optimization of Refinery Operations – Scheduling - Investment Profitability Studies	- Calculate product marginal value, refinery margins and process unit margins, - Identify cost savings in order to improve margins, - Simulate refinery operations and product blending, - Simulate and optimize refinery operations, crude oil selection and product manufacturing, - Analyze the result of a linear programming model optimization, - Evaluate project profitability	Technical, operating and engineering personnel working in the refining industry, trading and commercial specialists, independent consultants, process licensors, catalyst manufacturers and refining subcontractors.	300,000 5 Days May 14-18 Oct 22-26
19 Contracts Management: Negotiating, Drafting and Managing Contracts : This training course focuses on how organizations can minimize exposure to risk, reduce costs and the potential for disputes by discussing the key aspects of understanding, drafting and negotiating contracts. Participants will be exposed to clear and concise drafting of contracts and how it can produce greater efficiencies and tips and techniques on effective resolution of disputes to minimize cost and reputational risk exposure to their organizations.	- ContractsNegotiating and Drafting - Effective Contracts Management - Dealing with Disputes	-Understand the contract negotiation process -Be able to draft Specific Clauses -Understand the importance of Effective Contracts Managementand how to deal with disputes	Contract Managers, Project Coordinators, Project Leaders, Project Managers, Project Supervisors, IT Professionals, Telecoms Engineers, Product Managers, Bankers, Consultants, Business Starters, SME Entrepreneurs, Government Contractors, Engineers, Architects.	150,000 3 Days Mar 12-14 Aug 6-8
20 Project Scheduling & Cost Planning Skills: This course focuses on how to deliver reliable estimates that can result in	- Gaining knowledge of techniques used in project estimating, from the conceptual stage to the final detailed estimate - Understanding the different	- Maintain continuous project performance and delivery control - Accurately estimate and allocate project costs and resources - Measure, forecast and control project performance by employing	•Those who have a role in various projects such as cost estimators, project schedulers, project designers, project planner, contracts professionals, project	100,000 5 Days June 11-15

significant savings later in the project life. To develop reliable cost and schedule estimates is one of the critical management skills that is addressed in this training course.	types of estimates used to accurately and progressively estimate project costs and schedule - Identifying risk sources and minimize their impact and learn how to sustain project momentum - Developing effective performance monitoring and control systems - An integrated approach to scope, time, resources and cost management into a dynamic and manageable model	earned value techniques - Manage and mitigate schedule, cost, scope, and resource risks associated with the project - Develop a project recovery plan for budget and schedule overruns -	procurement and purchasing staff, and project control and business services professionals who have the responsibility for preparing cost / schedule estimates and project proposals in client and contracting companies Those who are interested in knowing more about estimation and control in a project environment	Nov 12-16
21 The Complete Course on Project Management: Project Management Specialist : This intensive 5 Days project management training course offers complete guidance for managing any or all types of projects and will provide you with a solid foundation for best practice project management. The course explores how to ensure projects deliver outcomes which are both client-focused and organizationally relevant.	- An introduction to the world of project management - Project planning, scheduling and budgeting - Project resourcing, monitoring and control - The Project Manager's roles and responsibilities - Project evaluation, reporting, closure and hand-over -	- Integrate projects within the context of the organisation - Develop quality-focused project plans - Monitor and control the delivery of projects - Lead and develop effective project teams - Maintain communication with project stakeholders -	This training course is designed for professionals either directly or indirectly involved in the delivery of projects. It is also for those charged with a more strategic role managing project portfolios.	180,000 5 Days July 9-13 Nov 12-16
22 The Essentials of Contracting and Contract Negotiation: The Essentials of Contracting and Contract Negotiation is an Intensive 2-	- How contracts are created and the main clauses that appear in contracts - Alternative contracting strategies and structures - Methods to be used in negotiating contracts	- Understand how contracts are formed - Explain how to use contract provisions to reduce the risk of disputes - Understand the impact dispute may have on relationships over the long		150,000 5 Days April 23-27

Week training course designed to help delegates develop their ability to negotiate contracts effectively. It will equip them with a range of interpersonal skills, and appreciation of the elements of planning and objective setting in negotiations. There will be an opportunity for delegates to carry out a self-assessment of their skills in key areas of negotiation including team negotiations.	- Commercial issues arising from business agreements written in the English language - Negotiating contractual variations and claims -	term - Describe the use of strategies to resolve the causes of disputes - Improve appreciation of legal issues in contracts and develop new skills in negotiation. -		Sep 17-21
23 Managing Contractual Liabilities : This training will introduce indemnities and insurance to assist organisations manage risk by contractually determining the nature, content and consequences of actions and omissions by the parties involved. Contracts give rise to a range of liabilities by parties assuming rights, responsibilities, duties and obligations, but which can be managed through contractual mechanisms. This highly interactive Managing Contractual Liabilities training course considers how your organisation can identify and manage key contractual risks and liabilities	- Nature of contracts and contracting structures - Principal contractual liabilities - Managing risk through indemnities - The purpose of insurance, types and limitations - Using contract provisions to reduce the risk of disputes -	- Identify when a contract becomes legally enforceable - Assess and manage key contractual liabilities - Analyse the way indemnities operate across industries - Evaluate the need and use of different types of insurance - Compare ways of dealing with claims and disputes -	Contracts Engineers, Project Managers, Procurement and Purchasing Staff, Finance and Audit Professionals, Anyone involved in the management of risk	100,000 3 Days June 11-13 Oct 22-24
24 The Complete Course on Contracts Management: Contracts Management Specialist : This intensive five-day contract	- The differences in approach between different legal and contracting systems - Risk allocation in contract management and dispute resolution in contractual	- Improve their understanding of the role of contracts within a business - Develop more confidence in dealing with contracting issues - Understand how strategies can be developed to improve the	Contract Administrators, Contract Professionals and Project Coordinators, Specifiers, Buyers, Purchasing Professionals and Procurement Officers, Contracts managers,	180,000 5 Days July 23-27

management training course is designed to assist contracts professionals cope with the increasing complexity of commercial and business relationships as trade becomes ever more international. All business professionals need to understand what a contract does (and does not) require them and the other party to the contract to do, and the consequences for both parties of any failure.	disputes - Contracting in an international context - Protecting your company's interests	commercial outcomes - Apply the latest international thinking in dispute resolution - Increase awareness of the use of contracts in everyday business life -	Project managers, Engineers or contracts operatives	Nov 5-9
25 Value Engineering Skills: Improving Performance and Profitability : This Value Engineering (VE) training course is a creative, organized approach which engages project stakeholders to define their business or performance requirements, maximizes creativity and innovation to identify best value solutions, enabling more robust, effective decision making during project planning, procurement and execution and through focusing on performance requirements and avoiding abortive work. VE will improve the performance, profitability, quality and risk levels of the client organization and the whole project team	- Decision making based on value criteria - Applying cost estimating at the appropriate level - Understanding business need, project scope, function, and performance need - Securing real benefits by integrating VE with existing project management processes - Introduction to powerful techniques of function analysis, facilitation and creative thinking -	- Identify value mismatches through the ratio of whole life costing. - Capture & incorporate stakeholders' input in the development of the project charter & plan. - Add value to stakeholders thru best value decisions based on the balance of value criteria & resources. - Know the fundamental concepts of Value Engineering and Analysis. - Identify alternative recommendations to the management which will improve value effectively.	Anyone involved in project initiation, engineering design, and critical assessment of projects All those responsible for making significant decisions concerning plans and budgets for large and complex projects Project or Program Sponsors, Project Managers, Cost Estimators, Cost Controllers, Engineers, Designers and Project Staff	100,000 5 Days May 14-18 Aug 27-31
26 Risk Assessment & Risk Management for Oil & Gas Projects: This is an Oil & Gas Project	- Risk Management throughout a project life cycle - The Risk Management Process Wheel & Identifying	- Use practical steps and processes to manage project risk - Identify threats & opportunities & weigh their relative value in a project	Project Management Team members, Operations Managers, Project Managers, Oil and Gas Enterprise Architects	100,000 4 Days

Management Training Course designed for managers because of increased pressure to deliver projects on time, within budget and with the agreed components; the need to identify, manage and control the project-based risks becomes central to success. Project Managers need to use tried and accepted techniques for managing identified risks and have access to practical strategies for dealing with issues as they emerge.	risk - Risk Analysis: Qualitative and Quantitative - Risk Responses & Managing Risks	- Control multiple risks using limited strategies - Overcome psychological barriers to risk in stakeholders & team members - Evaluate risk assessment & risk management during the project closure phase of the project		May 28-31 Oct 29-31
27 Performance Measurements, Continuous Improvement & Benchmarking: This Management & Leadership training course presents a high-level appreciation of the features and benefits of three key Performance areas namely; Performance Measurement, Continuous Improvement and Benchmarking. Originally led by Japanese organizations, many International Companies are now leveling the field as performance measurement is seen as vital to quality process management and therefore Shareholder Value.	- Understanding Performance Measurement - How to instigate, prolong and measure Continuous Improvement - How to find and decipher the good stuff - The vital impact of people on process - Running a Benchmarking Project -	- Explain the benefits of Performance Measurement, Continuous Improvement and Benchmarking. - Show how these activities play a part in helping their organization perform at a higher level - Determine methods for generating and implementing effective performance metrics - Use a process improvement methodology back at work - Run a benchmarking project more effectively -	This training course is applicable to any person actively involved or contemplating performance measurement, improvement and/or benchmarking activities including; Engineers, Accountants, Operation Managers/Process Managers and HSE Leaders	100,000 5 Days April 16-20 Aug 20-24
28 Effective Community Relations : This training is designed to provide designated employees with the skills and knowledge to nurture and	- The Concept of Community Relations - Community relations and community development - Components of community relations	- Understand how to develop, sustain and utilize an outstanding community relations program - Understand community relations challenges - Effective communication in	Public Relations Officers, Community Development Officers, Youth leaders	100,000 3Days May 2-4

develop cordial relationship between oil companies and their host communities, assist companies carry out their mandatory social responsibilities to their host communities and enhance civic education in host communities with a view to prompting inter-ethnic harmony and peaceful co-existence.	- Education - Vocational Training - Health care - Technology in community relations - Environmental issues in Community Relations - Regulatory (legal issues in Community Relations) - Role of Stakeholders in Community Relations - Host communities - Oil and Gas Companies - Local and State Governments - Federal Government/ NDDC - NGOs and Pressure Groups	community relations		September 17-19
29 Effective Communication Skills for Managerial Staff: This course is designed to enable participants develop the required communication skills for Organizational management and effective decision making.	- Communication and Organizational behaviour - Communication Pattern and Barriers to effective communication in the Organization - Communication and the Petroleum Industry - Report Writing -	- Understanding Communication and Organizational Communication behaviour - Identify Barriers to effective communication in the Organization - Be able to write excellent reports	Managers, Team Leaders, Engineers, Heads of Departments/Units, Public Officers and anyone in leadership positions desiring to effectively communicate within and without their organizations.	100,000 2 Days April 2-3 August 1-2
30 Technical Report Writing : To ensure that participants know how to write good reports and realize the critical place of reports in organizational decision making	- Introduction to Technical Report writing - Functions/Uses of Reports - Types of Reports - Writing a good Technical Report	- Identify various forms of technical reports - Be able to write a good technical report - Be able to present Technical Reports in various formats	Operational, Maintenance and other categories of staff that provide input for managing decision making.	100,000 2Days June 4-5 November 1-2

31 Basics of Effective Communication : To make participants realize the critical relevance of communication between them and other categories of staff in the organization.	- Basic concepts and procedures in communication - Effective sentence construction - Interpersonal communication - Functions / Uses of Reports	- Understand communication concepts and procedures - Improve verbal written communication skills - Understand human behavior and how to relate with colleagues - Be able to write professional Minutes of Meetings	Operators, Foremen and Officers that report to Supervisors, Managers and other categories of lower level Managerial staff	90,000 2 Days July 2-3 October 15-16
32 Integrated Logistics Training : Integrated Logistics Support Training covers many aspects of unified and iterative approach to the management and technical activities for operational and materiel requirements and design specifications for logistics support. ILS involves structured and systematic management of technical process to integrate needs for logistic support into the design of a system or equipment throughout its life cycle. The training covers the process by which all elements of logistic support are planned, acquired, tested, and provided in a timely and cost-effective manner.	- Integrated Logistics support (ILS) program and concepts - Reliability, Availability and Maintainability concepts - Logistics Optimization - ILS Cases -	- To understand all integrated logistic support elements. - To understand the concept of ILS - To understand and apply the Reliability, availability and maintainability concept in logistic analysis - To understand the concept of integrated logistic support applied through-out the asset life cycle. - To understand the optimization concept. - To model the asset logistic considering the flow of equipment between suppliers and producers. - To understand the preventive maintenance best interval definition to minimize the LCC and maximize the operational availability. - To understand the inspection best interval definition to minimize the LCC and maximize the operational availability. - To understand the spare part minimum level definition to minimize the LCC and maximize the operational availability. - To understand the resources minimum level definition to	This training course is designed for professionals either directly or indirectly involved in providing logistics support within organizations or on the delivery of projects. It is also for those who desire to gain understanding ofstructured and systematic management of technical process to integrate needs for logistic support	3 days July 9-11

		minimize the LCC and maximize the operational availability. - To perform sensitivity cases to compare different scenario results.		

