IHRDC

International Human Resources Development Corporation

e-Learning and Knowledge Solutions

Powerful, On-Demand e-Learning Resources
for the International Oil and Gas Industry

OVER 40 YEARS

1,200 courses used by more than
90,000 people around the world

TRAINING
PROVIDER
2010 2011
2012
OF THE YEAR
– getenergy

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Access and Licensing

All of IHRDC's e-Learning courses may be accessed from anywhere with an internet connection. We offer a variety of licensing options, from individual courses to corporate user-based arrangements. Please contact us at els.info@ihrdc.com for more information.

Certificates

IHRDC issues certificates to learners who have completed a course and related assessment with a passing score.



A skilled, well-trained workforce is a requirement for the oil and gas industry. Whether your training resources are focused on technical staff, frontline plant operators and maintenance technicians, or the entire workforce, IHRDC offers a range of e-Learning and Knowledge Solutions to successfully develop industry workers across the complete oil and gas value chain.

E-Learning is an ideal method to provide cost-effective, valuable, and wide-ranging training. IHRDC's courses can be integrated into an existing Learning Management System (LMS), or you can use IHRDC's LMS to create curricula, develop training plans, assign courses, monitor course completion, and analyze the results. The content can also serve as the foundation of your Knowledge Management System with more than 7,500 searchable pages.

IHRDC's e-Learning and Knowledge Solutions offers comprehensive, award-winning courses in four topic areas: Oil & Gas Business, Upstream Technology, Operations & Maintenance, and Business Essentials.

The **1,200** courses in **300** subject areas are currently used by **90,000** people at more than **100** companies in **164** countries around the world.

IHRDC'S e-LEARNING AND KNOWLEDGE SOLUTIONS ARE:

Comprehensive: covers the entire oil and gas value chain, and a range of business needs, from technical skills to general business knowledge

High Quality: developed by oil and gas industry experts to provide the most useful learning, training, and skill development

Engaging: composed of award-winning, wide-ranging content, extensive interaction, vivid graphics, appealing videos, and helpful assessments

Effective: achieve training goals at a modest cost

Flexible: available on-demand, in any configuration, via many different types of LMS, to satisfy the unique needs of an organization

SCORM Compliant: meets or exceeds the requirements as SABA and SumTotal Content Partners; IHRDC's courses can be integrated into most Learning Management Systems

Compatible: with most major browsers and devices with no special programs required

Accessible on Mobile Platforms: a majority of IHRDC courses are available on all types of mobile devices

Multilingual: some products are available in Spanish and Portuguese

Multifaceted: Learning Objects can be used as elements in any Knowledge Management System or corporate search engine seamlessly

Supported: backed by a dedicated team of industry professionals

Oil & Gas Business

Petroleum Online includes interactive courses with vibrant graphics, video, and integrated assessments.

OVERVIEW

The international oil and gas industry has unique practices, a specific vocabulary, and a complex value chain. **Petroleum Online** provides an in-depth overview of each sector of the international oil and gas industry to give users a clear understanding of how the industry functions, from both a technical and business perspective. The Oil & Gas Industry Overview course is available in Spanish, Portuguese, French, Russian, Arabic, and English.

AUDIENCE

These courses are ideal for anyone who wants to expand their knowledge of the oil and gas industry, from entry-level or new employees unfamiliar with energy industry fundamentals to board members seeking a more expansive perspective.

Case Study

USING PETROLEUM ONLINE TO TEACH EMPLOYEES INDUSTRY FUNDAMENTALS

As a founding sponsor of Petroleum Online, this financial services company helped to shape course content with other industry organizations. The company provides consulting directly to their global oil and gas client base, and the consultants need to understand their clients' business environment. Petroleum Online is a convenient and cost-effective means for the company's oil and gas practitioners, who have little or no direct industry experience, to gain a better understanding of the value chain from wellhead to burner tip. The company uses Petroleum Online and other resources in an on-boarding training program within the Energy Practice. The use of Petroleum Online has grown substantially within the company because of internal marketing and growing demand for oil and gas training.

Petroleum Online

CONTENT OVERVIEW

*Petroleum Online consists of 18 courses that clearly explain the dynamic drivers of the business of oil and gas through the upstream, midstream, and downstream sectors. The courses follow the Oil Value Chain or the Gas Value Chain, so learners can gain a complete understanding of the industry in an organized manner. To learn more about the entire Integrated Oil and Gas Value Chain please see page 16.**

OIL VALUE CHAIN	GAS VALUE CHAIN
INDUSTRY OVERVIEW Oil & Gas Industry Overview	**INDUSTRY OVERVIEW** Oil & Gas Industry Overview
UPSTREAM OIL Oil & Gas Agreements Petroleum Geology and the Exploration Process Drilling and Well Completions Oilfield Development Marketing and Trading of Crude Oil	**UPSTREAM GAS** Oil & Gas Agreements Petroleum Geology and the Exploration Process Drilling and Well Completions Gasfield Development and Wholesale Markets *(in development)*
MIDSTREAM OIL Crude Oil Transportation and Storage Refining and Product Specifications Overview of Petrochemicals	**MIDSTREAM GAS** Gas Processing and NGL Markets LNG Value Chain and Markets Natural Gas Pipelines, Facilities, and Tariffs *(in development)* Load Balancing Including Underground Gas Storage *(in development)* Overview of Petrochemicals
DOWNSTREAM OIL Marketing and Distribution of Petroleum Products	**DOWNSTREAM GAS** Gas Distribution, Marketing, and Trading *(in development)*
BUSINESS GAME Oil Industry Business Game *(in development)*	**BUSINESS GAME** Gas Industry Business Game *(in development)*

**Some courses are appropriate for both oil and gas, and appear in each section above.*

"This Overview course needs to be taken by each and every person related to the energy sector."

–Learner

LIFT FOR COMPLETE COURSE DESCRIPTIONS

LEARN MORE AT WWW.IHRDC.COM/PO

Petroleum Online Course Descriptions

18 COURSES

INDUSTRY OVERVIEW

Oil & Gas Industry Overview
A comprehensive overview of the industry: learn what petroleum is, where it comes from and how it affects our lives on a daily basis. Become familiar with the Oil and Gas Value Chain—upstream, midstream, and downstream—key industry players, the basics of oil and gas supply, demand, pricing, and the challenges that the industry faces as demand grows by 50 percent in the next 25 years.

"I am now equipped with a comprehensive and broad overview of the operations of the international petroleum industry."

–Learner

UPSTREAM SECTOR

Oil & Gas Agreements
Upstream agreements define the legal, business, and working relationships that exist between companies that explore for and produce oil and gas and the government agencies or private parties that own the mineral rights. Learn how oil and gas leases are negotiated in the U.S. and analyze the two main forms of agreements, the Concession Agreement and the Production Sharing Contract, used by host countries around the world.

Petroleum Geology and the Exploration Process
Examine the geological conditions that make a good petroleum prospect, and learn why oil and gas are found in some places and not others. Also learn the step-by-step process to identify projects, from initial surface reconnaissance to drilling exploratory wells.

Drilling and Well Completions
Geological studies and seismic surveys can indicate an oil or gas prospect, but the only way to know if that prospect contains oil or gas is to drill wells. Get an introduction to the basics of the rotary drilling process and learn about the dramatic advances in drilling technology that have taken place in recent years.

Oilfield Development
The development and production of an oil or gas field is among the most involved and challenging business undertakings. Learn the steps involved in field development, from its initial planning stages, through reservoir analysis, subsurface design, and surface facility construction. This course also covers components of long-term production, reservoir management, and facilities maintenance.

Gasfield Development and Wholesale Gas Markets
(in development)
This course provides an overview of the significant gas properties and the units that are used to measure and sell natural gas. It demonstrates how a gas prospect is discovered and developed into a viable producing entity. Topics include estimating resources and reserves, field design process and surface facilities required to satisfy gas market specifications, and delivering gas to markets. It ends with a summary of the nature of the wholesale gas and gas liquids markets—power, petrochemicals, gas-to-liquids—in various countries, and typical wholesale gas sales agreements.

Marketing and Trading of Crude Oil
Like other commodities, the market determines the value of crude oil. Examine how crude oil markets and pricing are established based on global and regional supply and demand, and how organizations such as OPEC affect these markets on a wholesale level.

MIDSTREAM SECTOR

Crude Oil Transportation and Storage
Every day, some 85 million barrels of crude oil are transported from producing fields to refining centers, many of which are hundreds or thousands of miles apart. Learn how, and at what cost, crude oil is transported in pipelines and tankers—the two most practical and economical methods for moving large volumes of crude oil over long distances.

Gas Processing and NGL Markets
This course offers an overview of the expanding gas processing sector, which has been impacted by the rapid development of unconventional gas. It explains how rich natural gas is separated into methane and NGL and transported to fractionation plants, where it is separated into ethane, LPGs (propane and butanes), and natural gasoline. Special attention is given to the various uses for these liquid hydrocarbons, the market prices and economics of rich gas streams when separated and marketed into individual components, and their historical international market supply-demand and pricing profiles.

LNG Value Chain and Markets
This course covers the LNG value chain, from gas supply to liquefaction, ship transportation and receiving/regasification terminals, and the processes/facilities required in each stage. The economics of a special LNG case study is presented to show the typical economics of a project. You will learn the price that must be charged for LNG delivered into a distant market, considering capital and operating costs and the impact of the revenues received for the hydrocarbon liquids produced and sold with the gas. The course also contains a summary of the historical LNG market development, including the major exporters and importers, and the various regional market prices of LNG.

Natural Gas Pipelines, Facilities, and Tariffs (in development)
Natural gas pipelines play an important role in delivering gas from sources of supply to markets. This course explains pipeline systems that exist in international gas markets, and the basics of pipeline design and construction, using recently built pipelines as illustrations of the process and the costs. Attention is given to the way pipeline rates are structured by regulators, the impact of load factors, and the nature of such regulation in several countries, including the U.S. and the Netherlands.

Load Balancing including Underground Gas Storage
(in development)
Market demand for natural gas changes by the hour, day, month, and season. This course discusses the forces behind this and the characteristics of the various load balancing options that are available to manage these load swings. Each of these options – underground storage (pore and cavern storage facilities), linepack, interruptible service and LNG peak shaving – is discussed, including operating characteristics and cost of service. The manner in which a gas distribution company designed a load balancing system to manage its gas swings is presented. The course also shows how an underground gas storage field can be used to hedge gas price swings.

Refining and Product Specifications
Crude oil, like other raw materials, has few practical uses in and of itself. Its value lies in the products that can be extracted from it. Learn how crude oil is processed into commercial products through various refining processes. Also explore why some refineries are more complex than others and the business decisions that are required for each day's refinery run.

Overview of Petrochemicals
Petrochemicals, which are derived from crude oil and natural gas, add a unique dimension to the Oil & Gas Value chain. Learn how oil and gas feedstocks are converted into petrochemical products ranging from fertilizers to plastics, and from clothing to pharmaceuticals. The course also covers the economics of petrochemical plants and examines the success of a petrochemical plant in Trinidad.

DOWNSTREAM SECTOR

Marketing and Distribution of Petroleum Products
Learn how refined products make their way to pipelines, terminals, service stations and other outlets, and the economics of the modern gasoline super-station.

Gas Distribution, Marketing, and Trading (in development)
This course covers the downstream gas value chain including gas distribution, the characteristics of the key international gas markets, and the manner in which gas supply is managed and sold into the retail market. It describes the design of a typical gas distribution system, the services it provides, typical distribution tariffs, and billing structure. Gas markets discussed include residential, commercial, industrial, power generation, and vehicle fuel. Gas marketing and trading is introduced through the strategy that a "typical" gas distribution company follows in managing its gas supply in an "open access" gas industry environment.

BUSINESS GAMES

Oil & Gas Business Games (in development)
Nicola, a dynamic Business Simulation Game, is used to integrate the subject matter of each course to recreate the challenge of discovering, producing, and marketing oil and gas to learn where value, in the form of financial performance, is created along the value chain.

Upstream Technology

IPIMS features comprehensive content, illustrative graphics, video, and integrated assessments.

OVERVIEW

In the international oil and gas industry, exploration and production is the main value driver for most companies. Upstream technologies are constantly improving, and require increasingly specialized knowledge to put into practice. **IPIMS** is IHRDC's Upstream Technology e-Learning resource. Developed in partnership with industry experts from 10 major oil and gas companies, its content is rigorous and extensive, covering all areas of upstream technology. IPIMS offers more than 800 courses in 133 E&P topic areas and advanced reporting on each learner's progress and performance. In addition, IPIMS offers a Learning Plan Builder, which creates customized learning plans based on a company's individual needs and requirements.

AUDIENCE

IPIMS provides both in-depth learning about specific technologies and cross-disciplinary training on broader subjects. It offers two levels of instruction: Background Learning, to gain knowledge, skills, and procedural acumen, and Action Learning, to internalize knowledge through practical applications and real-life assignments.

Case Study

IMPLEMENTING IPIMS TO INCREASE KNOWLEDGE THROUGHOUT A COMPANY

A major independent integrated oil company with more than 60,000 employees around the world realized they needed an efficient way to increase its E&P workers' knowledge and expertise. The decision to implement IPIMS throughout the organization was based on individual business units' success with the product. The company particularly values the flexibility that IPIMS provides to its training staff, who can tailor programs to their unique development needs. The IPIMS search function is widely used as an on-demand encyclopedia on all upstream technologies. Recently the company began linking IPIMS courses to its Competency Management system to provide employees with an option to replace lecture-based learning with e-Learning. Since its global launch of IPIMS, the company has experienced strong and growing use.

IPIMS

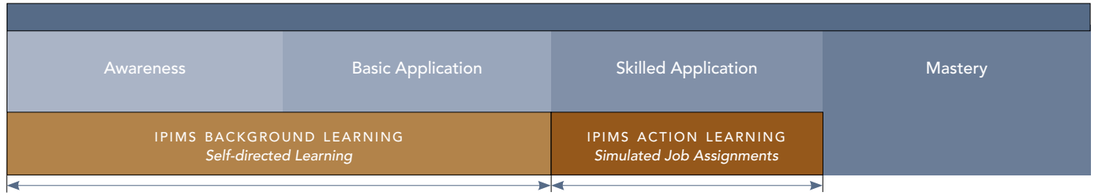
CONTENT OVERVIEW

IPIMS Provides Two Levels of Learning

Users learn essential knowledge and skills with **Background Learning** courses and acquire proficiency in practical applications with **Action Learning** assignments. Both levels provide integrated assessments to measure progress and achievements.

IPIMS encompasses the four primary upstream technology disciplines divided into 26 topic areas. It covers more than **133 topics** and offers more than **800 courses**.

The figure below illustrates how Background and Action Learning work together to help learners progress through the Awareness, Basic Application, and Skilled Application levels as seen in a typical competency model.



BACKGROUND LEARNING

Each **Background Learning** course builds a foundation of core knowledge, skills, procedure, or practice. They satisfy the Awareness and Basic Application levels of most competency models. For easy user access, courses can be linked to integrated competency models, company-defined learning programs, or individually selected learning plans. Twenty-six Topic Areas are listed below:

PETROLEUM GEOLOGY

- Introduction and Overview
- Basic Skills of the Petroleum Geologist
- Reservoir Geology
- Sedimentology and Stratigraphy
- Structure, Tectonics, and Rock Deformation
- Geochemistry
- Petroleum Technology for the Non-Engineer
- Basin and Play Analysis
- Surface Tools and Methods

PETROLEUM ENGINEERING

- Petroleum Production Performance
- Production Equipment and Operations
- Drilling Engineering
- Production Facilities Design
- Well Completion and Stimulation
- Reservoir Engineering
- Offshore Operations
- Other Petroleum Engineering Topics

With its vast content and powerful search feature, IPIMS Background Knowledge serves as an E&P reference. It can also be used to document and access best practices, lessons learned, processes, and other guidelines.