Information Technology Management Programs

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	PRICE DURATION/ Dates
1 Data Processing and Analysis: To improve the competence of officers in data processing and analysis. To impact knowledge of interpretation of data for decision making.	- Data processing in modern organizations. - Techniques of data processing - Data gathering, assembling, sorting, coding and analysis - Measures of central tendency - Measures of dispersion - Correlation and Regression - Data analysis software - Statistical Package for the Social Sciences - Excel Charts and tables - Data Analysis and Decision Making	- Understand the Concept of data - Utilize modern techniques of data processing - Understand tools of data analysis - Identify and utilize data analysis software - Be able to use Excel Charts and tables for analyzing data - Understand the role of data Analysis in decision making	Staff responsible for handling data in organizations and other interested professionals	100,000 5 days April 2-6 Aug 6-10
2 Application of the Internet in Modern Technology: To describe the usefulness of the internet in our society	- Description of the internet - Components of the internet - Benefit of the internet - Disadvantages of the internet - Understanding the world wide web - The search Engines - How to search for information on the internet	- Understand the importance of the internet in modern organizations - Understand how to safely use the internet - Understand the role of internet in modern technology	Managers, Engineers, Technicians, Technologists, and other interested professionals	80,000 5 Days April 23-27 Nov 5-9
3 Computer Appreciation for Secretarial Staff: To create computer awareness and to make the participants appreciate the importance of computer in our society. In addition, this course will enable the participants to be able to do word processing jobs.	- Definitions of a computer - Parts of a computer - Input / Output devices - Computer virus - The Microsoft Word Environment - Typing text - Editing text - Formatting text - Inserting symbols, date, time and page number - Opening and closing a file	- Understand the various parts of a computer - Identify and masterfully use Microsoft Word - Understand email use and ethics	Secretaries and other categories of staff who wish to use word processing applications for their Work	80,000 5 Days June 18-22 Sept 10-14

	- Working with header and footers - Working with tables and charts - The mail merge			
4 Information Technology Management: The IT management course will help participants to gain a better understanding of the concepts, techniques and tools used to manage different IT functions. This course will also assist participants in combining their technical know-how with the required management skills needed to successfully align IT functions with business strategic goals.	- Developing IT strategy - Organizations, Environments & IT - IT Concepts & Management - IT & Business Process Engineering - Managing Information Resources, Control & Security - Vendor Management - Procurement & Contract Management - IT sourcing, contracts and negotiation - Developing IT sourcing strategy - Guidelines for IT sourcing - Best practice vendor selection - Designing effective IT contracts - Top level crisis management	- Understand the Information Technology Environment - Be able to use IT to manage business information and processes - Understand how to develop an IT Strategy for your organization	Chief Information Officers(CIO), System Administrators/Engineers, IT Professionals, ICT Managers, Business Analysts, System Analysts, anyone interested in /responsible for managing IT Infrastructure	100,000 4 Days Mar 26-29 July 23-26 Oct 29 – Nov 1
5 System Maintenance & PC Maintenance: Participants will be introduced to a career in the ICT sector and will learn about maintenance, repair and troubleshooting of PC's and Computer systems. They will also learn about installing different operating systems and application softwares and the basics of computer networks.	- Fundamentals of Computing Systems & Customer Care - Computer Hardware & Components - HSE while working with PC Hardware Software Installation / Upgrade - Troubleshooting Hardware devices & Peripherals - Configuring / Cloning System Units - Technical Fault Analysis - Qualities of IT Repair Personnel - Scheduling Planned Maintenance - Stores Requisitioning, Stock control & Purchasing	- Gain practical hands-on knowledge and skill in troubleshooting and maintenance of PC hardware components - Understand how to efficiently use computing systems	Graduates looking for their first role in the ICT industry, Professionals looking for a change in career, IT Professionals, System Engineers, Hardware Technicians and Engineers	100,000 4 Days June 4-7 Nov 5-8

6 Disaster Management and Contingency Planning: Participants will learn how to safeguard privacy, confidentiality, integrity and availability of their IT data and systems. They will also learn how to identify and prioritize critical business functions. In addition, participants will learn how to carry out business impact analysis at various levels in an organization.	Business Continuity - Developing and Implementing Business Continuity Plans - Developing Business Continuity Strategies - Business Continuity & Disaster Recovery Planning - Business Contingency as Key Management Responsibility - Contingency Planning, Objectives & Strategies - Developing Management Reports - Business Impact Analysis	- Understand Business Continuity requirements - Be able to develop business continuity and disaster recovery strategies - Be able to conduct a business impact analysis and develop contingency plans	Chief Information Officers(CIO), System Administrators/Engineers, IT Professionals, ICT Managers, Business Analysts, System Analysts, anyone interested in /responsible for managing IT Infrastructure, professionals required to carry out Business Impact Analysis in their organizations.	100,000 4 Days April 2-6 Aug 27-30 Oct 22-25
7 Apple Mac & iPad for Beginners: Participants will learn how to get more out of the many features available on a Mac. They will also learn about the basics of Mac OS and how to interact with the hardware. In addition, they will learn about systems and preferences, how to connect to networks, printers and peripherals, and how to check and troubleshoot their network settings.	- Mac Essentials- Setting up your computer, accessing 3G or Wi-Fi services, iTunes and App Store. - Understanding the Mac's special features - Getting the most from Apple's amazing utility programs such as - Launchpad, Safari, iCloud, Time Machine, etc. - Safely adding/removing software programs. - Working with- The Finder, The Dock, Spotlight - Connecting your Apple device to your home / office network. - Using Disk Utility - File backup strategies - Troubleshooting advice	- Be able to effectively and efficiently use your Apple Mac or iPad - Identify and utilize Apple OS programs	It is suitable for those who want to switch from Windows PC to Apple PCs. It is ideal for those who are new to their Apple Mac device and those wanting to learn how to get more from their Mac (iPad, iMac, MacBook, MacBook Pro, MacBook Air, Mac Pro and Mac Mini)	100,000 3 Days May 2-4 July 9-11 Oct 8-10

Health Safety and Environment Programs

Course Introduction	Course Content	Learning Outcomes	Target Audience	PRICING
1 Advanced HSSE Principles & Practices: Incorporating good leadership skills HSSE brings together three fields of expertise, all of which come under the auspices of an Integrated Management System. To ensure that you are part of this continued successful approach attendance of this advanced training course is essential and will provide you with the new competencies required to lead in this demanding combined field.	- Leadership Safety Excellence - Roles, Responsibilities, Accountability and Authority - Organisational and Environmental Risk, Threats and Impact Perspectives - Incident & Accident Investigations & Reporting - Emergency Preparedness, Response and Business Resilience & Recovery - Security Management, protection of people, assets, reputation & data - Plan, Do, Check, Act (PDCA) cycle for continual improvement	- Design new leadership traits that can and will make the difference - Develop the necessary communication skills to work with all stakeholders - Develop rational problem solving and decision-making skills for emergencies - Develop the knowledge and skills required to investigate all adverse events - Enhance your Safety and Security Management leadership skills -	Offshore/Onshore Installation Managers, Facilities Engineers, HSE Officers/Engineers, personnel in oil and gas industry	120,000 **5 Days** May 7-11 August 6-10
2 Safety Leadership in the Oil and Gas Industry: This course introduces the concept of leadership in managing health and safety within organizations. Managerial roles in driving and ensuring health and safety compliance is explained and structures to guarantee same broken down	- HSE – MS - Legal, financial and moral reasons for good HSE Management - Introduction to behavioral based Safety - The role of the manager in HSE Management	- Understand the HSE Management System - Understand why organizations must maintain robust HSE Management systems - Understand leadership roles in HSE Management	Offshore/Onshore Installation Managers, Facilities Engineers, HSE Officers/Engineers, personnel in oil and gas industry	150,000 **3 Days** April 9-13 September 3-7

for easy understanding.				
3 Process Safety Management: This course is designed to meet provide participants with the knowledge of hazards in process facilities and the need for safe design, engineering and operation of process units and equipment so that they do not fail and cause catastrophic events such as loss of containment. Participants will be skilled to identify process hazards and differentiate them from personal/occupational safety hazards.	-Introduction to Process Safety -Process safety vs personal safety -PSM in offshore and onshore facilities -Elements of Process Safety Management	- Understand Process Safety Management - Understand the 13 elements of a PSM program - Engage in practical exercises in analyzing process safety related accidents in oil and gas	Offshore/Onshore Installation Managers, Facilities Engineers, HSE Officers/Engineers, personnel in oil and gas industry	120,000 3 days June 18-22 October 15-19
4 Functional Safety Engineer Training: This course provides an overview of process industry safety engineering from the point of view of the Risk Analyst, Process Safety Coordinator, and Control Systems Design Engineer. It delivers a complete overview of the functional safety lifecycle. The course reviews Process Hazard Analysis (PHA), Consequence Analysis, Layer of Protection Analysis (LOPA), Safety	Introduction to Safety Instrumented Systems Principles of Risk Management The Safety Lifecycle Process Hazard Analysis (PHA) Consequence Analysis Likelihood Analysis Layer of Protection Analysis (LOPA) Tolerable Risk SIL Target Selection Safety Requirements Specification Safety Instrumented Systems (SIS) failure From failure rate to SIL	- Understand SIS in risk management - Be able to perform a PHA - Be able to carry out Consequence Analysis and LOPA - Understand SIF design, applications and operation - Understand Safety in Design (SID)	Process Safety engineer Control engineer Reliability engineer Engineering/Operations management Plant risk analysts Loss prevention professionals CFSE and CFSP Process Application candidates Request On-Site Training Pre-Register for Public Course	250,000 4 days June 25-29 November 19-23

Integrity Level (SIL) Target Selection, Safety Requirements Specification (SRS) generation, failure rates, device and system reliability, SIF verification, SIF detailed design and Operations requirements. This course forms a broad review in preparation for the Certified Functional Safety Expert (CFSE) and Certified Functional Safety Professional (CFSP) process industry application engineering exams.	Single devices to system Redundant Architectures Requirements to SIF SIF Design and Verification in the Safety Lifecycle SIF Detail Design Operations			
5 Accident Prevention and Control: This course is designed to meet the skill requirements of personnel working in oil and gas industry who will be required to develop systems for the prevention and control of accidents/incidents in the workplace. Participants will be exposed to accident causation theories and methods for preventing accidents in the workplace.	-Accidents, incidents and Near misses -Anatomy of accidents and accident analysis -Accident causation theories -Accident prevention techniques -Hazard Identification and Risk Assessment -Hierarchy of Controls	- Differentiate between accidents, incidents and near misses - Carry out anatomy of accidents and understand accident causation theories - Be able to identify hazards and carry out simple risk assessments using a simple risk matrix - Understand the hierarchy of controls and its application in managing risk	Engineers, HSE Professionals, Offshore/Onshore Personnel, Managers and Supervisors, regulators/regulatory bodies, personnel in oil and gas and other allied industries	100,000 3 days April 2-4 June 25-27 Oct 29-31
6 Incident Investigation and Root Cause Analysis (Using 5 Why and Why Tree):	-Accident Causation Theories -Why investigate accidents? -Introduction to RCA	- Differentiate between accidents, incidents and near misses - Carry out anatomy of accidents and understand accident causation	Project Managers/Engineers, Construction Managers/Engineers, HSE Managers/Engineers/Officers, Onshore/Offshore Installation	150,000 3 days

This course is designed to meet the skill requirements for personnel with the responsibility of investigating work-related accidents/incidents in the workplace using the Root Cause Analysis method. It provides practical hands-on experience in investigating case studies and incidents in the workplace.	-Practical demonstration of an accident investigation using 5 Why and Why Tree Analysis	theories - Understand reasons for reporting and investigating accidents - Understand Root Cause Analysis as an incident investigation tool - Be able to use Why Tree and 5 Why in investigating accidents, incidents or near misses	Managers and personnel with responsibilities of investigating incidents in the workplace.	May 2-4 Aug 1-3 Nov 5-7
7 Managing Health and Safety in the Workplace: This course will provide managers/supervisors with HSE roles/responsibilities in the workplace the skill and knowledge to develop company's occupational/Industrial safety, health and welfare management system and comply with its legal duties.	-What is HSE? -Reasons for Managing HSE -Hazard Identification and Risk Management -HSE Management Systems (OHSAS 18001 Model)	- Understand Employer and Employee Responsibilities in Managing HSE - Be introduced to OHSAS 18001 HSE MS - Understand how to develop hazard identification and risk assessment programs in an organization	Project Managers/Engineers, Construction Managers/Engineers, HSE Managers/Engineers/Officers.	100,000 3 days May 21-23 Aug 27-29 Oct 15-17
8 Construction Risk Reduction in Oil and Gas: The construction industry is considered very critical and hazardous. Organizations have discovered that failure to understand these hazards and risks have also affected	- Construction in Oil and Gas - Oil and Gas Construction Hazards - Risk Analysis and Controls - Contractor/Sub-Contractor Management - Health and Safety in Construction Projects -	- Understand HSE risks in the construction industry - Understand construction risk reduction principles - Develop skills for contractor management in a construction environment - HSE principles for construction work activities	Project Managers/Engineers, Construction Managers/Engineers, HSE Managers/Engineers/Officers, personnel with responsibilities within construction projects in oil and gas.	100,000 3 days April 16-18 August 1-3

company financial performance in the long run. This course provides participants with the skill and knowledge to identify, analyze and develop control measures for construction related hazards and risks.				
9 HSE Regulatory Compliance for Managers in Oil and Gas: This course is designed for managers. It provides background of key International requirements; introduce participants to Nigerian legal provisions and what the Law expects from employees. Participants will understand safety and environmental legislations, regulations, policies and requirements to ensure companies comply and avoid litigation.	- Introduction to HSE Management - International HSE Laws - Sources of Nigerian Laws - HSE Laws in Nigeria - Understanding the Petroleum Act and Mineral Oil Safety Regulations (MOSR) -	- Understanding HSE Management - Understand international requirements for HSE management - Understand HSE regulatory requirements - Understand HSE Laws in Nigeria	HSE Managers, HSE Professionals, Environmental Specialist, Regulatory and Compliance Managers, Company Directors/Managers.	150,000 2 days April 2-3 July 2-3 Nov 1-2
10 Fire Marshall Training Leading to Certified Fire Marshal: This course is designed for personnel who are responsible for preventing losses related to fire incidents. It will provide opportunities to develop	- Introduction to Loss Prevention - Chemistry of Fire - Who is a Fire Marshall? - Theories of Fire Spread - Fire Classification - Fire Prevention Techniques - Practical Demonstration of firefighting using portable fire extinguishers - Fire Engineering in the	- Understand the Chemistry of fire and fire science - Understand mediums of fire spread and prevention techniques - Understand fire suppression methods and equipment - Understand fire detection equipment and methods - Use of portable fire extinguishers - Understand fire engineering in the built environment - Fire fighting methods and	Loss Prevention Specialists/Managers, Safety Officers, Engineers, Fire Marshalls and other oil and gas professionals interested in being certified as Fire Watch or Fire Marshall.	100,000 5 days April 16-20 Oct 22-26

elements of critical thinking and general problem-solving skills to an advanced level. Exemplifying, analyzing and evaluating the potential and actual impact of fires in the workplace. Participants will be expected to successfully complete a competency test at the end of the training.	built environment	techniques		
11 Fire Watch Training Leading to Certified Fire Watch: This course is designed for personnel who are responsible for watching for potential hazard scenarios that couldlead to fire incidents during welding, confined space entry and other activities. Participants will be expected to successfully complete a competency test at the end of the training.	- Chemistry of Fire - Who is a Fire Watch? - Theories of Fire Spread - Fire Classification - Fire Prevention Techniques - Practical Demonstration of firefighting using portable fire extinguishers - Confined Space Entry and Hazardous Atmospheres - Use of portable gas detection equipment	- Understand the Chemistry of fire and fire science - Understand mediums of fire spread and prevention techniques - Understand fire suppression methods and equipment - Understand fire detection equipment and methods - Use of portable fire extinguishers - Understand confined space entry risks and entry watch requirements	Loss Prevention Specialists/Managers, Safety Officers, Engineers, Fire Marshalls and other oil and gas professionals interested in being certified as Fire Watch or Fire Marshall.	100,000 5 days April 16-20 Oct 22-26
12 Risk Reduction and ALARP Demonstration in Oil and Gas: This course is designed to provide participants the skill to through reasoned and supported arguments, show	- What is ALARP in Oil and Gas? - Legal Context of ALARP - Quantitative Risk Assessment and Cost Benefit Analyses - Practical Demonstration of ALARP using structured methodology	- Identify different options available for risk reduction (control hierarchy) - Decide when risk reduction measures can best be used - Describe the concepts of “tolerability of risk” and “As Low As Reasonably Practicable (ALARP)” - Apply the ALARP concept and conduct an ALARP assessment to an	Risk Managers, Safety Managers, Offshore/Onshore Installation Managers, Safety Officers/Professionals, Company Directors/Managers, Loss Prevention Supervisors, Engineering Managers and other Oil and Gas Professionals seeking knowledge in the field.	150,000 3 days

that all practical measures that can be reasonably implemented have been implemented to reduce the risk for Safety Critical Events (SCEs) in the workplace, adopted control measures will collectively eliminate and/or reduce the risk to As Low As Reasonably Practicable (ALARP) levels and identify suitable approach to be employed in providing evidence of ALARP demonstration.	- Risk reduction hierarchy - ALARP criteria - Demonstrating risk -	appropriate level of detail		
13 Fundamentals of Industrial Hygiene : Participants will develop understanding of industrial hygiene terminology, principles and practices. The key processes in an effective industrial hygiene effort; anticipation, recognition, evaluation and control will be explained and taught in an easy to comprehend manner. Participants will also be familiarized with chemical, physical, ergonomic and biological hazards in the workplace.	- Occupational Health Exposures in the workplace - Industrial hygiene needs analysis - Basic anatomy and physiology associated with routes of entry and toxicology - Emerging trends in combustible dust, hexavalent chromium, flavorings-related lung disease, bioterrorism, nanotechnology and pandemic influenza - Introduction to monitoring equipment and exposure limits	- How to distinguish chemical, physical, ergonomic and biological hazards - How to conduct an industrial hygiene needs analysis - Hazard evaluation techniques - Identify monitoring equipment and exposure limits	Industrial Hygiene Professionals, Occupational Health Professionals, Safety Managers, Offshore/Onshore Installation Managers, Safety Officers/Professionals, CompanyDirectors/Managers, Loss Prevention Supervisors, Engineering Managers and other Oil and Gas Professionals seeking knowledge in the field.	120,000 5 days June 18-22 September 17-21
Quality Control in Industries : Companies under contract or subcontract to the federal	- Introduction to Quality Management and Control - Understand Requirements of Quality Management	- Understand quality management principles - Understand ISO 9001) - Understand the Plan, Do, Check and	Quality Managers, HSE Managers, Supervisors/Team Leads, Directors/Managers, and other professionals interested in quality	100,000 3 days

government or other companies are required to take elaborate measures to assure product quality and reliability. This course provides participants the skill and knowledge to assure product quality and reliability in industries with focus on ISO 9001.	System (ISO 9001) and Implement - Plan, Perform and Report Quality Management System Audits -	Act Cycle - Be able to conduct a quality management audit	management techniques.	May 9-11 November 19-21
14 Food Safety and Hygiene: This course is designed for food manufacturers and handlers to identify and control food safety hazards. Participants will understand requirements for a food safety management system and what an organization needs to do to demonstrate its ability to control food safety hazards to ensure that food is safe.	- Introduction to Food Safety and Hygiene - Hazard Analysis Critical Control Points (HACCP) - ISO 22000 (Food Safety Management System) - Personal Hygiene - Food Safety Legislations/Regulations -	- Understand food hygiene requirements - Understand HACCP techniques and principles - Understand ISO 22000 - Understand personal hygiene requirements to prevent OH exposures	Catering Managers/Contractors/Supervisors, Food Handlers, Safety Officers/Engineers, Managers, HSE Professionals and other professionals involved in food safety/management.	100,000 5 days May 21-25 October 15-19
15 Environmental Impact Assessment: This course provides excellent training for officials within the government sector in the evaluation, management and administration of environmental impact assessments, environmental consultants and research scientist. The review of EIA	- Introduction and Background to EIA - Law Policy and Institutional Arrangements - Identification of Issues, Public Participation & Stakeholder Involvement - Environmental Audits (EA) and Environmental Management Systems (EMS) - Scoping & Terms of	- Assess the adequacy and quality of all documents culminating in review of the EIA report - To take account of public comment and to take advantage of public EIA review - Determine if the information and process culminating in EIA sufficient for a final decision to be made - Identify, as necessary, the deficiencies that must be addressed before the report can be submitted	Persons involved in enforcing the EIA regulations in Nigeria, environmental consultants, policy makers on environmental management, research scientist on environmental studies. Persons who would like to understand the way in which EIA documentation is evaluated and managed. The course is designed to suit the following categories of people but not limited to them: Asset Integrity Managers,	200,000 5 days April 23-27 October 8-12

related reports and applications (including applying the law, site investigations, etc.); setting of enforceable conditions and the monitoring thereof; and socio-economic considerations in EIA and public participation are included in the training.	Reference for Specialist Studies - Identification and Review of Alternatives - Environmental Impacts Evaluation - Impact Mitigation and Abatement - Development of Environmental Management Programmes - Decision making and writing Conditions of Approval - Appeals, implementation and compliance monitoring - Case studies of EIA reports and their shortfalls		Maintenance Managers, Production Managers, HSE Managers. Safety Engineers, Reliability Engineer/Maintenance Engineer/ Supervisor Safety professional Design Engineer/Production Engineer and everybody who wants to broaden knowledge and interest in these areas.	
16 Risk Analysis Using Bowtie Methodology: Introduction to Bow-Tie methodology training to personnel working in the oil and gas and other related industries provide a flexible approach for applying the tool for Risk Assessment. Bow-Tie technique is used for analysing hazard scenarios, identify existing barriers, and identify escalating hazards and managing the risk effectively. With visual	- Bow-Tie History and Methodological parents - Overview of Bow-Tie and advantages of Bow-Tie - Introduce Bow-Tie Software - Risk Assessments and ALARP Exercises - Data manipulation, Export & Import -	- Understand Risk Management - Differentiate between Quantitative vs. Qualitative - Understand the Bow-Tie Methodology - Exercises - Understand Escalation Factor and the management System -	Engineers, Process Safety Management coordinators/managers, plant management executives, HSE Operations & Management personnel including others responsible for Risk Management.	100,000 2 days April 2-3 July 23-24 September 3-4

diagram, Bow-Tie technique is an excellent tool for communication through different levels of workforce in organization. The participants will learn the Bow-Tie methodology from principle to advance; as well as gain hands-on experience through Bow-Tie workshop.				
17 Layers of Protection Analysis (LOPA): This course Covers the basic methodology of LOPA and the detailed stages of its application. Participants are shown how to identify significant scenarios, estimate frequencies for the worst-case events and how to assign risk categories.	- Introduction to LOPA - Developing LOPA Scenarios - Estimating the consequence of the scenario - Estimating the Likelihood of the Selected Initiating Event - Estimating the Probability of Failure of Independent Protection Analysis - Calculating Risk - Judging the Risk - Case studies - Special Applications of LOPA - Planning your path forward with LOPA	Details in old brochure	Engineers, Process Safety Management coordinators/managers, plant management executives, HSE Operations & Management personnel including others responsible for Risk Management.	100,000 2 days March 26-27 June 4-5 November 12-13
18 Oil Spill Response and Management: This course is designed to give you an insight into some of the key complexities that you may face in an event of oil spill incident and the tools	- Introduction to oil spill, response and management - Consequence of oil spill - Spill response option and resource requirements - Roles of government agencies and the industry - Safety first culture in spill	- Develop Effective emergency response contingency plans - Understand consequence of oil spill - Understand Spill response options and resources requirements - Understand roles of government agencies and the industry - Understanding PR and media expectations and how to effectively	Personnel responsible for emergency response management and command of oil spill response incidents, Decision-making managers within the oil and gas and shipping industries, Individual performing the role of an Executive Commander, Incident Controller or Incident Commander in an	180,000 3 days May 7-9 August 27-29 Oct 29-31

to use to overcome such. The course gives the candidate a chance to use their own initiative and thought processes to understand the challenges of incident management. Candidates are also able to witness the difficulties faced in deploying equipment with a hands-on practical exercise. The course will give you a structured journey of an oil spill from the causes and fates of oil spills through to oil spill response termination. At the end of the training, PTI certificate of completion will be awarded to the candidates who score more than 70% of the assessment.	response - National and International conventions and legal frameworks - Protecting your organisation reputation	communicate with the media and general public - Understanding how to terminate a response	Emergency Response Team, People belonging to regulatory or statutory bodies associated with emergency response, Senior officials from government agencies involved with spill response (Environment, Navy, Army, NIMASA, NPA, etc.), Harbour masters, Port Captains, Incident managers at port and terminals	
19 Failure Mode and Effects Analysis (FMEA) and Risk Based Management(RBM)In Oil and Gas Operations: This course is designed to provide participants with practical tools in analysing oil and gas operation risks and make recommendations for minimization and control using FMEA best principles and best practices	- FMEA Basic Concepts - FMEA Analysis - RBM Analysis	- To understand the failures, risk and criticality concepts - To understand the different application of FMEA and FMECA concepts - To understand the Design Failure Mode and effect analysis (DFMEA). - To understand the Process Failure Mode and effect analysis (PFMEA). - To understand the System Failure Mode and effect analysis (FMEA). - To understand the Maintenance concepts. - To understand the Reliability Centered Maintenance concepts. - To understand the FMEA & RCM concept as basic of safe integrity	Asset Integrity Managers, Maintenance Managers, Production Managers, HSE Managers. Safety Engineers, Reliability Engineer/Maintenance Engineer/ Supervisor Safety professional Design Engineer/Production Engineer and everybody who wants to broaden knowledge and interest in these areas.	100,000 3 days May 2-5 August 1-3

		asset performance achievement.		
20 HAZOP Study Awareness: At the end of the course, you will understand the HAZOP process, its benefits and limitations, the roles and responsibilities of HAZOP participants and when the HAZOP technique should be applied	- Introduction to HAZOP - HAZOP Team Composition and Process	- Understand HAZOP - Understand the HAZOP process – nodes, deviations and causes - Understand who should participate in a HAZOP – roles and responsibilities - The HAZOP process – consequences, safeguards and recommendations - Understand what HAZOPs don't do for you	Engineers, HSE personnel, Process engineers, Reliability engineers and those interested in becoming scribes and undertaking HAZOP jobs.	100,000 1 day April 2 August 7 October 2
21 HAZOP Training for Team Leaders and Members: This integrated course provides effective, realistic training for HAZOP team members and leaders using examples drawn from a range of specialised industry sectors as well as presentations covering all the essential aspects of the method, you will participate in workshops on HAZOP for continuing processes, sequential operations and computer-controlled plant. You will also learn more about the relationship between HAZOP and other hazard identification methods and hazard studies.	HAZOP Overview Risk Assessment Introduction HAZOP Competencies HAZOP Methodology HAZOP Preparation HAZOP Software HAZOP Facilitation Introduction to LOPA Recommendation and Report Writing Revalidation HAZOPs Over 50% of the course time is allocated to group work on realistic HAZOP case studies, giving practice in their respective roles for both team leaders and team members. Examples are drawn from a range of process industries and typical reports are also	- Understand the purpose and benefit of using HAZOP and how it fits into safety and risk management framework - Have an appreciation of the requisite skills required for HAZOP participation, recording and facilitation - Understand and apply the HAZOP methodology - Creatively investigate a process design to identify the potential process deviations, their possible causes and their consequences - Understandlayers of protection analysis (LOPA) - Write a HAZOP report	Asset Managers, Maintenance Managers, Production Managers; Logistic Managers, Reliability Engineer/Maintenance Engineer/ Logistic and Supervisor;Rotating Engineer/ Static Engineer/Supervisor; Design Engineer/Production Engineer and everybody who wants to broaden knowledge and interest in this topic.	150,000 3 days April 3-5 August 8-10 October 3-5

	provided. Participants take part in discussion and analysis sessions to identify strengths, weaknesses and learning points from the case studies.			
22 The Complete Course for Risk, Reliability and Safety Management: This training course examines learning from failures and techniques for decision analysis with emphasis on the use of advanced risk, reliability and operational research techniques and applying them to cases of major failures and disasters. The idea of the training course is to look at Learning from Failures. This will be through examining known and topical cases, as well as cases related to the particular own experience of the delegates. This will be based on the analysis of reported disasters with the aim of exploring techniques that can help us to understand the root causes of why those incidents occurred and how such crises unfold over time and hence how can we learn generic lessons from those	- Understanding of safety, risk and continuity of operations - Development of people management skills - Mastering techniques that can enhance plant reliability - How to conduct benchmarking and quality systems auditing - Applying decision analysis approaches -	- Learn Best Practice and learn how to avoid Bad Practice through assessment of case studies of disasters in various industries - Gain sufficient skills to work in industry as reliability, maintenance, safety and quality professionals - Explain the benefits of acquiring best practices from High Reliability Organizations (HROs) - Determine methods for generating and implementing effective performance metrics - Analyze critically the methodologies employed in the organization & implement improvements	Operations & Process Professionals Reliability & Safety Professionals Other professionals involved in process improvement	250,000 10 days May 14-25 October 8-19

disasters.				
23 Naturally Occurring Radioactive Materials (NORM/TENOM) Sources Handling and Management in Oil and Gas Industry: To train the participants on the hazards of uncontrolled activities associated with enhanced levels of NORM can contaminate equipment, the environment and pose risk to human health. The training will be an interactive and practical experience with case studies. Including practical NORM measurement.	- Origin and sources of NORM - Dosimetry and units - Measurement and detection of norm/practical guide/NORM - Exposure and Health Hazards of NORM - Contamination and Waste in the oil and gas industry. - Transportation of NORM Waste and disposal options. - NORM Management Process Cycle. - NORM Decontamination. - NORM Regulations, Control, and guidelines of NNRA, IAEA.	- Understand NORM exposures and hazards - Be able to use measuring and detection equipment - Understand safe NORM management and transportation - Understand NORM regulations	HSE Supervisors, HSE managers, Radiation Protection officers and others.	100,000 3 days July Sept
24 Fire Prevention and Control Techniques: This course is designed to provide participants with skill and knowledge in preventing and controlling fire risks in their workplace.	- Fundamentals of fire prevention requirement - Fire Chemistry - Characteristics of fuels in the Petroleum Industry - Mechanism of Combustion - Fire Prevention Techniques - Classification of fire - Fire suppression and techniques of	- Identify fire hazards in their operations and prescribe - preventive measures. - Classify their work environment into fire zones - Attack and extinguish any fire outbreak using portable fire extinguishers	Safety Personnel, Fire Officers; Loss Control, Managers and Supervisors, Security Officers/Supervisors in various sections of the Petroleum Industry.	120,000 5 days February May October

	extinguishment - Effects of fire on personnel - Firefighting equipment; installations and techniques - Emergency/evacuation procedures - Evaluation of fire risk.			
25 Renewable Energy and Energy Efficiency: Renewable energy and energy efficiency are essential for managing water resources and food production in a more socially and environmentally-responsible way. This course is designed to provide delegates knowledge and skills to make food, water and energy systems more sustainable	- Photovoltaic solar power generation - Basic of solar energy - Photovoltaic System - Photovoltaic energy conversion performance and output - Electrics for photovoltaic - Hands on installation - Electrical Safety - Legislations in renewable energy - Wind power generation - Wind energy conversion - Wind turbines structures - Electrics for wind systems - Site selection and planning - Resource estimation - Installations and Safety	- Understand Photovoltaic and wind energy systems - Be able to safely install renewable energy systems - Understand renewable energy regulations	Technicians, Supervisors and others that want to develop carrier in renewable energy	100,000 3 days 8th - 10th May, 2017 - 1st Run 6th - 8th Nov., 2017
26 Chemical Waste Handling and Management: To acquaint participants with new and modern techniques in the handling and management of Chemical	- Theory of Chemical Waste - Identification and Classification of Chemical Waste - Analysis of Chemical Waste - Temporary Storage of Chemical Waste - Transportation of	- Understand hazards of chemical waste - Understand how to handle chemical waste without damaging the environment - Understand hazard waste classification and best disposal techniques	Laboratory Technicians and Technologists, Oil Field Workers, Chemical Analyst, Supervisors, Field Officer, Safety and Health Officers and Managers	100,000 3 days February August