PETROLEUM GEOPHYSICS

- Introductory Topics and Seismic Signals
- Seismic Instruments and Field Techniques
- Seismic Processing
- Seismic Interpretation
- 3D Seismic and Time-Lapse Methods
- Borehole Geophysics and Non-Seismic Methods

FORMATION EVALUATION

- Well Logging
- Well Testing and Analysis
- Rock and Fluid Sampling and Analysis

LIFT FOR COMPLETE TOPIC LISTING

LEARN MORE AT WWW.IHRDC.COM/IPIMS

IPIMS Background Learning

133 TOPIC-LEVEL COURSES WITH 800 SUBTOPIC-LEVEL COURSES

PETROLEUM GEOLOGY

Introduction and Overview
- Fundamentals of Petroleum Geology
- Hydrocarbon Properties
- Subsurface Environment
- Reservoirs
- Hydrocarbon Generation and Migration
- Traps
- Habitat of Hydrocarbons in Sedimentary Basins

Basic Skills of the Petroleum Geologist
- Geologic Cross-Sections
- Subsurface Mapping
- Prospect Generation

Reservoir Geology
- Nonmarine Sandstone Reservoirs
- Shelf Marine Sandstone Reservoirs
- Marginal Marine Sandstone Reservoirs
- Deepwater Marine Sandstone Reservoirs
- Porosity Evolution in Sandstone Reservoirs
- Exploration in Carbonate Rocks
- Porosity Evolution in Carbonate Rocks
- Evaporites and their Role in Petroleum Exploration
- Basic Geostatistics

Sedimentology and Stratigraphy
- Subsurface Facies Analysis
- Classic Sequence Stratigraphy
- Stratigraphic Disciplines and Sequence Strategy
- Micropaleontology for Petroleum Exploration
- Chronostratigraphy and Microfossils
- Ongoing Development in Biostraigraphy
- Magnetostratigraphy
- Geochronological Dating Techniques

Structure, Tectonics, and Rock Deformation
- Petroleum Geomechanics
- Structural Geology
- Plate Tectonics and Sedimentary Basins
- Divergent Margins and Rift Basins
- Convergent Margin Basins

Geochemistry
- Introduction to Petroleum Chemistry
- Applications of Petroleum Geochemistry

Petroleum Technology for the Non-Engineer
- Drilling and Well Completion
- Production Technology
- Reservoir Management
- Geosteering: Fundamentals, Planning, and Implementation

Basin and Play Analysis
- Basin Analysis
- Play Analysis

Surface Tools and Methods
- Photogeology and Remote Sensing
- Geographical Information Systems

PETROLEUM GEOPHYSICS

Introductory Topics and Seismic Signals
- Fundamentals of Exploration Geophysics
- Geological Messages in the Seismic Trace
- Signal Theory: A Graphical Introduction
- Seismic Pulse Generation and Transmission
- Seismic Re ection

Seismic Instruments and Field Techniques
- Introduction to Field Work
- Surveying and Mapping on Land
- Positioning and Mapping at Sea
- Multiple Coverage
- Array Design
- Vibroseis
- Choosing the Field Variables
- Quality Control in the Field
- Multicomponent Seismic Applications

Seismic Processing
- Basic Processing
- Initial Processes
- Velocities
- Static Corrections
- Deconvolution
- Stacking, Filtering, and Display
- Seismic Migration
- Synthetic Seismogram Modeling

Seismic Interpretation
- Basic Seismic Interpretation
- Fault Interpretation
- Seismic Contouring
- Velocity Interpretation and Depth Conversion
- Hydrocarbon Indicators
- Seismic Stratigraphic Modeling

3-D Seismic and Time-Lapse Methods
- 3-D and 4-D Seismic

Borehole Geophysics and Non-Seismic Methods
- Gravity and Magnetics
- Controlled Source Electromagenetic Methods
- Crosswell Seismology
- Vertical Seismic Profiles
- Other Geophysical Techniques
- Microseismic Studies of Reservoirs

PETROLEUM ENGINEERING

Petroleum Production Performance
- Fluid Flow and the Production System
- Artificial Lift Methods
- Production Performance Evaluation

Production Equipment and Operations
- Wellheads, Flow Control Equipment, and Flowlines
- Wireline Production Operations
- Fluid Separation and Treatment
- Oilfield Safety
- Cased Hole Logging
- Intelligent Completions

Drilling Engineering
- Well Planning
- Drill String Components
- Drill Bits
- Drilling Fluids and the Circulating System
- Directional and Horizontal Drilling
- Underbalanced Drilling
- Drilling Problems and Drilling Optimization

Production Facilities Design
- Oil Systems and Equipment
- Gas Systems and Equipment
- Water Systems and Equipment
- Utility Systems and Equipment
- Instrumentation
- Platform and Structural Design Considerations

Well Completion and Stimulation
- Basic Completion Design and Practices
- Cementing
- Completion Equipment
- Perforating
- Acidizing and Other Chemical Treatments
- Hydraulic Fracturing
- Sand Control
- Horizontal Wells: Completion and Evaluation

Reservoir Engineering
- Fundamentals of Reservoir Engineering
- Reservoir Environments and Characterization
- Improved Recovery Processes
- Reservoir Modeling and Reserves Evaluation
- Issues in Reservoir Management

Offshore Operations
- Offshore Production Facilities
- Deepwater Drilling

Other Petroleum Engineering Topics
- Natural Gas Fluid Properties
- Risk Analysis Applied to Petroleum Investments
- Oil and Gas Pipelines
- Integrated Reservoir Characterization

FORMATION EVALUATION

Well Logging
- Formation Evaluation Overview
- Logging Equipment and Procedures
- Well Logging Tools and Techniques
- Well Log Interpretation
- Dipmeter Surveys
- Borehole Imaging

Well Testing and Analysis
- Fundamentals of Well Testing
- Gas Well Testing
- Oil Well Testing
- Drillstem Testing
- Advanced Pressure Transient Analysis

Rock and Fluid Sampling and Analysis
- Fluid Sampling and Analysis
- Coring and Core Analysis
- Sampling and Analysis of Drilled Cuttings
- Mud Logging

"I enjoyed the logic, interactive features, and data-oriented content."

–Learner

Upstream Technology

ACTION LEARNING

IPIMS Action Learning allows individuals to "learn by doing" with realistic and engaging assignments—the best way to develop practical specialty skills. A learner will perform tasks that simulate the management of a petroleum project, from initial discovery to field abandonment. While performing these assignments learners use field data and references as well as **Background Knowledge** to help make well-informed decisions.

Action Learning is divided into **18 topic areas**, with **87 courses** comprising realistic E&P job assignments.

EXPLORATION

Basin Analysis
- Sedimentology
- Sequence Stratigraphy
- Seismic Sequence Stratigraphy
- Biostratigraphy
- Petroleum Geochemistry

Dynamics of Deformation
- Tectonics
- Structural Geology
- Rock Properties and Mechanics

Surface Geology and Reconnaissance
- Surface Geology
- Remote Sensing
- Geodetic Coordinate Systems
- Magnetostratigraphy, Chemostratigraphy, and Radiometric Dating
- Gravity, Magnetic, and Electromagnetic Exploration Methods

Seismic Methods
- Seismic Data Acquisition
- Geophysical Instrumentation
- Seismic Survey Design
- Seismic Data Processing
- Wellbore Seismic
- 2-D Seismic Interpretation
- 3-D Seismic Interpretation
- Seismic Attributes and Direct Hydrocarbon Indicators (DHI)

Reservoir Description and Characterization
- Petrophysical Evaluation
- Interpretation of Well Logs
- Reservoir Geology
- Reservoir Geophysics
- Exploration Geostatistics

Wellsite Geological Operations
- Geological Operations and Logistics
- Data Logging and Geological Information
- Exploratory and Delineation Drilling

Exploration Project Management
- Exploration Process
- Project Economics, Risk, and Uncertainty Analysis
- Value of Information
- Exploration Business Management
- Exploration Project Management

Corporate Exploration Planning and Management
- Strategic Scenario Planning and Business Analysis
- Exploration Project Best Practices and Procedures
- Corporate Portfolio Management
- Portfolio Performance Optimization
- Environmental Impact Evaluation

IPIMS Action Learning

87 COURSES

RESERVOIR MANAGEMENT

Reservoir Engineering Fundamentals
- Reservoir Rock and Fluid Properties
- Rock Mechanics Fundamentals
- Stability and Rock Deformation Models
- Reservoir Drive Mechanisms
- Multidisciplinary Reservoir Management

Well Logging and Subsurface Mapping
- Interdisciplinary Data Acquisition
- Wireline Well Logging
- Well Log Quality Control
- Well Log Interpretation
- Subsurface Mapping
- Reserves Definitions, Reporting, and Mapping

Reservoir Characterization and Modeling
- Compaction and Subsidence
- Pressure/Production Data Analysis
- Flow Unit Determination
- Reservoir Simulation

Reservoir Surveillance
- Data Acquisition
- Geologic/Seismic Integration
- Geological Model Updating
- Petrophysical Model Updating
- Reservoir Model Updating

Reservoir Development Strategies
- Economic Evaluation
- Permitting for Well Operations
- Health, Safety, and Environment
- Reservoir Management and Control
- Improved Recovery

Reservoir Management Practices
- Implementation of Reservoir Development Strategies
- Reservoir Surveillance and Control
- Contracts

DRILLING AND WELL COMPLETION

Drilling, Workover, and Well Servicing Fundamentals
- Well Planning
- Well Completion Design
- Drilling and Workover Fluids
- Drilling and Workover Hydraulics
- Cementing
- Directional, Horizontal, and Multilateral Wells

Drilling and Well Completion Practices
- Initial Well Planning
- Well Design
- Drilling Program Planning and Implementation
- Drilling Operations
- Well Completion Operations

PRODUCTION ENGINEERING AND OPERATIONS

Production Fundamentals
- Production Methods
- Production Optimization
- Production Facilities
- Well Testing

Production and Operating Practices
- Flowing Well Performance and Production System Analysis
- Artificial Lift Methods
- Well Stimulation and Sand Control
- Workover Planning and Operations
- Surface Production Operations

Operations & Maintenance

IHRDC's O&M e-Learning features interactive content, graphics, animations, and challenging assessments.