Waste in the Petroleum and Allied Industries.	Chemical Waste - Safety Aspects in Handling of Chemical Waste - Treatment of Chemical Waste - Disposal of Chemical Waste			
27 Basic First Aid: This basic first aid course is the standard training recommended for workplace first aid providers. It's also good for anybody who wants to be able to help during a medical emergency. Medical emergencies related to ill health or an accident can happen anywhere at any time – this course will ensure you know what to do.	- Consideration and classification of accident - The purpose of first aid treatment - General Consideration of different types of injuries - and method of handling them. - Consideration of the contents of First Aid kits - Basic CPR	- Be able to recognize life-threatening situations. - Be able to offer vital assistance before more experienced help arrives.	Emergency responders, Hall Wardens, Engineers, Technicians, Management, and all employees working in an industrial environment	100,000 3 days April November
28 Pollution Prevention and Control: To acquaint participants with the knowledge of environmental protection. Pollution Control and prevention, environmental impact of pollution.	- Introductory Ecology - Pollutants Classification of air, water and land - pollutants and toxic Metals. Effects and prevention. - Water Pollutants, Sewage Treatment and biological - examination of water. - Oil Spillage and procedures to combat the oil spillage. - Other Pollutants from the Petroleum Industry and remedial - measures.	- Understand what a pollutant is - Understand the effective preparation, planning, and implementation of pollution prevention and control measures	Chemical, Production, Petroleum, Mechanical Engineers, Field Production Supervisors, Technicians, Science Laboratory Technologists, Para-Medical Staff, staff of environment protection agencies, water works, etc.	100,000 3 days March June October

	- Toxicology.			
29 Oil/Drilling Waste Management: To equip participants with modern techniques for the safe handling and disposal of oil and drilling waste in an environmentally friendly manner.	- Basic Chemistry of Crude Oil - Drilling Fluids - Composition/formation of drilling waste - Toxicity of oil drilling waste - Waste Management Techniques - Waste disposal methods	- Understand best waste disposal technique for oil/drilling waste - Understand waste management hierarchy - Understand regulatory requirements for oil/drilling waste	Waste Management Personnel, HSE Personnel, CLO's and Drilling Rig Personnel.	100,000 3 days April August November
30 Safety/HSESkills Training: For managers, safety representatives or other employees to perform their functions, they need to be equipped with appropriate skills and knowledge across core HSE requirements especially in an industrial environment. This course is built around current real-world expertise and will enable participants align with current practices in the industry.	- Introduction to Safety - Unsafe acts/unsafe condition - Classification of accident - Cost/causes of accident - Supervisor/accident prevention - Safety inspection - Unsafe Acts Audit (UAA) - Accident Investigation and Reporting - HSE Management System (HSE-MS) - Benefits of HSE-MS - Job Hazard Analysis - Risk management - Risk Control Strategies - Occupational Health Hazards and Control - Environmental Impact Assessment (EIA) - Waste Hierarchy - Waste Management Techniques	- Understand HSE management - Be able to identify hazards - Understand accident classification and prevention - Be able to analyze risk using a simple risk matrix - Be able to recommend and controls for eliminating/mitigating risks using the hierarchy of controls - Understand Occupational Health hazards and control measures - Be able to prepare a JHA - Understand EIA requirements - Understand waste management hierarchy	Safety Professionals, Environmentalists, Lab Personnel, Field Personnel, Loss Control Supervisors/Managers	120,000 5 days June October

	- Control of Toxic Wastes			
31 Waste Management: The main aim of this course is to expose the participants to new technology in waste handling and disposal. These methods of waste management would ensure a clean environment.	- Classification of Waste - General Consideration of the various hazards associated with - wastes accumulation. - Waste disposal methods - Consideration of waste treatment methods - Personnel protective equipment for waste Disposal - Consequences of untreated wastes - Field Trips.	- Understand waste disposal methods - Understand hierarchy of waste management - Understand waste management techniques	Environmental Scientists, Staff of environment protection agencies, Local Government Council Sanitary Officers, Health Staff, Safety Officers, Engineers.	100,000 5 days February August
32 Toxicity of Environmental Pollutants: To acquaint participants with the basic knowledge of the extent/degree of toxicity of some pollutants, their dangerous effects in the environment and preventive measures.	- Sources and types of pollutants - Biodegradable and nonbiodegradeble. - Distribution, availability and measurement of pollutants in - the environment.	- Understand the effect of pollutants on the environment - Understand pollution sources and how to manage them	Health Staff, FEPA Staff, Food and drug Administration Staff, Environmental and Safety Officers, Staff of Water Works, Laboratory Technologists and Technicians, Chemists and Chemical Engineers.	100,000 5 days March September
33 Defensive Driving Skills for Drivers Leading to Drivers Certification: This course is designed to equip the participants with the concept of	- History of Road Safety in Nigeria - Road accident statistics in Nigeria - Unsafe acts by drivers - Unsafe Conditions - Conditions that lead to road accidents - Defensive driving - Drive and survive rules	- Understand road traffic requirements - Be able to drive safely and defensively - Be able to identify unsafe driving conditions and apply precautions - Understand vehicle inspection requirements	Professional Drivers and all who desire to gain defensive driving skills	100,000 5 days February September

road accident, the unsafe and unsafe conditions and how they contribute to road accident, and the procedure to be taken to reduce road accidents. It is also to enhance the driving skills of the drivers.	- Elements of defensive driving - Characteristics of defensive drivers - Standard accident prevention formula - Positions of two vehicles collisions - Second rules - Stopping distance formula - Following distance - Reaction distance - Road traffic Accident reduction - Goals of road traffic accident reduction - Avoidance of Head on collision - Perfect Trip - Types of inspection - Procedures of road accident reporting - Study of some recorded road accidents - possible causes and - prevention - Practical Section - Driving Simulator			
35 Introduction to Remote Sensing and Geographic Information Systems (GIS) for Environmental Management: GIS is a powerful tool for environmental data analysis. It allows better viewing and	- Remote Sensing an overview - Electromagnetic spectrum - Sensing Systems - Practical Remote Sensors - Data reception transmission and processing - Global Positioning Systems (GPS) and	Create the awareness of the importance of remote sensing and GIS in Environmental and Disaster Management. Develop capacity of participants in Remote Sensing and GIS applications. To develop the participants in digital map generation and practical applications.	Environmental Scientist / Engineers, Surveyors, Urban Planners, Decision Makers, e.t.c.	100,000 5 days August

understanding physical features and the relationships that influence in a given critical environmental condition. On completion of this course, participants will receive knowledge and skill in analyzing GIS data in planning and managing the environmental hazards and risks.	Practical Application - (Outside Class discussion) - Overview of Geo-Spatial Data. - Geospatial Representation, Processing and Analysis. - Introduction to GIS Software i. Licensed Software ii. Open Source Software			
36 Radiation Protection Training: It is designed to provide delegates with the radiation protection knowledge they required to supervise others working with ionizing radiation. Delegates will also gain understanding of hazards and risks associated with ionizing radiation. This will enable them to undertake risk assessments develop safe systems of work and to implement contingency programmers identified from such risk assessment training.	- Ionizing radiation. - Units used in radiation protection. - Biological effects of ionizing radiation. - Radiation dosimeters. - Ionizing radiation risk assessments. - Radiation monitors. - Ionizing radiation regulations. - Radiation Safety. - NORM/LSA and the Management of NORM waste in oil and - gas industry. - Industrial Radiography	- Understand ionizing radiation properties and effects - Understand radiation monitoring regulations and requirements - Understand HSE requirements - Be able to conduct risk assessments - Be able to develop radiation protection systems	Radiation Protection Supervisors, Radiation Safety Officers (RSO), Industrial Radiographers, Managing Radioactive Site Contractors, X-ray Welders. e.t.c.	100,000 5 days April September
37 Radiological Safety Protection Course: This course is intended for	- Radiation fundamentals - Interaction of Radiation with matter - Biological Effects of Ionizing Radiation	- Understand radiation sources - Understand safe means of handling radiation sources - Understand regulations for transporting, storing and using	Radiation Protection Supervisors, Radiation Safety Officers (RSO), Industrial Radiographers, Managing Radioactive Site Contractors, X-ray Welders. e.t.c	150,000 5 days 5th - 7th June, 2017 - 1st Run

ionizing radiation source user for inspections, welders, industrial radiography, maritime, nuclear well logging and radioactive material transporting companies.	- Principles of Radiation Protection - Safe Transfer and Transportation of Radioactive materials - Radiation Monitoring and Detection - Practical use of Radiation monitoring instruments for personnel Safety - Local Rules and Risk Assessment - Emergency and Contingency Planning - Case studies of some radiation incidents/accidents - Utilizing Contingency Planning and Preparation	radiation sources - Understand radiation protection standards an philosophies		9th - 11th Oct., 2017 -

Electrical, Instrumentation & Maintenance Programs

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	PRICE DURATION/ Dates
1 Fundamentals of industrial process measurement: This course is designed to provide participants the skill and knowledge in various devices used for measuring process variables.	- Pressure measurement - Temperature Measurement - Level Measurement - Flow Measurement	- Identify various devices used for measuring process variable. - Understand the constructional features and operational principle of the fundamental process variable devices.	Instrument engineers, technologists and technicians. For electrical engineers, technologist, technicians, and instrument operators who are working in oil establishment	100,000 3 days Mar 5-7 Sept 3-5
2 Instrument Diagrams and Symbols: This course is aimed at opening the trainee's minds towards appropriate symbols used to represent different instrument and control techniques obtainable in the oil and gas Industry.	- Instrumentation and designations - Mechanical equipment with names and numbers - All valves and their identifications - Process piping, sizes and identification - Miscellaneous - vents, drains, special fittings, sampling lines, reducers, increasers. - Permanent start-up and flush lines - Flow directions - Interconnections references	- Identify various symbols used to represent various instruments - Understand and interpret instrument diagrams	Instrument engineers, technologists and technicians. For electrical engineers, technologist, technicians, and instrument operators who are working in oil establishment	100,000 3 days April 16-18 Aug 1-3
3 Foundation of Fieldbus System: This course is geared towards exposing the trainees to the working of a Foundation Fieldbus System and the use as a bi-directional communications protocol used for communications among field devices and to the control system in the oil and gas industry.	- General Introduction to Foundation Fieldbus System. - How Foundation Fieldbus is shifting the process of control strategy paradigm - Advantages of using the Foundation Fieldbus Technology - Foundation HSECommunication Methods - Power Supply Termination - Intrinsically Safe Fieldbus	- Understand a Fieldbus system - Understand Common Fieldbus Configurations - Understand Multi Master Redundancy and Device Type Manager (DTM)	Instrument engineers, technologists and technicians. For electrical engineers, technologist, technicians, and instrument operators who are working in oil establishment	120,000 3 days May 2-4 Sept 3-5

4 Process Control Systems and Loop Tuning: The main aim of this Process Control, Loop Tuning and Advanced Control Strategies course is to help trainees understand the technical concepts. This will enhance their skills with practical experience. This course will help trainees acquire knowledge on process control engineering concepts with lots of practical and computer aided problems for the better understanding	- Introduction to Process Control - Time Response - Transfer and Function - Open Control System - Closed Control Systems - Stability of Closed Loops - PID Control - Transducers and Sensors - Measurements and Sensors - Idea ID Vs Real PID - Cascade Control -	- Understand process control requirements - Manage open and closed process systems - Differentiate between Idea PID and Real PID - Understand process measurements	Instrument engineers, technologists and technicians. For electrical engineers, technologist, technicians, and instrument operators who are working in oil establishment	120,000 3 days May 7-9 Oct 2-4
5 nstrument Maintenance, Repair and Calibration: This course is designed to update participant's knowledge and skill in maintenance and troubleshooting of electronic and process instruments	- Types of maintenance operations - organization of maintenance - Maintenance management - Maintenance management options - Maintenance planning and control - Shop tools and accessories - Test equipment and standards - Electronic instruments/equipment maintenance and repairs - Calibration of process instruments and stroking of control valves - Troubleshooting skills in instruments - Troubleshooting approaches - Maintenance of Laboratory instrument - Maintenance of Process Instruments (Control Valve, Transmitters, Regulators E.T.C.) - Troubleshooting scenarios	Understand maintenance and troubleshooting of electronic process equipment	Instrument engineers, technologists and technicians. For electrical engineers, technologist, technicians, and instrument operators who are working in oil establishment	150,000 4 days April 2-5 Sept 17-20
6 Electrical machines maintenance:	- Basic Principles: - Conductor in magnetic field - Generated E.M.F. flux linkage		For Electrical/Mechanical Technicians Working in the Oil/Manufacturing Industries	100,000 3 Days

This course is designed to provide participants with current and up-to-date knowledge of the working principles of Electrical Machines.	induceE.M.F - Torque and output power - Electromagnetic induction - Tum/Voltage ratios - +Load Condition. - Electrical Equipment Classification - Electrical Equipment Operation - Electrical Equipment Application		with appropriate background and working experience.	March 5-7 May 7-9 October 22-24
7 Electrical maintenance management: This course is designed for those with the responsibility of maintaining reliability and availability of electrical equipment in the organization. Participants will be exposed to practical current practices/principles in electrical maintenance management	- Development of maintenance. - General objectives of maintenance. - Maintenance operations - Maintenance procedure. - The need for a maintenance department. - Functions of a maintenance department. - Organogram of maintenance. - Maintenance Supervision. - Various types of maintenance activities. - Effective factors necessary for the selection of a - maintenance practice (policy). - The need to prepare maintenance schedule and programme for maintenance work. - The need for proper record keeping of maintenance workdone. - The need to prepare ordering schedule for replacing and replenishing of materials and tools. - Distinction between maintenance and repairs. - Maintainability and its importance. - Identification of test instruments and equipment for different tests:- Insulation resistance test.	- Understand general objective of electrical maintenance - Understand the principles of maintenance management - Understand the principles of record keeping and stocktaking. - Understand the use of test instruments and equipment.	Electrical Engineers, Technologists, Technicians, Mechanical Technicians and Technologists involved in the maintenance of Electrical Systems Equipment and devices.	100,000 3 Days June 4-6 October 15-17

	- ! Dielectric strength test. - ! Murray loop test. - +The need to observe safety precautions during testing and - repairs. - +The need for specification, regulations and standards as - maintenance tools. - Method of carrying out the required test, repairsand maintenance on:- (i)Electrical machines. (ii) Transformer. (iii) Industrial equipment. e.g. compressors, pumps etc. (iv) Audio and Video systems. (v) Domestic appliances. - Electrical Installation repairs and maintenance. - Commissioning			
8 Electrical risk prevention: To provide participants with the skills and knowledge to prevent electrical risks	- Concept of electricity - Classification of electrical materials - Direct current - Alternating current - 23 - Electrical faults - Protection measures for safety - Protection against electric shock - Protection against thermal effect of electric current - Testing and Inspection of electrical installation and - equipment - Importance of Earthing Test	- Know fundamentals of electrical risk prevention - Know basic safety requirement - Understand protective measures for safety - Know Regulations and Standards guiding electrical installation and equipment.	Maintenance and Safety Personnel, Electromechanical Personnel and individual that has priority for safety measures as it affects electrical installation and sets of equipment.	100,000 3 Days June 25-27 October 8-10
9 Switchgear maintenance: When switchgear malfunctions, the consequences are often	- Electrical hazards and precautions - Statutory regulations and codes of practice - High voltage safety rules - Electrical safety documents	Understandthe functional and operational requirements of HV/LV electrical switchgear	Electrical and mechanical personnel with a responsibility for the maintenance of HV/LV electrical switchgear	100,000 3 Days April 9-11

catastrophic. Damage to the switchgear itself can be extremely expensive, but that pales in comparison to corollary damage and the potential hazards to people. Thus, implementing an effective switchgear testing, inspection, and maintenance program is essential. This training course is designed to provide participants skills to address these needs in an organization	- Operational features of switchgear - Circuit breakers – oil, gas, air and vacuum - - Auxiliary equipment - Primary conductors and switchgear enclosures - Switchgear maintenance - Battery supply units - Introduction to electrical faults and protection - Fault diagnosis			November 5-7
10 Rewinding of electrical machines: This training is designed to provide knowledge and skills in the trade to meet the standard performance of industry. Participants will be introduced to the various electric machines with reference to motors, alternators and transformers enabling them undertake repairs of electric machines particularly motors.	- Introduction - Classification of electric motors - Types of electric motor windings - Identification of burnt electric motors - Dismantling of motors - Measurement of conductors diameters - Preparation of slots and coils - Rewinding process - Binding the windings - Terminations - Tests - Vanishing.	At the end of the course the participant should be able to identify and rewind burnt electric motors	For electrical engineers and technicians in oil and manufacturing industries,	100,000 3 Days May 21-23
11 Electrical installation and maintenance: This training begins with the fundamental principles that always apply to ensure safety andprovides participants with the knowledge and ability to install, alter, repair and maintain all types of electrical systems. It also covers the principles of hazardous area	- Safety and safety regulations. - Electrical working diagrams. - Domestic Surface Wiring Techniques. - Domestic Conduit Wiring. - Protecting Electrical Devices. - Testing of Domestic Installations. - Ducts andTrunkings. - 24 - Types Of Cables, Sizes and Selection. - Electrical Machines And Equipment Installation And	- Understand electrical working diagrams. - Know different types of domestic surface wiring. - Know different types of domestic conduit wiring. - Understand the principles of protecting electrical devices - and install them. - Understand sequence for inspecting and testing	Technicians, Maintenance Personnel and Workshop Personnel and Their Assistants.	100,000 5 Days May 14-18 September 24-28

classification, explosion –protection techniques, equipment installation requirements, inspections, procedures for breakdown and maintenance with theory and practical components.	- Control Methods. - Simple Maintenance Methods.	domestic - installations.		
12 Flow measurement: To provide a working knowledge of procedure for flow measurement.	- Physical Fluid Properties: - Definition - Fundamentals of Fluid Mechanics - Flow Pattern - Velocity of Flow equipment - Flow Measurement Techniques - Calibration of Flow Meters - Economics of Flow Measurement	- e aware of the principles and key features of the main types of metering systems in use within the natural gas industry - Understand the principles and practice of volume conversion - Understand the importance of correct calibration - Understand the principles of current maintenance and validation requirements - Appreciate the importance of flow calibration - Appreciate the impact of metering errors	Technicians/Operators involved in flow measurements in Petroleum/Allied Industries.	150,000 3 Days March 5-7 August 27-29 October 3-5
13 Fundamental of electronics/applications: That at the end of this course, participants would have thorough working knowledge of electronics including analogue and basic digital electronics. operational amps and application of power electronics in industrial drives	- Circuit Components - D.C Electronics - A.C. Electronics - Trouble Shooting of Digital Circuits -	- Understand electronic applications	Engineers, Technologist and Technicians in the Industries. Instructors, Technologists and Technicians in academic and research institutes.	100,000 3 Days June 18-20 October 22-24

14 Digital electronics and logics: Digital Electronics is one of the branch of Electronics. It deals with digital format of data and codes. Digital techniques are very useful because it is easier to get an electronic device to switch into one of a number of known states than accurately reproduce a continuous range of values. This course teaches concepts to participants, who can develop a solid underlying knowledge of digital electronics.	- Introduction to Electronics: – Electric Current, OHMS Law, Insulation, Conduction and related Formulae. Resistor colour codes. - Practical study of Digital I.C.s including AND, NAND, OR, NOR, X-OR, X-NOR, Inverter, Buffer, SR Latches and D-Latches and Flip-Flops. - Oscillators, Multivibrators and 555 Timers. Switches and Switch De-bounce circuits and their applications. - Numbering systems, TTL and CMOS technologies - Counters, Counter Decoding Circuitry, Shift Registers - A-D and D-A converters - Digital Displays: – LED and LCD, numeric and alphanumeric, operating currents, voltages and power requirements. Display decoders and drivers. - Test Equipment: – Practical use of Analogue and Digital Multimeters, Oscilloscopes, Logic probes, Logic Pulsers, etc. - Fault-finding techniques: – Diagnosing and rectifying faults on circuits built during course. - Health & Safety, Care of Tools and instruments for assembly and repair	- Build and fault-finding a range of Digital Electronic circuits used in computers and computer controlled equipment - Use test equipment including Multimeters, Oscilloscopes, logic probes and pulsers to implement systematic fault-finding techniques. - Study and use of popular Digital Electronic gates and more advanced circuits	New developers who are interested to learn digital electronics, students or professionals who are interested in the area of Digital Electronics and anyone wants to have good knowledge in Digital Electronics and Logics.	180,000 4 Days May 7-10 November 12-15
15 Instrumentation (Pneumatics) - Fundamentals: This course provides maintenance personnel and production operators	- Definition pneumatic instrumentation - Explain the development and needs for pneumatics - instrumentation - List the equipment and devices	- Define Instrumentation, classify instruments, list examples of - instruments scales and types of instrument errors.	For Instrument Engineers, technologists and technicians. For Electrical Engineers, technologists, technicians, instrument operators who are	120,000 5 Days March 19-23

etc with fundamental skills and knowledge necessary to carry out maintenance tasks on pneumatic and electro-pneumatic systems.	needed for pneumatic - measurements and control system - Explain the construction and operations Nozzle flapper devices	- Know the process variables and various methods of measuring - process variables - Know how to convert mechanical, electrical and electronicsignals into pneumatic signals and vice-versa - Compare Pneumatic transmissions with mechanical, electricaland electronic transmission over other type of transmissions - Describe components of connections for pneumatic signals -	working in oil establishment.	July 2-6 October 15-19
16 Instrumentation (Pneumatics) - Advanced: This advanced training courseprovides with the skills and knowledge necessary to carry out maintenance tasks on pneumatic systems.	- Describes the construction and operations of pneumatics relays - such as non –bleed and continuous bleeding relay - Describe the construction of force balance and motion balance - mechanisms respectively. Giving practical example of each and their application - Describe the construction and operation of: - (i) pneumatic proportional controller - (ii) pneumatic differentiator - (iii) pneumatic integrators and pneumatic proportion - plus integral controller and finally pneumatic PID - controllers - Pneumatic current – to – Air	- Describe the construction details and general features ofpneumatics connections - Describe pneumatic control elements; understand the - operating principles of pneumatic control valves. - Describe the operating principles of pneumatic controllers - Describe pneumatic relays, pressure reducers' boosters andtransmitters. - Know how to calibrate pneumatics instruments.	For Instrument Engineers, technologists and technicians. For Electrical Engineers, technologists, technicians, instrument operators who are working in oil establishment.	100,000 3 Days March 26-28 July 9-11 October 22-24

	Converter - Differential Pressure Transmitters Force Balance - Pneumatic controllers, state types, principle and application - Describe the operation of the manual Auto Transfer Switch - Pneumatic recorders, construction, types and application - Pneumatic valves and actuators - Pneumatic valve positioners - Electro Pneumatic valve positioners - Pneumatic telemetry			
17 Basic instrumentation and control: This foundation-level course provides an overview of electrical systems, instrumentation, process control, and control/safety systems typically encountered in oil and gas facilities, such as: separation, gas dehydration, gas sweetening, NGL recovery, and associated facilities. The focus is to understand terminology, concepts, typical equipment configurations, control strategies, and common pitfalls in order to effectively manage and execute multidiscipline projects.	- Introduction and interpretation of Instrumentation - Pressure and Temperature - Electrical Temperature Measurement - Level Measurement	- Understand electrical systems, instrumentation and process control for oil and gas facilities	Instrument, Mechanical, Electrical Technicians and Technologists.	100,000 3 Days March 12-14 May 7-9 October 8-10

19 Advanced instrumentation and control: This course applies fundamental instrumentation and control engineering principles to oil and gas facilities design and operation, and is designed to accelerate the development of new facilities Instrumentation and Control Engineers. Through the use of individual and group problem solving, attendees will learn about field measurement devices, final elements and actuators, pressure relief and regulation, documentation, programmable logic controllers	- Field measurement devices including level, - pressure, temperature, and flow - Final elements and actuators including controlloops, control valves, shutdown valves,actuators, and transducers - P&ID symbols and instrument tags, loop andlogic diagrams, Pitfalls and best practices, ISA symbology, and creation of instrumentand I/O Lists - Signal types and wiring requirements foranalog/discrete inputs and outputs as wellas other signals such as thermocouple, RTD,pulse, and digital - Typical control system functions, limitations,and architectures for PLC and DCS systemsincluding programming and ladder logic - Process control basics with an emphasison control loops, types, and configurationsfor common oil and gas process equipment such as separators, pumps, distillation towers, filters, contactors, compressors, heat exchangers, and fired heaters	- Understand electrical systems, instrumentation and process control for oil and gas facilities	Instrument, Mechanical, Electrical Engineers, Technicians and Technologists.	100,000 3 Days April 9-11 September 24-26
20 Power System Protection: This three-day course covers the fundamentals of power system protection, current best practice, protection system management and new developments in protection technology.	- Philosophy of protection - Power system components. - Protective schemes - Switchgear - Protection of feeders - Bus-bar protection - Transformer protection - Generator protection - Motor protection - Relay application tables	- Appreciate the need for power system protection. - List various types of protective schemes. - Explain the protection of power system components.	Electrical engineers Electrical technologists/instructors Electrical technicians Electrical consultants +Contractors.	100,000 3 Days March April 23-25 August 1-3

21 Electronic instrumentation: Electronic Instrumentation has come to acquire a great deal of significance as today, in our day to day lives we are increasingly using tools, appliances, and instruments which contain electronic components. This course empowers participants to provide professional skill and knowledge in this area	- General concepts of Instrumentation - Transducers and Transmitters - Signal Conditioning - Analogue Controllers - Digital Controllers - SCADA - Alarms Implementations - Fieldbuses	- Be able to choose transducers for specific applications - Be able to generate alarms - Understand the use of microprocessors andmicrocomputers in a control loop. - Understand the modern transmission systems	Engineers and Technicians in Oil, Gas, and Allied Industries as well as those in Manufacturing, Academic, and Research Institutions.	120,000 5 Days April 9-13 October 22-26
22 Controllers and process control systems in the petroleum and allied industries - Fundamental: An introductory course that provides participants with fundamentals in process control systems	- Introduction to Process Control Systems - Manual and Automatic Control Systems - Understanding Process Control System Terminologies - Understanding the Basic Characteristics of Control Systems - Implementing the Control Modes Using Pneumatic Systems - Implementing the Control Modes Using Electronic Systems - Introduction to Programmable Logic Control System PLCand Programmable Logic Devices -	- To get participants knowledgeable in the field of process - controllers. - (ii) To give basic understanding of the various control systemavailable in the industry. - To acquaint participant with the knowledge of thevarious controllers available in the industry. - To introduce participant to Microprocessor and Microcontroller. -	Production Engineers and Technologist (ii) Electrical/Electronic and Instrumentation Personnel in-charge of Installation and maintenance of facilities in production plants	120,000 5 Days May 21-25 August 13-17 October 22-26
23 Controllers and process control systems in the petroleum and allied industries - Advanced: A three day course that provides participants with advanced in-depth knowledge process control systems management in the petroleum and	- Microprocessor and Microcontrollers and their application in Process Control - Distributed Process Control System in the Industries - SCADA Controlled Systems	- To get participants acquainted with the knowledge of - programmable logic controllers and programmable logic - devices. - (vi) To get participant to learn about computer	Mechanical, Petroleum Process and instrument engineers Plant Superintendents and Managers (v) Process plant operators (vi) Chemical, Pharmaceutical, Production plants operators, food processing plants, engineers, technologist	100,000 3 Days