OVERVIEW

IHRDC's O&M e-Learning provides training from the fundamentals of operations and maintenance to advanced troubleshooting skills on complex equipment. Covering Fundamentals, Health Safety and Environment (HSE), Maintenance, and Operations, IHRDC's O&M e-Learning consists of 340 courses, including 245 also offered in Spanish. The courses are available in Competency-Based e-Learning Pathways to provide learners with a progressive curriculum that will help employees perform their jobs safely and effectively.

AUDIENCE

This series is for operators and maintenance technicians in the oil and gas industry from upstream to downstream sectors, including production and process operations, processing and refining, and transportation and distribution.

Case Study

TRAINING SOLUTIONS FOR FIELD WORKERS, NEW OR EXPERIENCED

A major international oil and gas company was searching for a way to train their O&M workers to ensure it had a competent, well-trained workforce across all levels of the organization. The company has E&P operations around the world, including shale and oil sands. It required several elements for its training resources: SCORM-compliant courses, coverage of the entire oil and gas value chain, and that the courses were useful for all of its field workers—from new hires to senior employees. The company selected IHRDC's O&M e-Learning for approximately 10,000 workers, to provide consistent instruction, and therefore knowledge, across the entire company and different business units. The continuity in training has helped all of the company's employees become more effective.

CONTENT OVERVIEW

IHRDC's O&M e-Learning provides training from fundamentals, operations, HSE, and maintenance to the high-level skills required to operate and maintain the complex equipment in today's plants.

FUNDAMENTALS

- Chemistry
- Math
- Physics
- Operations Fundamentals
- Drawings and Diagrams
- Electrical
- Power and Steam Systems
- Process Control
- Tools

HSE

- Environmental Protection
- Hazardous Waste Operations
- Refinery Operations
- Water Treatment
- Chemical Safety
- Health
- Quality Schemes
- Electrical Safety
- Fire Protection
- Forklift Safety
- Introduction to Safety
- Laboratory Safety
- Materials Handling and Storage
- Personal Protection Equipment
- Workplace Safety

MAINTENANCE

- Boilers
- Compressors
- Gears, Equipment Drive Components, and Shaft Alignment
- Hydraulic Systems
- Lubrication and Bearings
- Pipes, Piping, and Auxiliaries
- Pumps and Seals
- Valves
- Other Mechanical Activities
- Circuits
- Electrical Components
- Electrical Generation Storage
- Electrical Theory
- Electrical Wiring
- Motors
- Transformers, Breakers, and Switches
- Actuator, Valve, and Motor Controllers
- Distributed Control Systems
- Field Device Configuration
- Human-Machine Interface and Plant Protection Systems
- Measurement Devices
- Networks
- Process Control
- Programmable Logic Controllers
- Variable Speed Drives

OPERATIONS

- Power Plant Operations
- Refining Process Technologies
- Laboratory Operations
- Analytical Chemistry Operations
- Basic and Heavy Lifting
- Boilers
- Distillation
- Furnaces
- Heat Exchangers
- Pumps
- Refrigeration System
- Storage Tank Operations
- Turbines and Steam Systems
- Other Systems and Equipment

LIFT FOR COMPLETE COURSE LISTING

Fundamentals

65 COURSES

MATH & SCIENCE

Chemistry
- Basic Principles of Chemistry 1
- Basic Principles of Chemistry 2
- Gases and Flowing Liquids
- Heat
- Heat Transfer
- Material Balancing
- Reaction Rates
- Solids and Liquids
- Inorganic Chemistry
- Aliphatic Chemistry
- Aromatic Chemistry

Math
- Basics of Math
- Basic Mathematical Operations 1
- Basic Mathematical Operations 2
- Algebra
- Binary, Octal, Hexadecimal Numbers
- Boolean Algebra, Part 1
- Boolean Algebra, Part 2
- Boolean Algebra, Part 3
- Formulas, Graphs, and Trends
- Unit Conversion and Scientific Notation
- Calculations in Chemical Solutions
- Statistical Analysis for Laboratory Technicians

Physics
- Basic Principles of Physics
- Forces and Machines
- Power and Energy
- Fluid Systems

"The knowledge gained from the courses will assist me in my job."

–Learner

O&M FUNDAMENTALS

Operations Fundamentals
- Basic Operator Responsibilities
- Advanced Operator Responsibilities
- Basic Refinery Operations
- Refining Basics
- Preparation in Process Operations
- Basic Troubleshooting in Process Operations
- Communication in Process Operations
- Implementation and Evaluation of Equipment
- Introduction to Operator Responsibilities
- Obtaining Samples
- Plant Production and Safety
- Process Examples
- Testing Samples
- Trends, Maintenance, and Emergencies

Drawings & Diagrams
- Basic Diagrams and Symbols 1
- Basic Diagrams and Symbols 2
- Blueprints
- Electrical Diagrams
- Flow and Electrical Diagrams
- Industrial Process Systems
- Piping and Instrumentation Diagrams

Electrical
- AC Circuits
- Basic Electrical Circuits
- Basic Electrical Principles
- Basic Electrical Test Equipment
- Basic Electricity Review
- Sources of Electricity
- Voltage and Current Principles

Power & Steam Systems
- Power Generation and Hydrogen Cooling
- The Steam Cycle

Process Control
- Basic Control Charts
- Introduction to Process Control
- Introduction to Statistical Process Control
- Process Dynamics and Measurement
- Process Variations

Tools
- Introduction to Hand Tools
- Introduction to Power Tools
- Precision Measurement Instruments

HSE

45 COURSES

ENVIRONMENT

Environmental Protection
- Air Pollution
- Pollution Control in Plants
- Water Pollution and Waste Disposal

Hazardous Waste Operations
- Introduction to Hazardous Waste Operations
- Hazard Communication
- Hazardous Waste First Responder - Awareness

Refinery Operations
- Emission Controls

Water Treatment
- Wastewater 1
- Wastewater 2
- Water for Plant Systems 1
- Water for Plant Systems 2

HEALTH

Chemical Safety
- Chemical Health Hazards
- Material Safety Data Sheets (MSDS)
- Saftey Data Sheets (SDS)
- Globally Harmonized System Overview

Health
- Bloodborne Pathogens
- Hearing Conservation
- Workplace Ergonomics

QUALITY

Quality Schemes
- ISO 9000

SAFETY

Electrical Safety
- Introduction to Electrical Safety
- Advanced Electrical Safety
- Electrostatic Discharge Precautions

Fire Protection
- Classes of Fires and Extinguishers
- Fire Safety

Forklift Safety
- Forklift Safety Checks
- Safe Forklift Operation
- Understanding Forklifts

Introduction to Safety
- Safety Basics
- Safety Fundamentals in Power Plants
- Safety Orientation

Laboratory Safety
- Introduction to Laboratory Safety
- The Safe Lab Environment
- Personal Safety for Lab Technicians

Materials Handling and Storage
- Tank Trucks
- Transporting Hazardous Materials
- Warning Signs and Labels

Personal Protection Equipment
- Personal Protection Equipment
- Respirator Fit Testing
- Respiratory Protection

Workplace Safety
- Back Safety
- Confined Space Entry
- Driving Safety
- Fall Protection
- Ladders and Scaffolds
- Lockout/Tagout

"These courses are such a good resource."