allied industries		controlled and - supervised production system.	and operators (vii) Instructors in the Universities, polytechnics and collages of education in the field of Electrical, Mechanical, Petroleum and Chemical Engineering etc.	
24 Cable joining and termination: This course is designed to ensure anyone attending is made familiar with the procedures involved in the installation of medium/high voltage cable accessories. The course is very much “hands on” but there is a degree of simple theory given to explain the workings of cables and accessories, why failures occur and ways of ensuring failures are kept to a minimum.	- Product design - Cable Construction and Preparation - Installation techniques - Understand manufacturers Installation instructions	- Apply the latest techniques in MV/HV cable splicing, joining, terminating and testing - Discuss cable joining and the different types of cables, insulation materials, termination and joints - Describe the construction of cables, conductor materials and configurations - Identify various types of cable connectors, materials and methods of connection - Apply the theory of joints and termination - Practice cable joining, splicing, testing and terminating	Electrical engineers, electrical staff, instrumentation control engineers, project engineers, maintenance engineers, power system protection and control engineers, data system planners, electrical and instrumentation technicians.	100,000 3 Days April 16-19 September110 -12
25 Management of electrical projects: Effective project management is essential to deliver electrical projects on time, on budget and to specification. This course is designed to equip you with the	- Project Management and the Project Lifecycle - Project Organisation and Stakeholder Management - Project Lifecycle: Development Phase and Risk - Project Reporting and Project Management Techniques	- Develop essential project management skills - Understand the stages and teams required for effective project delivery - Gain valuable tools and techniques for effective project management	Engineers and Technicians in Oil, Gas, and Allied Industries as well as those in Manufacturing, Academic, and Research Institutions.	100,000 3 Days

understanding, tools and techniques you need to manage a range of electrical projects.	- Project Lifecycle: Handover & Closure Phase	- Enhance your ability to deliver projects on time and on budget - Reduce the risk of delays, cost overruns and creep - Apply your skills through a series of workshop exercises		
26 PLC Programming, Troubleshooting & Maintenance: The course aims to enable technical personnel to understand the PLC system better, make basic modifications to the user control program and to troubleshoot quickly using both software and machine diagrams. Problem exercises are given and simulated with the aid of a PLC trainer. Aside the generic understanding of the PLC system, participants have the opportunity of product specific knowledge through hands-on practice using PLC hardware and software/simulators	- Identifying System and Software Components - Communicating with a PLC - Interpreting Project Organization and Execution - Creating Tags and Monitoring Data - Basic Ladder Logic programming - Editing Ladder Logic Online - Introduction to Structured Text, Function Block Diagrams and Sequential programming - Documenting and Printing Components - Searching for Project Components - Programming Add-On Instructions - Starting a Ladder Diagram &Testing a Ladder Diagram - Programming Timer, Counter, Compare, Move and Math Instructions - Preventative Maintenance and Troubleshooting Strategies	- Understand the operational principle of a PLC. - Identify and describe the functions of the PLC system components - Carry out basic installation and operation of an Omron PLC system - Create a control Program in Ladder Diagram language; - Translate a ladder diagram program into electrical and logic circuits equivalent; - Effectively Carry out Basic Maintenance and Troubleshooting of PLC systems - Observe safe practices when working with PLC and its devices	Personnel involved in Operation, Installation, and Maintenance of PLC control systems.	180,000 5 Days April 9 -13 November 12-16
27 PLC & SCADA for Automation & Process Control: This course is designed to teach the student the knowledge required in industrial environments. This course	- Introduction to Control Strategies - - Control Systems - Open Loop Control System - Closed Loop Control System - Modern Applications - Industrial Control Systems	- Be able to understand operation and technical terms used in a plant - Understand basic communication method - Be able to identify type of SCADA used	Craftsman, technicians, technologist, engineers and any person with a science background.	150,000 5 Days May 21-15

will provide the necessary information for Plant Operation which involves process control.	- PLC and RTU-Differences - PLC Basic - Requirements - Terminology - Inputs/outputs - Network Communications	- Be able to understand types of PLC and its functionalities		August 27-31
28 Process control and instrumentation: In order to meet the exacting demands of the oil and gas, mining, manufacturing and downstream processing industries, modern plants are equipped with systems and devices which are needed to measure and regulate variables such as temperature, pressure, flow, humidity, liquid level, velocity and density. This professional development course is designed to provide participants with critical knowledge and practical tools that can be immediately applied to the workplace	- Function, constitution, signal types. Tag naming conventions and symbolization on Piping & Instrument Diagrams (P&ID). - Control loop and Safety Instrumented Function (SIF). - echnologies to measure & detect the pressure, temperature, level, flow and weight. - Working principles and configuration parameters. - Selection criteria according to process needs. - Controller role and performance criteria. - ON/OFF and PID controller. - Controller tuning methodologies. - Introduction to advanced process control - Role, architecture and functions of a Distributed Control Systems (DCS). Separation of control and safety systems. - Introduction to Safety Instrumented Systems (SIS). Multiple safety layers principle.	- Be able to read and understand a P&ID - Be able to select optimal technology for sensors and valves, - Be able to increase control loop performance.	Managers, Engineers and technicians from process industries.	200,000 5 Days June 4-8 September 17-21
29 Liquid and gas flow metering and custody measurement: This course is designed to acquaint users with the problems and	- The laws governing fluids and gases - Important principles of flow-metering including accuracy and repeatability - Main types and applications of Flowmeters with emphasis on	- Recall the basics of fluid mechanics - Identify the fundamental problems related to uncertainty - Compare the different	Any personnel who are, or will be, responsible for designing, selecting, sizing, specifying, installing, testing, operating, and maintaining instrumentation related to the field of custody	150,000 3 Days July 9-11

solutions for high accuracy transfer of liquid and gas petroleum products from supplier to customer.	custody transfer - Flowmeter proving and calibration techniques - Custody transfer principles and applications	methods of measuring flow in the oil and gas industries - Describe the various methods of level measurement - Compare the different methods used to derive strapping tables - Evaluate the different custody transfer standards in use today - Contrast the methods used in flow calibration	level and flow transfer measurement. This could include facilities, process, chemical, electrical, instrumentation, maintenance, and mechanical engineers and technicians.	
30 Control valves, actuators and positioners: Combinations of valves and actuators are used in just about every process around the world, and the proper understanding and utilization of them is crucial to efficient operations and control. This training course has been designed in such a way as to empower delegates to think practically about valve and actuator installations, in a manner that allows them to consider, select and install the best piece of equipment for the application at hand.	- Different types of valves, and their suitability to a variety of applications - Actuators, valve positioners, filters, regulators, I/Ps, and other associated hardware - Understanding the valve coefficient and determining the correct valve size and type - Valves in P&IDs, installation and maintenance considerations, and cavitation and noise control - Optimizing the use of control valves, using digital controllers	- Comprehend the inner operation of most commonly utilized valve types - Decide on the best valve to use, for specific applications - Determine the most cost-effective valve size - Determine the best device to drive and operate an assortment of valves - Get control valves to operate optimally in the field, using an assortment of techniques	Instrumentation personnel involved in valve maintenance, senior management and staff responsible for valve and actuator selection, mechanical and electrical staff that come into contact with valves, process control engineers, industrial engineers and staff responsible for plant safety and all personnel with a vested interest in applications that require/utilize valves	120,000 3 Days July 16-18
31 Instruments, Power, Grounding and Isolations: This three days course	- Power Quality - Reliable Power Supply - Power System Design & Installation - Power Conditioning - Grounding effect of mouse - Shield grounding		Craftsman, technicians, technologist, engineers and any person with a science background.	120,000 3 Days March 19-21

	- Isolation - Earth Resistance test for Instruments Location			July 23-25

PETROLEUM
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2018 PROFESSIONAL & SPECIALIZED TRAINING COURSES

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- WELDING, SUBSEA/ OFFSHORE & MARINE PROGRAMS
- OFFSHORE TECHNOLOGY CENTRE
- DIRECTORATE OF RESEARCH & DEVELOPMENT
- PTI SKILLS DEVELOPMENT ACADEMY

1. SKILL AQUISITION TRAINING
2. WELDERS CARRYING OUT WELDING OPERATIONS
3. DIVERS TRAINING

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3

1. LEVEL PROCESS TRAINING SYSTEM [I AND C LABORATORY]
2. WELDERCARRYING OUT WELDING OPERATIONS
3. LATHE MACHINE

Welding, Subsea/Offshore and Maritime Programs

Course Title and Introduction	Course Content	Learning Outcomes	Target Audience	PRICE DURATION/ Dates
1 METAL INERT GAS / METAL ACTIVE GAS / GAS METAL ARC WELDER (MIG/MAG/GMAW): This course is about performing manual (semi-automatic) operations for metal inert gas welding (MIG) / metal active gas welding (MAG) also known as gas metal arc welding (GMAW) for welding joints in all positions as per welding procedure specification (WPS).The welder can prepare various Fillet and Groove joints and prepare for operations by interpreting the right information from the WPS in positions (EN ISO 6947 – PA, PB, PC, PD, PE, PF, PG; ASME IX – I-6 G/1-6 F)	- Working Safely - Prepare for welding operations - Carry out welding operations - Test for quality - Post welding activities - Dealing with contingencies -	At the end using GMAW process you will be able to practically weld; - Bead on plate - Layered beads - Stop start beads - Edge welds - Flange welds - Corner welds - Lap welds - Fillet welds	Any person who can show proficiency in welding all position in SMAW process	500,000 25 days
2 TUNGSTEN INERT GAS WELDER (GTAW): This unit covers the performing of manual TIG (GTAW) welding for a range of standard welding job requirements. This involves welding different materials (carbon steel, aluminum and stainless steel) in various positions. The welder can prepare various joints including corner, butt, fillet and tee. This involves setting-up and preparing for operations, interpreting the right inform	- Working safely - Preparing for welding operations - Carrying out welding operations - Testing for quality - Post welding techniques - Dealing with contingencies	At the end using GTAW process you will be able to practically weld; - Bead on plate - Layered beads - Stop start beads - Edge welds - Flange welds - Corner welds - Lap welds - Fillet welds	A competent welder that wish to improve his/her skills on performing welding activities on aluminium and stainless plate using special process.	650,000 25 days
3 FLUX CORED ARC WELDER (SEMI-AUTOMATIC):	- Working safely - Preparing for welding operations	At the end using Flux cored electrode, you will be able to practically weld;	Candidates undertaking this course will be expected to have a basic knowledge of	500,000 21 days

This unit covers performing of semi-automatic flux cored arc welding process for a range of standard welding job requirements as per welding procedure specification (WPS). This involves welding different materials from a selection of carbon steel, and stainless steel in various positions and various joints including corner, butt, fillet and tee.	- Carrying out welding operations - Testing of output - Post-welding activities - Dealing with contingencies -	- Bead on plate - Layered beads - Stop start beads - Edge welds - Flange welds - Corner welds - Lap welds - Fillet welds	SMAW process and able to weld various welding position both for plate and pipe.	
4 MANUAL METAL ARC WELDING/SHIELDED METAL ARC WELDING WELDER : This course is about performing manual metal arc welding (MMAW) welding also known as Shielded Metal Arc Welding (SMAW) for producing various types of joints on carbon and low alloy steels in 1G/1F, 2G/2F and 3G/3F welding positions as per specific instructions given. The welder can perform these operations under supervision as per WPS and can setup and prepare for operations interpreting the right information from the WPS, obtaining the right consumables and raw materials, etc.	- Working Safely - Preparing for welding operations - Carrying out welding operations - Testing for quality -		Workshop personnel wishing to become welders ,Private individuals wishing to train as welders (they will require access to a workshop for the practical component)	1,300,000 65 days
5 ESSENTIALS OF WELDING DESIGN: This course reviews the terminology and explains concisely the basic principles of effective welding design;	The welded joint; terminology; steps for successful design; features of welding processes; edge preparations; weld symbols; residual stress and distortion; defects; weldability; strength of welded joints; calculation of weld size for static loading; material selection and process control to avoid	- To recognize how welding imposes limitations on design - To appreciate the importance of weldability problems in materials selection - To design a welded joint to provide adequate access for a given process - To make static stress assessments - To understand fatigue	Project engineers, design engineers and design draughtsman, and all technical staff who require an understanding of the influence of design in production of acceptable welded fabrications.	70,000 2 days

	brittle fracture; design exercises; assessment of the relative fatigue life of welds; fatigue life improvement methods.	behaviour of welded joints - To select materials to avoid brittle fracture -		
6 PIPE FITTING & PIPE BENDING : This course details how Pipefitters fabricate pipework and supports using detailed engineering drawings, cutting, shaping and bending pipe in preparation for welding. Often working alongside welders, they connect piping efficiently and safely, sometimes in difficult conditions.	- Technical Mathematics for Pipe Fitters - Technical Drawing & Symbols - Typical Materials & Tools used for Pipe Fitting and for Pipe Installations - Pipe Fitting Process for Galvanized Pipes - Trade terminology and communication strategies - Bending Principles - Cold bending of Pipes - Hot Bending of Pipes - PVC Pipes - Safety protocols and standards	- Calculate length of pipe systems using the metric and inch system - Calculate the Volume of cylindrical forms - Interpret drawings to fabricate pipe systems - Identify typically used materials, tools and equipment used in Pipe Fitting & Pipe Bending - Identify common fittings, valves, pressure gauges, flow meters - Know the common methods to fit pipes together - Layout, cut thread and install pipes for water supply systems - Know different possibilities on how to bend pipes (hydraulic pipe bender and hot bending) - Know the basics about installing a building water supply system (circular pump, different valves, flow meter, pressure gauge …..) - Know the basics about PVC−Pipe Processing -	Project engineers, design engineers and design draughtsman, and all technical staff who require an understanding of the influence of design in production of acceptable welded fabrications.	100,000 3 days April 2-4 July 9-11 November 5-7

7 IIW INTERNATIONAL WELDING PRACTITIONER: Practical training is carried out on an individual basis with the main processes being MMA, MIG/MAG, FCAW, TIG and Oxy-Fuel welding. Forty (40) hours are reserved to broaden the student's knowledge and skill in other relevant materials within this main process. An additional twenty (20) hours shall be reserved to give the student basic understanding of the possibilities of other processes	- Welding processes and equipment - Materials and their behaviour during welding, construction and design - Fabrication applications engineering - Practical Welding – optional (Practical training is carried out on an individual basis with the main processes being MMA, MIG/MAG, FCAW, TIG and Oxy-Fuel welding) -	**On completion of the course, candidates will have an understanding of:** • The characteristics and main components of the most common arc welding power sources • • The fundamentals of common and special welding processes and their applications • • Consumables used in the different welding processes • • Joint designs and weld configurations for specific materials, thicknesses, accessibility, different loadings and allowable tolerances • • Basic metallurgy of steels, testing of materials and heat treatments • • Defects encountered with the various welding processes	- A valid welder qualification certificate to weld in all positions without backing in at least one process (e.g. 6G (H-LO45) pipe weld without backing, or horizontal and vertical groove weld without backing) The recommended minimum age of 20 years including 2 years' working experience as a welder - Welder qualification tests will be conducted on completion of the theory in the 6G positions and PF plate positions, in a choice of processes or materials	900,000 70 days
8 IIW INTERNATIONAL WELDING SPECIALIST: Specialist (IWS) Personnel with some technical knowledge where the level of knowledge needs to be sufficient for the planning, executing, supervising and testing of tasks and responsibilities, within a	PWT - Practical Welding Technology (Foundation) AWP - Advanced Welding Processes and Equipment WPE1 - Welding Processes and Equipment (Foundation) DAC1 - Design and Construction (Foundation)	Candidates will have theoretical training, main topics and basis of "Welding technology", "Metallurgy and weldability", practice and laboratory, theoretical training as refers to Welding processes and equipment,	Engineers, technologists, welding coordinators and managers in the following fields - process plants, structural steelwork, bridges, pressure vessels, pipework and pipelines, storage tanks, offshore structures, general	850,000 25 days

limited technical field and involving simple welded constructions.	MAB1 - Materials and their Behaviour (Foundation) FAA1 - Fabrication and Application (Foundation)*	behaviour of metals subjected to welding, Design of welded joints, fabrication and applied engineering.	heavy equipment, ship building and ship repairs, automotive, construction, rail, aerospace, power generator equipment, material testing or any industry where welding is the major joining method. If you have some technical knowledge with at least 2 years' experience in welding-related tasks and are seeking to progress your career in welding engineering, the EWF/IIW diploma is for you. -A minimum of a CSWIP 3.2 senior welding inspector certificate -Professional engineer of incorporated (IENG) status granted by the UK Engineering council, or COREN under mature candidate's rules -Higher National Diploma (HND) in an engineering discipline or -Level 4 National vocational qualifications or other nationally recognized vocations qualification in engineering subjects.	
9 IIW INTERNATIONAL WELDING TECHNOLOGIST : This course has a theoretical component and covers welding processes and equipment; materials and their behaviour	WPE2 - Welding Processes and Equipment (Intermediate) DAC2 - Design and Construction (Intermediate) MAB2 - Materials and their Behaviour (Intermediate) FAA2 - Fabrication and	Successful students will possess an intimate knowledge of welding and how to apply this in the areas of: • Non-destructive testing,	Engineers, technologists, welding coordinators and managers in the following fields - process plants, structural steelwork, bridges, pressure vessels, pipework and pipelines, storage tanks,	2,000,000 Practical: 8 days Theory: 44 days Exams: 16 hours

during welding; construction and design; fabrication applications engineering; and fundamental practical skills. This course also has a practical component, which although does not aim at providing practical skills to the candidate, it does however provide them with knowledge on the control of the different welding processes. The course covers specifications; verification of welder and procedure qualifications; and interpretation of test results and collation of reports and records.	Application (Intermediate)*	mechanical testing and visual inspection techniques • Inspection procedures, material specifications and metallurgyEngineering drawings, joint fit up, consumables and workmanship tolerances • Preparation and application of welding procedure specifications and procedures • Welding equipment functionality and quality control plans • Identification of weld imperfections associated with pre-production, fabrication and post fabricationInspection requirements based on national specifications or codes	offshore structures, general heavy equipment, ship building and ship repairs, automotive, construction, rail, aerospace, power generator equipment, material testing or any industry where welding is the major joining method. If you have some technical knowledge with at least 2 years' experience in welding-related tasks and are seeking to progress your career in welding engineering, the EWF/IIW diploma is for you. Entry requirement •Professional engineer of incorporated (IENG) status granted by the UK Engineering council, or COREN under mature candidate's rules, •Higher National Diploma (HND) in an engineering discipline or •Level 4 National vocational qualifications or other nationally recognized vocations qualification in engineering subjects	
10 IIW INTERNATIONAL WELDING ENGINEER: Engineer (IWE) Personnel with comprehensive technical knowledge, where full knowledge is required for the planning, executing and supervising of all tasks and	- Welding processes and equipment - Materials and their behaviour during welding - Construction and design - Fabrication and applications engineering	On successful completion of the programme, the candidate should be able to work in industrial projects as a welding coordinator with comprehensive technical knowledge within	Engineers, technologists, welding coordinators and managers in the following fields - process plants, structural steelwork, bridges, pressure vessels, pipework and pipelines, storage tanks,	2,500,000 6months

responsibilities in welding fabrication.		the areas: - Welding processes and equipment - Materials and their behaviour during welding - Construction and design - Fabrication and applications engineering	offshore structures, general heavy equipment, ship building and ship repairs, automotive, construction, rail, aerospace, power generator equipment, material testing or any industry where welding is the major joining method. If you have some technical knowledge with at least 2 years' experience in welding-related tasks and are seeking to progress your career in welding engineering, the EWF/IIW diploma is for you. Entry requirement -Hold a university degree in an engineering discipline -Approved craft certificate in engineering -Senior secondary school certificate (SSCE) Or its equivalent -National vocational qualification or other national recognized vocational qualifications in engineering subjects	
11 CORROSION CONTROL BY MATERIAL SELECTION AND DESIGN: The theme throughout the course is how to put the right material in the right place in the right way. Practical rules in selection of materials and design guidelines against many different types of corrosion will be presented. Numerous case histories of real-	- Introduction to corrosion control - The importance of design in corrosion prevention - Effects of design and material selection on corrosion - Practical corrosion cells commonly encountered in design - Basic metallurgy for materials	At the end of the course, participant will be able to; - Put the right material in the right place in the right way. - Practical rules in selection of materials and design guidelines against many different types of corrosion will be presented. - Numerous case histories of	This course provides an excellent avenue for corrosion practitioners, researchers, designers, technical managers, inspection and maintenance engineers, quality control personnel and those involved in failure analysis to update their appreciation of corrosion	150,000 5 days April 23-27 August 27-31

life problems and practical solutions will be discussed.	selection - Materials selection for corrosion control -Metals and Alloys - Materials selection for corrosion control – non-metals - Compatibility of materials and environments - Design solutions to corrosion problems based on types of corrosion - Design solutions to corrosion problems based on fabrication techniques and environmental conditions - Specifications and guidelines - Design against corrosion: the DOs and DON'Ts - Exercise and practical session	real-life problems and practical solutions will be discussed.	prevention through materials selection and design.	November 12-16
12 QAQC PIPING AND WELDING INSPECTOR COURSE : This course is a blend of essentials of Piping knowledge, welding fundamentals & Quality control inspection activities in Petrochemical and other engineering industries. The course has been essentially prepared to give good deal of information to young and fresh engineers on international codes including those from American Petroleum Institute, The process piping and piping circuits design and inspection activities.	The course provides very valuable information on new welding procedure qualifications, performance qualification, selection of mechanical tests and welding variables. The common welding processes, electrode & filler metal classification in compliance of ASME sec II & Section IX. Complete information required	The course provides very valuable information on new welding procedure qualifications, performance qualification, selection of mechanical tests and welding variables. The common welding processes, electrode & filler metal classification in compliance of ASME sec II & Section IX. Complete information required	The course is designed for fresh as well as experienced, Mechanical, Production, Metallurgical & chemical engineers, Science graduates seeking complete understanding and knowledge of process piping, welding & metallurgy fundamentals & NDT. It is valuable especially for fresh engineers seeking immediate positions as Q/C &	100,000 5 days March 19-23 June 18-22 September 3-7

	for engineers in Oil & Gas sector including piping joints, Flange ratings, and flanged fittings covering the scope of ASME B 16.5 Code. Design considerations for internal pressure pipes has also been included and understanding the important Process piping code in Petroleum industries, ASME B 31.3.	for engineers in Oil & Gas sector including piping joints, Flange ratings, and flanged fittings covering the scope of ASME B 16.5 Code. Design considerations for internal pressure pipes has also been included and understanding the important Process piping code in Petroleum industries, ASME B 31.3.	Piping Engineer in Petrochemical, Engineering, Oil & Gas industries with knowledge of international codes	
13 ASSET INTEGRITY MANAGEMENT/PERFORMANCE: This course will show delegates how to determine the key threats from ageing equipment, and how to plan and implement a life extension strategy for managing them. It will show how knowledge of the vulnerabilities, deterioration and obsolescence, and loss of organizational competence can be used to develop a strategy for managing ageing-related risks. It covers all equipment types: static equipment (pressure vessels, piping, storage tanks etc.), rotating equipment, control and instrumentation, electrical and civil infrastructure.	- Asset Integrity Management - Risk and Risk Assessment - Risk Based Maintenance - Life Cycle Management Aspects - The Way Forward: Improvement Plan Workshop -	- Risk management – understand how to determine the SHE and business threats from ageing equipment (e.g. equipment degradation, obsolescence, loss of technical support), and how to manage them - Manage assets in petroleum industry in sustainable and safe manner - Perform integrity management on topside and sub-sea systems - Assess & control Asset Integrity of operational assets in production & process systems - organizational arrangements		5 days March 5-9 June 4-8 October 22-26

		- understand how risks can be managed in a fragmented/outsourced organizational regime - Investment requirements – learn how to determine, justify and prioritize resources for asset management		
14 BASIC PIPELINE SYSTEM OVERVIEW: This course that provides awareness level training for engineers new to the hazardous liquid and gas pipeline industry. The topics include the technical and economic basis for pipeline systems; the key facilities that connect pipelines to the other elements of the hydrocarbon value chain; regulatory and environmental compliance issues; key considerations for public and governmental interaction; project development and construction challenges; and the strategies for safe and efficient pipeline system operations, maintenance, and asset integrity. Case studies are an integral part of this course.	- Basic concepts of liquid and gas pipeline economics - Pipeline design overview - Construction methods and challenges - Pipeline routing, liquid and gas flows - Essential operations - Asset integrity management - Regulatory and code compliance requirements -	- The business model and value-added premise of pipelines and their role in the overall energy value chain - The advantages and limitation of pipelines, and the scope and general structure of the industry - The key components and facilities that are integrated into pipeline systems - How to recognize regulatory codes and industry guidelines (API and others) that control the permitting, design, construction, operations, and maintenance of pipeline facilities - Introduction to pipeline routing, factors influencing pipeline routing, liquid and gas flow fundamentals and basic hydrodynamics - The steps from concept to operating system to abandonment - design, permitting, land acquisition, construction, and start-up with each tied to the key	Recent graduate engineers involved in midstream activities of pipeline and terminal design, construction, and operations. It also provides effective grounding for upstream and downstream managers, business development, legal, human resources, finance, land acquisition, and public relations professionals, as well as independent investors interested in a general technically oriented overview of pipeline systems.	180,000 5 days May 21-25 September 10-14

		issues for project and operations management - The strategic operational and maintenance needs and options for pipeline systems, including system monitoring and control, leak detection, measurement and quality control, asset integrity management, efficient and safe operations, and emergency response capability		
15 DOWNTIME PREVENTION: Downtime and unscheduled events on rigs can negatively impact operational performance and productivity, resulting in escalating costs and increase safety risks. Therefore, this course is designed to assist organisations reduce downtime and unscheduled events happening during the course of their equipment operations.	- Introduction to Downtime - Team building - Well planning and control - Stuck pipe prevention - Lost circulation - Rig repair - Drill string failure - Drill jars - Casing and cementing - Directional drilling - Tripping practices - Maintenance Philosophy - HSE and Inspection techniques - Downtime Prevention Strategies - Reviews and case studies of some Company Downtime	Downtime prevention is usually tailored to meet client requirement based on: - Equipment Used - Type of Maintenance Management practiced - Type of failure frequently experienced. - Company Leadership structure.	•Rig-based and onshore office-based personnel involved in rig operations •Engineers, drilling supervisors, rig managers, tool pushers, and drillers	120,000 3 days May 2-4 August 1-3
16 OFFSHORE PIPELINE DESIGN AND CONSTRUCTION: This course covers the fundamental aspects of design, construction, and operations of offshore pipeline systems. The course	- Overview of oil and gas transportation systems - Review pipeline hydraulics, focusing on those aspects that affect design, construction, and - operations	- Apply mechanical, strength, and physical principles to pipeline design, material - selection, construction, and operation - Describe the key construction methods	The course is suitable for discipline engineers, designers and operators who are actively involved in the design, specification, construction, and operation of offshore pipeline systems.	180,000 5 days May 21-25

focuses on pipeline mechanical, strength, and stability design, and construction. Special challenges, such as shoreline crossings, foreign pipeline crossings, repair methods, flow assurance, corrosion and cathodic protection are an integral part of this course. Participants will acquire the essential knowledge and skills to design, construct, and operate pipelines. Design problems and team projects are part of this course.	- Pipeline systems definition, survey, and route selection - Safety, environmental, and regulatory considerations, focusing on Codes and Standards related to pipelines - Pipeline conceptual and mechanical design for strength, stability and installation • Pipeline construction for offshore systems and the interrelationships with design and material selection - Pipeline materials and components selection including line pipe, corrosion and cathodic protection, and coatings - Specialized equipment and materials for integrating with subsea wellhead/manifold - systems, side taps, insulation, and pipe-in-pipe will be reviewed • Special design and - construction considerations for risers and umbilicals, foreign pipeline crossings, single - point moorings, and shore approaches - Introduction to flow assurance considerations and pipeline integrity aspects including in-line inspection, leak detection and emergency planning considerations	- Define the importance of environmental conditions, construction methods, and - pipeline system hydraulics in design, installation, and operations of offshore - pipeline systems - Identify special design and construction challenges of offshore pipeline systems - Incorporate construction methods into the design of a pipeline system - Identify the principal interfaces of pipeline facilities, such as platforms, floating - production systems, sub-sea wellheads, and SPMs on design, construction, and operations - of offshore pipeline systems - Identify offshore safety and environmental practices and their effect on design, - construction, and operations -		November 26-30