–Learner

Maintenance

152 COURSES

MECHANICAL

Boilers
- Boilers - Basic Principles and Types
- Boilers - Combustion, Water, and Steam

Compressors
- Introduction to Compressors
- Centrifugal Compressors
- Operation of Centrifugal and Axial Compressors
- Positive Displacement Compressors
- Reciprocating Compressors
- Types of Compressors - Centrifugal and Axial

Gears, Equipment Drive Components, & Shaft Alignment
- Drive Components, Couplings, and Clutches
- Drive Component Operations
- Gear, Belt, and Chain Drives
- Gears - Overhauls
- Gears - Types and Characteristics
- Shaft Alignment - Fundamentals
- Shaft Alignment - Reverse Dial and Laser
- Shaft Alignment - Rim and Face

Hydraulic Systems
- Hydraulic Actuators
- Hydraulic Component Inspection and Replacement
- Hydraulic Diagrams
- Hydraulic Fluid and Reservoirs
- Hydraulic Principles and Circuits
- Hydraulic Pumps
- Hydraulic Valves 1
- Hydraulic Valves 2
- Routine Maintenance of Hydraulic Systems
- Troubleshooting of Hydraulic Systems

Lubrication & Bearings
- Bearings - Fundamentals
- Bearings - Rolling Contact
- Bearings - Sliding Surface
- Lubricants and Bearings
- Lubrication - Basics
- Lubrication - Using Lubricants

Pipes, Piping, & Auxiliaries
- Pipes and Pipe Fittings
- Piping - Basic Components and Functions
- Piping - System Components and Operation
- Special Calculations in Pipes
- Flange Installation

Pumps & Seals
- Centrifugal Pump Basics and Troubleshooting
- Centrifugal Pump Overhaul
- Multistage Centrifugal Pumps
- Positive Displacement Pumps
- Seals - Gaskets and Packing
- Seals - Mechanical

Valves
- Basic Types and Operation of Valves 1
- Basic Types and Operation of Valves 2
- Safety Valves, Part 1
- Safety Valves, Part 2
- Valve Maintenance
- Valve Types and Operation

Other Mechanical Activities
- Arc Welding
- Operations of Forklifts
- Oxy-Fuel Gas Welding

ELECTRICAL

Circuits
- Filter Circuits
- J-K Flip-Flops
- Parallel Circuits
- Series Circuits
- Series-Parallel Circuits
- Transistor Oscillators
- Troubleshooting Electrical Circuits
- Troubleshooting Operational Amplifier Circuits
- Use of Ohm's and Kirchhoff's Laws in DC Circuits

Electrical Components
- Capacitors, Part 1
- Capacitors, Part 2
- Inductors, Part 1
- Inductors, Part 2
- Operational Amplifiers, Part 1
- Operational Amplifiers, Part 2
- SCRs and TRIACs
- Specialized Electronic Devices
- Transistor Configurations

"The courses are both challenging and rewarding."

–Learner

Electrical Generation & Storage
- AC Generator Maintenance
- Battery Systems
- Electrical Production and Distribution
- Power Supplies

Electrical Theory
- Kirchhoff's Law
- Magnets and Magnetic Fields
- Ohm's Law

Electrical Wiring
- Cables and Conductors
- Conduit Installation
- Fasteners
- Grounding
- Introduction to the NEC
- Splices and Terminations

Motors
- AC and DC Motors
- DC Motors
- Motor Branch Circuit Protection
- Three Phase Motors

Transformers, Breakers, & Switches
- Introduction to Transformers, Breakers, and Switches
- Electromagnetic Relays
- Fuses
- Ground Fault Interrupters
- High-Voltage Breakers and Switchgear
- Maintenance of Low-Voltage Circuit Breakers
- Relays 1
- Relays 2
- Transformers

Maintenance

INSTRUMENTATION & CONTROL

Actuator, Valve, and Motor Controllers
- Basic Functions of AC Motor Controllers
- Electric and Hydraulic Actuators
- Introduction to Actuators
- Motor Controllers and Operation
- Motor Operators
- Pneumatic Control
- Principles of Controllers
- Smart Controllers
- Troubleshooting AC Motor Controllers

Distributed Control Systems
- Introduction to Distributed Control Systems
- Troubleshooting DCS I/Os: Practices
- Troubleshooting DCS I/Os: Procedures

Field Device Configuration
- Field Devices: Analog Configuration
- Field Devices: Configuring with a Laptop PC
- Field Devices: Digital Configuration with a DCS

Human-Machine Interface & Plant Protection Systems
- The Human-Machine Interface
- Human-Machine Interface and Troubleshooting
- Plant Protection Equipment and Integrated Systems

Measurement Devices
- Digital and Analog Oscilloscopes
- Field Devices: Analyzers
- Field Devices: Level and Flow
- Field Devices: Pressure,Temperature, and Weight
- Field Devices: Using Field Communicators
- Introduction to Vibration Analysis
- Measurement of Concentration
- Measurement of Density, Clarity, and Moisture
- Measurement of Level and Flow
- Measurement of Pressure and Temperature
- Principles of Calibration

Networks
- Fiber Optic Systems
- Introduction to Control and Data Systems
- Introduction to Networks
- Setting Up and Troubleshooting of Networks

Process Control
- Automatic Process Control 1
- Automatic Process Control 2
- Multiple Loop Control
- Principles of Process Control
- Single Loop Control
- Troubleshooting Loops
- Tuning Loops

Programmable Logic Controllers
- Architecture, Types, and Networks of PLCs
- I/O Communication
- Installing and Maintaining PLCs
- Introduction to Digital Logic
- Introduction to Programming
- Ladder Logic and Symbology
- Program Entry, Testing, and Modification
- Programming Common Functions
- Troubleshooting Hardware
- Troubleshooting Software and Networks

Variable Speed Drives
- Applications of VSDs
- Introduction to VSDs
- Programming Controllers
- System Troubleshooting of VSDs
- Systems and Integration of VSDs
- Troubleshooting VSD Controllers

Operations

78 COURSES

FUNCTION-SPECIFIC PROCESSES

Power Plant Operation
- Basic Principles of Power Plant Operations

Refining Process Technologies
- Alkylation Operations
- Azeotropic, Extractive, and Vacuum Columns
- Blending Operations
- Crude Distillation Operations
- Fluid Catalytic Cracking Operations
- Hydrotreating and Catalytic Reforming 1
- Hydrotreating and Catalytic Reforming 2
- Process Reactor Fundamentals
- Treating and Sulfur Recovery Operations
- Typical Process Reactions, Part 1
- Typical Process Reactions, Part 2

Laboratory Operations
- Basic Lab Operations
- Laboratory Glassware
- Laboratory Hardware
- Laboratory Robotics
- QA/QC in the Laboratory
- Sample Preparation
- Separation and Isolation of Materials
- Weighing and Measuring Techniques

Analytical Chemistry Operations
- Analytical Procedures
- Atomic Absorption
- Gas Chromatography
- High Pressure Liquid Chromatography
- Infrared Analysis
- Ion Concentration Analysis
- Mass Spectrometry
- Nuclear Magnetic Resonance
- Optical Analysis
- UV Visible Spectroscopy

OIL & GAS PROCESSES

Basic & Heavy Lifting
- Basic Lifting
- Heavy Lifting
- Overview of Rigging

Boilers
- Abnormal Conditions and Emergencies
- Combustion and Boiler Operations
- Condensate and Feedwater Systems
- Condenser and Circulating Water
- Normal Operations of Boilers
- Startup and Shutdown of Boilers
- Water and Steam

Distillation
- Basic Distillation System Components and Operation
- Basic Principles of Distillation
- Distillation Control Systems
- Distillation Operating Problems
- Distillation System Startup and Shutdown
- Towers, Reboilers, and Condensers

Furnaces
- Introduction to Furnaces
- Furnace Operating Conditions
- Furnace Startup and Shutdown

Heat Exchangers
- Introduction to Heat Exchangers
- Condensers and Reboilers
- Cooling Towers
- Operation of Shell- and Tube-Type Heat Exchangers

Pumps
- Basic Pump Types and Operation
- Fundamentals of Centrifugal Pumps
- Operation of Centrifugal Pumps
- Performance and Inspection of Pumps
- Reciprocating Positive Displacement Pumps
- Rotary Positive Displacement Pumps

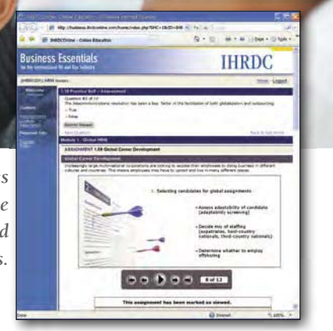
Refrigeration System
- Basic Concepts of Refrigeration Systems
- Operations of Refrigeration Systems
- Refrigeration Systems, Part 1
- Refrigeration Systems, Part 2

Storage Tank Operations
- Above Ground Storage Tanks, Part 1
- Above Ground Storage Tanks, Part 2
- Above Ground Storage Tanks, Part 3

Turbines & Steam Systems
- Bearings and Operation
- Boiler and Turbine Protection
- Steam Flow and Steam Turbines
- Steam Systems
- Steam Traps

Other Systems & Equipment
- Auxiliary Vessels
- Fans
- Filtration and Screening Unit Operations
- Flaring, Venting, and Purging
- Fundamentals of Process Solubility
- Material Handling of Bulk Liquids
- Portable and Emergency Equipment

Business Essentials



Business Essentials features interactive courses that include graphics, animated segments, and integrated assessments.

OVERVIEW

Although the oil and gas industry is unique, it shares many functions with all businesses. Business Essentials provides practical business knowledge and skills on foundational business topics, tailored for the oil and gas industry. The MBA-level courses cover finance, communications, human resource management, project management, marketing, innovation, project risk management, and sustainable management.

AUDIENCE

Business Essentials is ideal for anyone who needs to improve their understanding and knowledge of business processes and proficiencies within the context of the oil and gas industry.

Case Study

DEVELOPING PROJECT MANAGEMENT AND COMMUNICATION SKILLS WITH BUSINESS ESSENTIALS

A national joint-venture LNG company was in the initial stages of construction and manpower development for a substantial new project. As they progressed, upper management recognized the need to implement more formal project management awareness and develop critical communication skills for their employees. After investigating several options, the company determined that IHRDC's Business Essentials, specifically the Project Management and Communications courses, provided an economic and easy-to-execute solution. One important aspect was that the courses follow the Project Management Institute's Project Management Body of Knowledge (PMBOK) and prepare learners for the PMBOK certification exam. The company implemented the e-Learning courses using IHRDC's LMS. Because all employees in the company have access to the courses, it has become one of the largest users of IHRDC's e-Learning.

BUSINESS ESSENTIALS COURSES

For optimum flexibility, Business Essentials courses may be pursued individually, organized into a curriculum, or incorporated into a learning management system to supplement basic business knowledge.

AGILE

These courses explore the methodologies, practices, and tools of Agile development and explains the key concepts and principles that form the foundation of Agile project management.

COMMUNICATIONS

This series teaches the fundamentals of effective business writing and presentation methods using relevant oil and gas industry examples.

CREATIVITY AND INNOVATION

Just because a job is not in the "creative" field does not mean that creativity and innovation is not necessary. These courses provide methods to develop creativity and innovation for individuals and organizations.

FINANCE

With detailed oil and gas industry examples, these finance courses enable non-financial professionals to understand corporate financial fundamentals, read financial statements, and understand what they say about a business.

HUMAN RESOURCES MANAGEMENT

The courses address vital personnel issues, from planning and recruiting to performance management, using examples drawn from the international oil and gas industry.

INTERNATIONAL TRADE

These courses teach learners about finance, marketing, management, and the supply chain on a global scale, knowledge that is required to be successful in the international oil and gas industry.

LIFT FOR COMPLETE COURSE LISTINGS

LEADERSHIP

Being a leader requires the ability to manage people, organizations, and change. These courses provide a foundation in these skills.

MANAGEMENT

This series addresses the methods to properly manage a team, taking into account the new realities of contemporary business practices.

MARKETING

Without marketing, companies would not be able to communicate with their customers and clients. These courses explain the fundamentals of marketing, with an emphasis on its function in the oil and gas industry.

PROJECT MANAGEMENT

Using relevant oil and gas case studies, this series of courses covers both the theory and practice of project management. It follows the Project Management Institute's Project Management Body of Knowledge (PMBOK) and prepares learners for the PMBOK exam.

PROJECT RISK MANAGEMENT

The oil and gas industry is inherently risky. Accidents will happen, and having a solid plan in place before a problem occurs will save time, money, and reputation. These courses give a foundation in planning for, communicating about, and responding to risks.

SUSTAINABLE MANAGEMENT

Sustainability is sometimes perceived as a trend, but it is fast becoming an industry reality for both environmental and business reasons. These courses explore several aspects of Sustainable Management, from ethical, leadership, and economic perspectives.

LEARN MORE AT WWW.IHRDC.COM/BE

Business Essentials Course Listing

69 COURSES

AGILE

Introduction to Agile
Agile Team Challenges
Integrating Agile and Waterfall Practices
Agile Certified Practitioner (PMI-ACP)® Practice Exams & Exam Strategies

COMMUNICATIONS

Effective Communication
Organizing and Structuring
Writing Effectively
Presentation Basics
Purposeful Presentations

CREATIVITY AND INNOVATION

Creativity in Teams and Organizations
Innovation in Teams and Organizations
Introduction to Critical Thinking
Personal Creativity

FINANCE

Overview of Finance
Accounting Concepts and Financial Statement Analysis
Time Value of Money Principles
Risk and Return
Budgeting
Practical Tools for Planning and Control
Valuing Real Assets
Introduction to Business Statistics

HUMAN RESOURCES MANAGEMENT

Introduction to Human Resource Management
Planning and Recruiting
Employee Selection
Training and Development
Employment Benefits
Performance Management
Compensation
Talent Management and Career Development
Equal Employment Opportunity
Ethics, Employee Rights, and Discipline
Employee Health and Safety
Other HRM Issues: Work-Life Balance and Global HRM

INTERNATIONAL TRADE

Global Business Management
Global Marketing
Global Supply Chain Management
Global Trade Finance

LEADERSHIP

Introduction to Leadership
Leaders and Work-Life Balance
Leading and Managing Change
Leading Teams

MANAGEMENT

Managing in a Modern Organization
Managing People
Time Management
Effective Negotiations
How to Coach

MARKETING

Overview of Marketing
Marketing Planning

PROJECT MANAGEMENT

Introduction to Project Management
Project Processes and Project Integration Management
Project Scope Management
Project Time Management
Project Cost Management
Project Quality Management
Project Human Resource Management
Project Communications Management
Project Risk Management
Project Procurement Management
Project Management Practice Examination and Examination Strategies

PROJECT RISK MANAGEMENT

Risk Communication
Risk Analysis
Risk Response Planning
Risk Governance
Risk Practice Exams and Exam Strategies

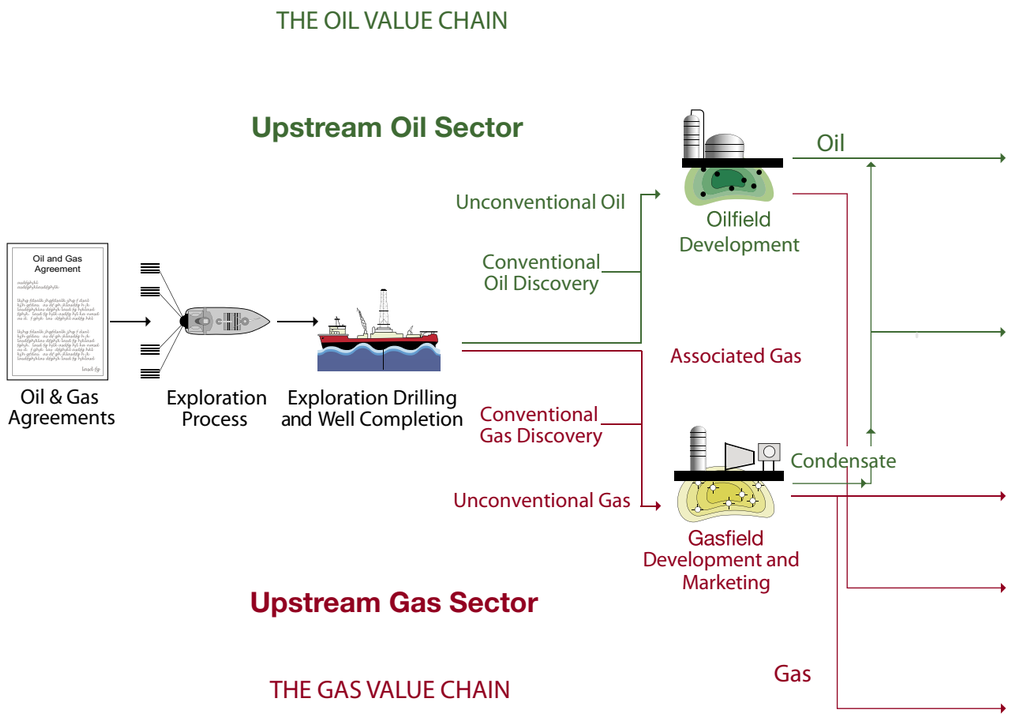
SUSTAINABLE MANAGEMENT

Overview of Sustainable Management
Corporate Social Responsibility
Measuring Sustainable Management Performance
Sustainable Management: Leadership Ethics
Triple Bottom Line Accounting