	- Pipeline operations, maintenance and repair considerations and their impact on design and material selection			
17 FUNDAMENTAL OF SUBSEA SYSTEMS: An overview of subsea components and how they are integrated into field development will be provided during this training. Candidate will develop a basic understanding of the various subsea components used in all water depths from relatively shallow to ultra-deep water. The participants will all learn how the components are integrated into subsea field developments, which will accelerate learning and productivity.	- Applications for subsea systems - Flow assurance considerations in system design and configuration - Field architecture considerations - Subsea component descriptions and functions - Fabrication, testing, installation, commissioning, and operational issues - Production, maintenance, and repair considerations	- Understand the importance of an integrated approach to design, flow assurance, installation, and life-cycle considerations - Describe basic operating and maintenance considerations - Understand the key steps, from drilling through start-up, for the design, fabrication, testing, installation, and operation - Recognize the integrated nature of field architecture, system design, and component selection - Identify appropriate applications for subsea systems - Identify the main subsea components, their functions, strengths, weaknesses, and interfaces from the well to the production facility - Understand key design, construction, and installation issues	The course is designed to suit different categories of personnel such as the non-technical staff working with a subsea development team and technical staff who are transitioning into the design, construction and development of subsea systems.	150,000 5 days April 2-6 July 9-13 October 15-19
18 FUNDAMENTAL OF OFFSHORE SYSTEMS DESIGN AND CONSTRUCTION: This course provides the trainee with the fundamentals of the oil and gas field	- Offshore systems overview and field architecture selection - Well construction and servicing equipment and operation	- Identify the key facilities parameters that must be evaluated for field development - Understand and apply the key design, construction, and	The course is designed for individual with a basic knowledge of the oil and gas industry operations. Technical staffs, project engineers, engineering discipline leads,	250,000 10 days June 18-29

development, technology and working processes used for the design and construction of all types of offshore systems including consideration of asset development, surveillance and management.	- Flow assurance - Topside facilities - Oil and gas transportation facilities - Riser systems - Subsea systems - Production operations - Infrastructure impact on design and operations - Effects of the ocean environment - Introduction to naval architecture - Structural design processes and tools - Construction plans and execution - Project management: lessons learned from past projects - Life-cycle and decommissioning considerations -	installation issues associated with fixed and floating platforms to your work - Recognize and manage key design and operational interfaces between the major components of offshore facilities systems - Describe the impact topside facilities (drilling, well servicing, processing, and utilities) affect the structural design and how the topside design process is done - Identify the impact space, loads and forces have on the structural design and global performance of offshore structures and how they influence their cost - Account for the effects of the ocean environment on facilities design, construction, and operations - Recognize the best applications and characteristics of each type of offshore fixed and floating structure -	engineering specialists, and front ends operating staff. It is expected that the course will enhance their capability to contribute on offshore field development planning, design, and construction projects and field operations.	November 19-30
19 RIG INSPECTION AND WELL CONTROL: In order to ensure efficient performance of your rig performance, reduce downtime and maintain safety of your personnel, planned maintenance and accurate inspections strategies are essential for all		- Candidates will independently carry out a basic (visual) rig inspection - Describe the main inspection criteria for major equipment - Identify major items that have an impact on the safety and operation of a rig	The course is suitable for all grades of professionals in the industry and not limited to the following: drilling engineers, drilling managers, health, safety and environment (HSE) managers, rig managers, maintenance	150,000 3 days July 23-25

rigs. This course is designed to simplify and explain inspection and maintenance procedures required to ensure equipment integrity on land rigs. Candidates are taught how to implement the relevant standards and industry requirements so that they can verify the condition of a rig equipment and improve safety, thus reducing the number of accidents and protecting the assets		- Recognize the indicators of the overall condition of a drilling rig - List the relevant standards (such as API) and their implications for drilling equipment - Understand the basics of EX equipment installed in hazardous areas - Evaluate basic maintenance and inspection procedures on the rig to identify compliance with good working practices and industry standards - understand the basics of well control equipment operation	supervisors, tool-pushers, drillers, mechanics, electricians.	November 5-7
20 Remotely Operated Vehicle (ROV)Training: The course provides sufficient knowledge on how to learn how to operate ROV safely. It enables the delegates develop skills and competence in operational tasks including pre-dive checks, launching the systems, typical subsea tasks and recording them, recovery of the vehicle and post-dive checks.	On successful completion of these course, delegates will develop skills in - launching and recovering of a work class ROV - Safety considerations - Spatial awareness and navigation - Record keeping - Maintenance and essential team work skills including leadership skills	Provide knowledge of safe and efficient operation of ROVs through - The Introduction to ROV Operation (IMCA R004) documentation - Introduction to mechanical and electrical workshop practices, - ROV piloting skills - Demonstrate simulator ROV operational skills including planning, performing and debriefing a safe dive plan and advanced recovery techniques - Demonstrate on-vessel ROV operational skills - Gain an introduction to recognised vessel / ROV operational procedures,	Those who want to develop their career in ROV operations: Mechanical/Electrical/Welding/Civil engineers including scientist who are interested in ROV	750,000 5 Days June 11-15 October 15-19

		complete a full dive plan, pre-dive checks, and de-brief. - Demonstrate practical understanding of system split for maintenance		
21 Freight Forwarding Course: This course is designed to provide the freight forwarder skills to define the components of international logistics and comprehends the risks and responsibilities of documentation handling in accordance with government regulations.	- What is Freight Forwarding - How to be a Freight Forwarder (Starting and Import and Export Business) - Mode of Forwarding of Goods (Intermodal Transportation) - Shipping Industry - Intermodal Transportation System - Payment for Foreign Transaction - Import and Export Practice/Procedure and Documents Management	- Understand freight forwarding risks, responsibilities and documentation requirements - Be able to start your own freight forwarding business - Understand the dynamics of the shipping industry	Marine Safety Officers, Marine Operations Personnel; Crew Members; and all those involved in freight or seeking knowledge in freight forwarding	150,000 3 Days April 9-11 September 3-5
22 Maritime Safety: This course is designed to provide maritime employees the skills to safely work in the waterfront which is a dynamic and dangerous place to work, participants will gain competence in local and international maritime regulations to help keep themselves and others safe on the job.	- The Principle and Practice of Maritime Safety - International Safety Conventions - Codes and Regulations - Maritime Safety Regulations in Nigeria - National Maritime Administration and Safety Agency - The Main Mission NIMASA - Merchant Shipping Regulation - Regulatory Authority – NIWA, NPA, Marine Police, Nigerian Navy - Waterways (Operating Code or Rules) - Unsafe attitude and Act in the	- Understand principle and practice of Maritime Safety - Understand international and local codes, conventions and regulations	Fleet Managers Ship Managers Superintendents Harbour Masters Legal counsel Financial officers Technical Managers Marine Operations Personnel Business Development Managers Commercial Managers Maritime and logistics executives Maritime Executives Ship Engineers Marine Safety Officers	150,000 3 Days May 2-4 October 8-10

	Waterways - Safety Management Systems			
23 Port Operation Management: This training course explores all aspects of port management with enriching and comprehensive modules that equip existing and intending port managers with skills, knowledge and experience in port operations and administration	- Introduction to Shipping Industry - Port Design and Requirement - Port Authority - Berthing, Stevedoring, Candling Departure of the Ship - Clearing and Forwarding Operations - Port Security - List of World Ports	- Understand the workings of the shipping industry - Understand clearing and forwarding operations - Understand port security challenges, risks and best practices	Fleet Managers Ship Managers Superintendents Harbour Masters Legal counsel Financial officers Technical Managers Marine Operations Personnel Business Development Managers Commercial Managers Maritime and logistics executives Maritime Executives Ship Engineers	150,000 3 Days June 18-20 November 5-7
24 The Maritime Sector in Perspective: This training course will give you a thorough and up to-date understanding of the complex driving forces behind the maritime industry. Develop your maritime industry awareness at the same time build up your knowledge and skills to assist you in developing your management ability to meet challenges in the maritime industry.	- Shipping and the economy - What is maritime - Maritime training and education - Maritime regulatory bodies	- Understanding of the fundamental aspects of the Maritime Industry and its economic, legal and financial drivers. - Gain a thorough knowledge of Maritime regulations governing the maritime industry. - Gain understanding of the role of Maritime organizations and their processes. - Gain a comprehensive knowledge on recent developments issues relating to legal, compliance, financial and insurance matters affecting the industry.	Fleet Managers Ship Managers Superintendents Harbour Masters Legal counsel Financial officers Technical Managers Marine Operations Personnel Business Development Managers Commercial Managers Maritime and logistics executives Maritime Executives Ship Engineers	150,000 3 Days July 2-4 September 17-19
25 Model Shipwright Practice:	- Shipwright duty and responsibly	- Know shipwright duties and	Marine Safety Officers, Marine Operations Personnel;	150,000

If you love boats and are looking for a rewarding, creative career, consider becoming a shipwright. This training course provides introductory basics into the design and building of ships according to the specifications of individuals or companies.	- Ship design and modeling - Ship construction and repairs	responsibility - Understand ship building and construction challenges, risks and best practices - Understand ship design and modelling	Crew Members	3 Days May 21-23 October 29-31
26 Maritime Security: The demand for skilled personnel who understand security requirements in the maritime sector continues to increase. This course provides specialized knowledge that equips participants to provide professional experience in the area of maritime security	- Introduction to Maritime Security - The regulatory Framework for Maritime Security - Responsibilities of Contracting Governments Port/ship Facility Security - A guide for Understanding and Implementing the ISPS Code - Guide to common basis upon which to establish port security standards - Measures for effective Maritime Security Administration - Effecting Ship Security - Effecting Port Facility Security	- The meaning and the consequential requirements of the different maritime security (MARSEC) levels. - Knowledge of emergency procedures and contingency plans. - Recognition and detection of weapons, dangerous substances, and devices. - Recognition, on a non-discriminatory basis, of characteristics and behavioral patterns of persons who are likely to threaten security. - Techniques used to circumvent security measures. - Knowledge of Transportation Worker Identification Credential (TWIC) requirements. - Knowledge of the security-related provisions of the Manilla Amendments of the Standards of Training, Certification and Watchkeeping (STCW). - Knowledge of port security topics required by the	Fleet Managers Ship Managers Superintendents Harbour Masters Legal counsel Financial officers Technical Managers Marine Operations Personnel Business Development Managers Commercial Managers Maritime and logistics executives Maritime Executives Ship Engineers	150,000 3 Days June 25-27 August 27-29

		Security and Accountability for Every (SAFE) Port Act of 2006. - Knowledge of U.S. Coast Guard and IMO guidance on preventing and suppressing acts of piracy and armed robbery against vessels. - Knowledge of the reporting requirements in case of a security incident.		

OFFSHORE TECHNOLOGY CENTRE (OTC)

The Offshore Technology Centre (OTC) is made up of the Diving and Marine Engineering Units. The Diving Unit which had initially started as the School of Diving in collaboration with Nationale Institute Plongee Professionale (INPP) Marselle. France and Comex as technical partners was established in 1988 and commissioned in 1989 by the then Minister of Petroleum, Prof. Rilwaanu Lukman.

The school has the capacity to train Commercial Diver's Class I (30 meters) and Class II (50 meters) for offshore diving operations.

The school is equipped with equipment for SCUBA (Self Contained Underwater Breathing Apparatus), SSDE (Surface Supply Diving Equipment/Surface Demand Diving), Surface Simulated Diving training and equipment for underwater welding and cutting.

Offshore / Professional Diving Courses.

These are:

1) NDT Inspector Diver (both CSWIP 3.IU and 3.2U NDT Inspector Diver.
   Note: Duration – 10 days IMCA Certified.
2) ROV Inspector Technical Training.
   Note: Duration – 10 days IMCA Certified.
3) Dive Equipment Technician.
   Duration: 7 days IMCA.
4) Class 1 & 2 Commercial Diver Training.
   Duration: 6 months.
5) Subsea Engineering Training Certification 2.
   Duration: 12 months

THE DIRECTORATE OF RESEARCH AND DEVELOPMENT

The directorate of research and development was established in response to the needs of the Nigerian Oil and Gas industry. The main objective of the directorate is to develop translational research that addresses the key technological challenges facing the oil and gas industry.

The directorate has the resources of well-equipped laboratories including the PVT laboratory, metallographic laboratory, cementing laboratory, and the petroleum analysis laboratory with state of the art analytical equipment. The petroleum analysis laboratory has the accreditation of the Department of Petroleum Resources (DPR) and that of the Federal Ministry of Environment to offer laboratory services and operate as Environmental Consultants. The laboratory is presently working towards qualification for ISO-17025 accreditation by UNIDO.

The major services offered by the directorate include:

- **Contract Research:** The Directorate has developed and demonstrated research competence in core technological areas of the oil and gas industry, these areas include:
  a. Engineering Studies
  b. Corrosion mechanism and control
  c. Safety and risk management
  d. Green production chemical development
  e. Sustainable energy
  f. Flow assurance
  g. Environmental studies etc.

- **Analytical Laboratory Services in areas including;**
  a. Petroleum and petroleum product analysis
  b. Potable and effluent water analysis
  c. Air quality evaluation
  d. Soil analysis
  e. Preparation of Environmental Impact Assessment report

- **Conduct hand-on training programmes** on laboratory instruments and equipment and such other training programmes relevant to laboratory operations and the oil and gas industry.
- **Technical / consultancy services .**

SCHOOL OF INDUSTRIAL CONTINUING EDUCATION (SICE)

The ICE primarily coordinates the Petroleum Training Institute Part-Time (Weekend) training of qualified persons, especially oil-sector personnel, who wish to acquire more knowledge without giving up their employment. The Staff to do the training are provided by Teaching Department of PTI. The part-time ND and HND programmes run for a duration of 3 three academic years.

The School currently runs a post HND programme leading to award of B.Eng degree in the following areas:

1) CHEMICAL ENGINEERING
2) GAS ENGINEERING
3) MECHANICAL ENGINEERING
4) PETROLEUM ENGINEERING
5) ELECTRICAL / ELECTRONICS ENGINEERING

The above post – HND programmes are run concurrently with a Master of Science Degree (M.SC) programme in Information and Telecommunication Engineering in collaboration with University of Port Harcourt on part-time basis.

Profile of PTI Skills Development Academy

- Four-way collaboration / partnership initiative that will involve Government, Academia, Industry and Communities.
- Create an environment for novel ideas, innovation, incubation and commercialization.
- Currently evolving, at one location are three world class centres, namely;
    - Skills Acquisition and Entrepreneur Centre.
    - Corrosion Research Centre
    - Fire fighting Centre

SKILLS AND ENTREPRENEURSHIP DEVELOPMENT UNIT (SEDC)

- Oil & Gas Operation Safety
- Production of Crude Oil & Gas
- Petroleum and Gas processing and handling
- Welding and Fabrication
- Offshore Technology
- Professional Diving Training and Certification
- Electrical and Electronics Engineering
- Mechanical Engineering
- Mid-Stream and Down-Stream Operations
- Information & Communication Technology
- Hotel & Catering Services / Management
- Digital Photography
- Artisans Training (Scaffold, Forklift, Carpentry, Automobile, etc.)
- Entrepreneurship Studies & Mini Projects
- Leadership / Management Courses and Executive MBA
- Entrepreneurship Ventures (Process & Development in Oil & Gas based Enterprises)
- Executive Entrepreneurial Programme
- Pre-Retirement Development Programme
- Diploma in Digital Single Lens Reflex (DSLR) Cameras and Industrial Cinematography (Mastering The Art of Architectural, Documentary, Photojournalism and Event Photography)

FIRE SCIENCE & TECHNOLOGY CENTRE

- Basic Fire Fighting Courses
- Fire Protection & Organization
- Fire Protection Hydraulics and Water Supply
- Fire Investigation (Level 1 & 2)
- Emergency Rescue
- Practical Demonstration and Assessment of Fire Fighting Equipment

CORROSION RESEARCH CENTRE

- Training and Research into the Science and Technology of Corrosion in Oil and Gas, as well as, allied Industries.
- Basic Corrosion Courses
- Corrosion Control
- Protective Coating and Repair Inspection, Maintenance
- Cathodic Protection
- Corrosion Inspection, Testing and Monitoring
- Preferential Weld Corrosion

DiPTI PROJECT

A TECHNOLOGY HUB IN P.T.I

Digital Skill Development

Start Up Incubation

Create Relationship Between Industries and Academia via Research

Global Network

Youth Empowerment

Entrepreneurship

Telepresence

Collaboration

Co-Working Space

Porverty Eradication

Distance Learning

Promote Innovation

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