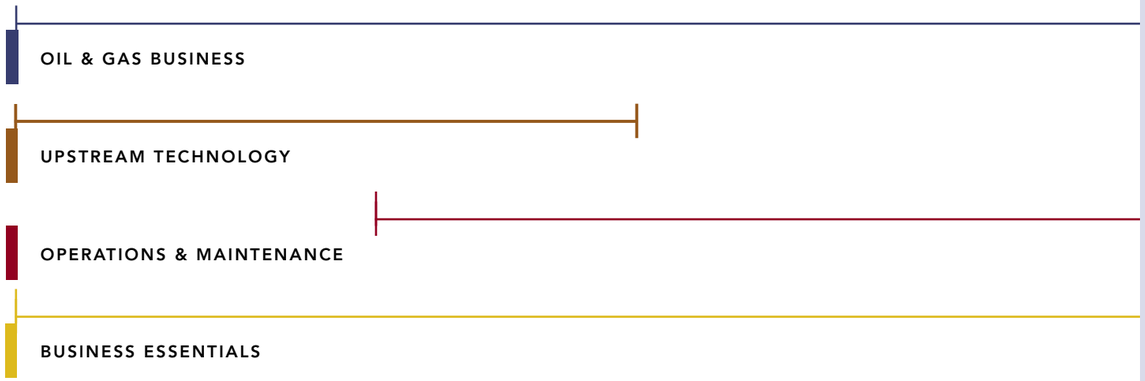
"The presentation and format of the training was excellent."

–Learner

IHRDC's e-Learning and Knowledge Solutions Spanning the Integrated Oil & Gas Value Chain



IHRDC e-Learning and Knowledge Solutions



IHRDC's e-Learning and Knowledge Solutions span the entire oil and gas value chain, offering a wide range of courses that enable professionals in the energy industry to gain the knowledge and skills necessary to achieve success in their careers and for their organizations. IHRDC's e-Learning courses include both foundational knowledge to understand the industry and in-depth instruction on complex technical and operational subjects.

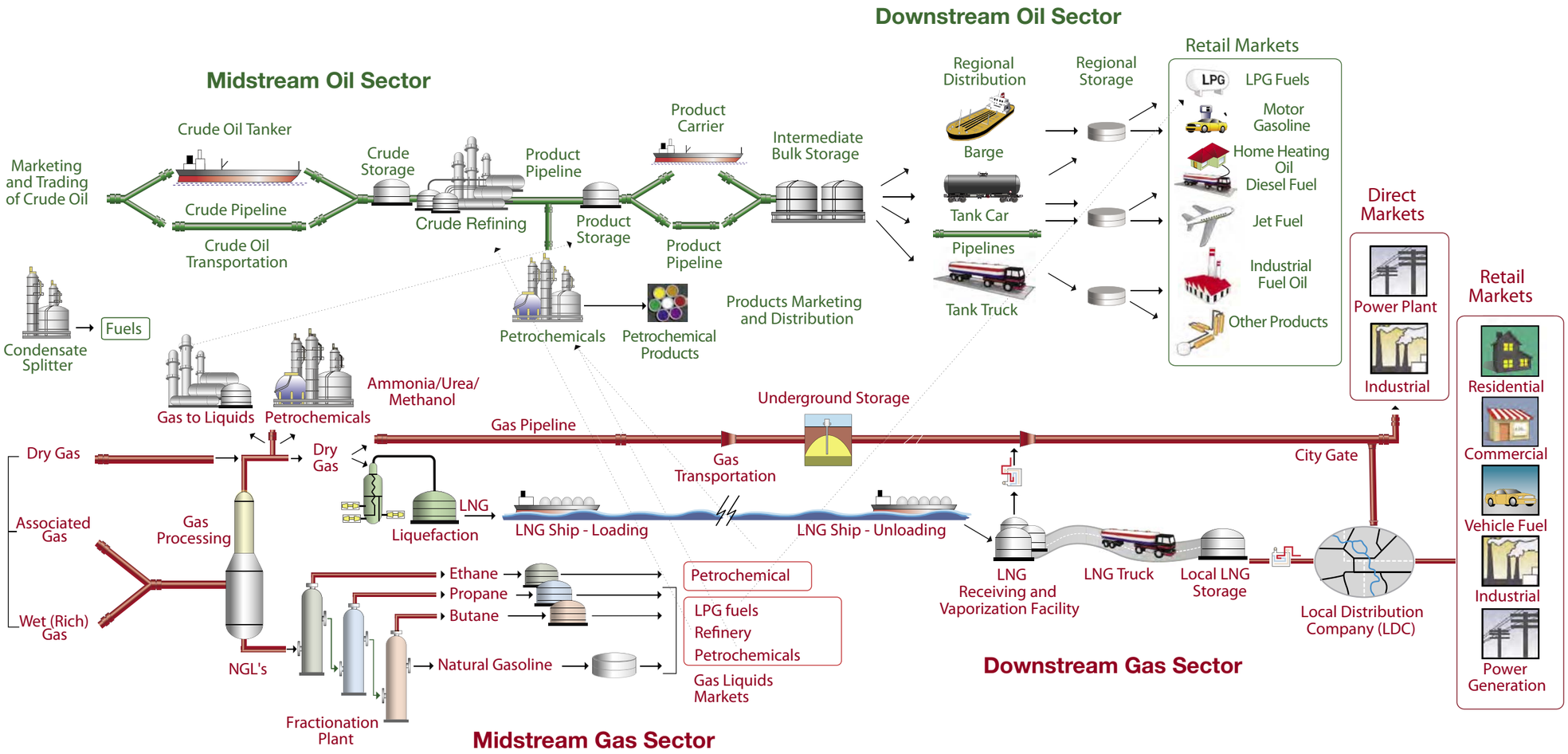
Oil & Gas Business: Petroleum Online provides an overview of the entire oil and gas value chain, explaining how business and technology function and intersect within the industry.
(18 courses)

Upstream Technology: IPIMS courses encompass the Exploration & Production sector with extensive topics on background knowledge and more in-depth courses that simulate on-the-job assignments and decision-making processes.
(More than 800 courses)

Operations & Maintenance: O&M includes the majority of the oil and gas value chain with a focus on the tasks involved in operating and maintaining facilities and plants from production through refining and distribution.
(340 courses)

Business Essentials explores the oil and gas value chain from a business perspective, offering foundational topics common to all industries, with an approach relevant to the oil and gas industry.
(69 courses)

LIFT FOR COMPLETE VALUE CHAIN



IHRDC's Competency-Based e-Learning Pathways

IHRDC's **Competency-Based e-Learning Pathways** are designed for learners to progress in their training from foundational industry knowledge, to generalized functional training, and finally to industry segment-specific learning. By following these Pathways, learners can achieve the required level of competency to better perform their jobs.

Stage I: Foundation Training provides the background learning required for new personnel.

Stage II: Functional Training Pathways are divided into separate pathways, one for each functional area.

Stage III: Industry Sector Training Pathways provide a deeper knowledge of a specific area of the oil and gas industry.

LICENSING CONSIDERATIONS

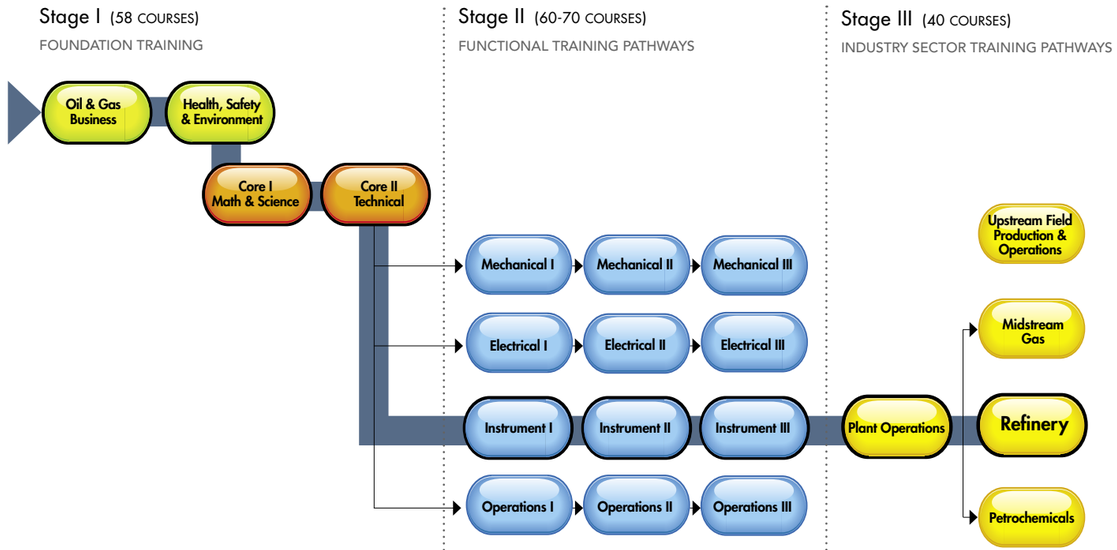
Clients have the option of licensing our Competency-Based e-Learning Pathways by stage or as a complete package. Courses are also available individually.

ESTIMATED LEARNING TIME TO COMPLETE THE PATHWAYS

The time that it takes to complete a selected Pathway depends upon the learner's pace and amount of time available for learning. Each Pathway provides 150-200 hours of learning and is available for one year after purchase.

IHRDC'S COMPETENCY-BASED E-LEARNING PATHWAYS	
E&P PATHWAYS	O&M PATHWAYS
Exploration Geology	Refinery Technicians
Development Geology	Petrochemical Technicians
Wellsite Geology	Midstream Gas Technologies *(in development)*
Petrophysics	Upstream Field Production & Operations *(in development)*
Seismic Acquisition	
Seismic Processing	
Seismic Interpretation	
Drilling Engineering	
Production Engineering	
Reservoir Engineering	
Geoscience Management	
Petroleum Engineering Management	

EXAMPLE: REFINERY INSTRUMENTATION TRAINING PATHWAY



When a new hire begins his training he will first complete **Stage I: Foundation Training**, which provides a solid understanding of the oil and gas industry as a whole, as well as the necessary training to safely and accurately perform his job.

As the learner progresses in his training he will select a specialty, in this example, Instrumentation and Controls, and will follow the Instrument Pathway in **Stage II: Functional Training Pathway**.

In this case, because this learner is working in a refinery, he will then complete the Plant Operations courses, which include equipment operations, operator responsibilities, and troubleshooting; and Refinery courses, which include refining technologies, process reactions, and major unit operations, in **Stage III: Industry Sector Pathway**.

Client List

Our e-Learning Solutions have won numerous awards, including a 2012 AVA Platinum Award, 18 Telly Awards, and a Distance Learning Award for Excellence.

SUPERMAJOR

BP
Chevron
ConocoPhillips
ExxonMobil Chemical
Shell International Exploration and Production
TOTAL

NATIONAL OIL COMPANY

Abu Dhabi Company for Onshore Oil Operations
Abu Dhabi Marine Operating Company
CNOOC SES Indonesia
Ecopetrol
Ghana National Petroleum Corporation
INA
JOGMEC
Korea Gas Corporation
Korea National Oil Company
Kuwait Oil Company
National Oil Company of Liberia
Oil and Natural Gas Corporation - India
Pertamina
Pertamina Hulu
Petronas Carigali Sdn. Bhd.
Petrotrin
PetroVietnam Exploration & Production Corporation
PTT Exploration and Production Public Company Ltd.
SAFER-Yemen
Saudi Arabian Oil Company
SONATRACH
Zakum Development Company

DOWNSTREAM

CHS, Inc.
CITGO Petroleum Corporation
Consumers Co-Operative Refineries Limited
Delaware City Refining Company LLC
Delek Refining, Ltd.
Flint Hill Resources
HollyFrontier Companies
Lunday-Thagard
Marathon Petroleum Corporation
Phillips 66
Valero Refining

INDEPENDENT

Afren
African Petroleum Corporation
Berry Petroleum
Cairn Energy India
Canadian Natural Resources Ltd.
CEPSA E&P
Coastal Energy
Companhia Energética de Minas Gerais - Cemig
Dana Gas Egypt
DCP Midstream
Energean
Essar Oil
GALP Energia
Hess Corporation
Husky Energy
Hyperdynamics Corporation
INP
INPEX Corporation
JX Nippon Oil & Gas Exploration Corporation
Kuwait Energy Company
Marathon Oil Corporation
Mitsui Oil Exploration Co. Ltd.
MOL Hungarian Oil & Gas Company
Oando Plc
Occidental Petroleum Corporation
Origin Energy (Australia)
Pacific Rubiales
PanAfrican Energy Tanzania Ltd.
Perenco Guatemala
Pioneer Natural Resources
Roc Oil Company Limited
Santos - Indonesia
SASOL Petroleum International (SPI)
SAVIA Peru
Suncor Energy Inc.
Talisman Energy Inc.
Tullow South Africa (Pty) Ltd.
United Energy Pakistan
Wintershall Holding AG
Wintershall Noordzee
Woodside Energy Ltd.
YPFB Chaco

SERVICE COMPANY

10EQS Knowledge Exchange Ltd.
3M Company (Global Oil & Gas)
Accenture
Alcatel-Lucent
Baker Hughes
Bakond TMM
Daesung Industries Co., Ltd.
Deloitte
Geokinetics
Geotrace
Global Training Solutions, Inc.
Halliburton Energy Services Group
Infosys
Ion Geophysical
Maersk Oil Qatar AS
National Oilwell Varco
Oildata Wireline Services Limited
P2 Energy Solutions
Petroleum Geo-Services
Schlumberger
TECON Engineering GmbH
Wipro Technologies

PROFESSIONAL ASSOCIATION

National Cooperative Refinery Association
Society of Exploration Geophysicists

ACADEMIC

Bossier Parish Community College
COSTECH
Technical Book Sources
University of Clausthal
Vietnam Petroleum Institute

About IHRDC

IHRDC was founded in 1969 with a commitment to offer international oil and gas companies excellent products and services to train and develop their workforce. In the four decades since then – from both our Boston headquarters and our offices in Houston, Amsterdam, Kuala Lumpur, Jakarta, and Lagos – we have set a worldwide standard of excellence through our Instructional Programs, e-Learning Solutions, and Competency Management. Our offerings are used daily by thousands of industry leaders.

Instructional Programs offers outstanding workshops that teach management and petroleum business essentials using challenging business games.

e-Learning and Knowledge Solutions provides innovative products that deliver accelerated, effective, and on-demand learning and knowledge to the international oil and gas industry.

Competency Management has industry-leading competency and compliance solutions to assess, develop, and manage your workforce.

To learn more about how IHRDC can help you build a world-class workforce please visit **www.ihrdc.com**.

IHRDC

IHRDC/CORPORATE HEADQUARTERS

535 Boylston Street, 12th Floor Boston, MA 02116 USA
Tel: +1.617.536.0202 Fax: +1.617.536.4396
Email: corporate@ihrdc.com

COMPLETE DETAILS AVAILABLE ONLINE:
WWW.IHRDC.COM

CONNECT WITH IHRDC

blog.IHRDC.com
IHRDC
@IHRDCTraining

IHRDC/NORTH AMERICA

HOUSTON
Tel: +1.281.340.8535
Email: houston@ihrdc.com

IHRDC/EUROPE

LONDON
Tel: +44.01420.543427
Email: london@ihrdc.com

AMSTERDAM
Tel: +31.299.373480
Email: amsterdam@ihrdc.com

IHRDC/MIDDLE EAST

ABU DHABI
Tel: +971.2.676.2662
Email: abudhabi@ihrdc.com

IHRDC/AFRICA

LAGOS
Tel: +234.803.301.4101
Email: lagos@ihrdc.com

IHRDC/ASIA

KUALA LUMPUR
Tel: +60.3.4065.0800
Email: kualalumpur@ihrdc.com

JAKARTA
Email: jakarta@ihrdc.com