NEW!
Operations & Maintenance e-Learning

The Fourth IHRDC e-Learning Series
For The Oil And Gas Industry

International Human Resources Development Corporation

E-LEARNING SOLUTIONS

OVER 250 E-LEARNING COURSES

• PROCESS OPERATIONS
• HEALTH, SAFETY & ENVIRONMENT
• MAINTENANCE
• CONTROL SYSTEMS
“This series is designed to help you build a competent workforce. I highly recommend that you “test drive” a module and see how really good the series is.”

- David Donohue, President, IHRDC

For 40 years, IHRDC has been a worldwide leader in training and competency development for the oil and gas industry. We commit to offering the best and most innovative Instructional Programs, e-Learning Solutions and Training Services available in the industry today. The Operations and Maintenance e-Learning series in this catalog is the fourth e-Learning series published by IHRDC.

OVERVIEW

IHRDC’s O&M e-Learning is a comprehensive learning resource devoted to Process Operations, Maintenance, Control Systems and HSE. These e-Learning courses provide oil and gas organizations the resources to develop competent operators and technicians for today’s advanced oil and gas industry. The courses follow strict instructional design protocols that ensure employees understand the relevant theories, plant processes, equipment and component operations that are necessary to drive efficiencies, promote safety, and achieve operational excellence.

AUDIENCE

This series is suitable for operators and maintenance technicians in the Oil and Gas Industry from upstream to downstream including production and process operations, processing and refining, and transportation and distribution. IHRDC’s O&M e-Learning combined with our Competency Management System, can assess your personnel to determine their learning needs, deliver a streamlined set of courses, and ensure competency development using our hands-on assessment process.

KEY FEATURES

- Voice-over with Closed Captioning
- Streamlined Navigation
- Pre- and Post-tests
- Outline-Based
- Clear Learning Objectives
- Transcript Box
- Embedded Learning Activities
- Glossary of Terms
- Key Safety Information
- SCORM Compliant Courses
- Practice Sessions and Review Questions
- Powerful Graphics and Animations
- Outlined Based Topic Summaries
- Alternative Text Version of each Course
- Bookmarking

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

CHECK OUT O&M e-LEARNING TODAY!

Explore O&M e-Learning today by visiting www.ihrdc.com. If you like what you see, ask us for a 30-day free trial account by contacting us directly at OMeLearning@hhrdc.com to answer any questions.
Major Content Areas Include:

1. Process Operations
2. Health, Safety & Environment
3. Maintenance
4. Control Systems

IHRDC’s O&M e-Learning series consists of over 250 courses, including 180 that have been translated into Spanish, that provide training from the fundamentals of process operations and plant maintenance to advanced troubleshooting skills needed on the complex equipment found in today’s plants.

1. PROCESS OPERATIONS

- More than 100 courses are available covering:
  - Boilers
  - Chemistry
  - Compressors
  - Diagrams
  - Distillation
  - Electrical Equipment
  - Equipment Drive Components
  - Equipment Lubrication
  - Power Plant Boilers
  - Power Plant Operation
  - Power Plant Turbines
  - Process Sampling
  - Pumps
  - Refrigeration Systems
  - Statistical Process Control
  - Troubleshooting
  - Valves

2. HEALTH, SAFETY & ENVIRONMENT

- More than 25 courses are available covering:
  - Environmental Protection
  - Fire Safety
  - Forklift Safety
  - Hazardous Waste Operations
  - Health
  - Material Handling
  - Personal Protection Equipment
  - Safety
  - Water Treatment

3. MAINTENANCE

- More than 80 courses are available covering:
  - Bearings
  - Circuit Breakers
  - Compressors
  - Diagrams
  - Electric Motors
  - Electrical Maintenance
  - Electrical Theory
  - Electrical Wiring
  - Forklifts
  - Gears
  - Hydraulics
  - Lubrication
  - Math
  - Pipes & Valves
  - Pumps
  - Rigging
  - Safety
  - Seals
  - Shaft Alignment
  - Tools
  - Vibration Analysis
  - Welding

4. CONTROL SYSTEMS

- More than 40 courses are available covering:
  - Core
  - Continuous Process
  - Networks
  - Programmable Logic Controllers (PLCs)
  - Variable Speed Drives (VSDs)

103 Courses

Equipment Lubrication
- Lubricants and Bearings
- Using Lubricants

Furnaces
- Introduction
- Startup and Shutdown
- Operating Conditions

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

Industrial Math
- Basic Operations 1
- Basic Operations 2
- Algebra
- Formulas, Graphs and Trends

Instrumentation and Control
- Measurement of Pressure and Temperature
- Measurement of Level and Flow
- Measurement of Concentration
- Measurement of Density, Clarity & Moisture
- Introduction to Process Control
- Automatic Process Control 1
- Automatic Process Control 2
- Introduction to Control and Data Systems
- The Human-Machine Interface

On-The-Job Training
- Preparation
- Implementation and Evaluation

Operator Responsibilities
- Introduction
- Trends, Maintenance and Emergencies
- Plant Production and Safety
- Communication

Piping and Auxiliaries
- Basic Components and Functions
- System Components and Operation

Compressor facility, Thomas Corners UGS, NY
Process Operations – continued

Plant Science
- Basic Principles
- Forces and Machines
- Solids and Liquids
- Gases and Flowing Liquids
- Heat
- Heat Transfer
- Fluid Systems
- Process Dynamics and Measurement
- Basic Electrical Principles
- Basic Electrical Circuits

Power Plant Boilers
- Abnormal Conditions and Emergencies
- Combustion and Operation
- Normal Operations
- Startup and Shutdown
- Water and Steam

Power Plant Operation
- Basic Principles
- Safety and Pollution Control

Power Plant Turbines
- Bearings and Operation
- Steam Flow
- Condensate and Feedwater Systems
- Condenser and Circulating Water
- Power and Energy
- Power Generation
- Steam Cycle
- Steam Systems
- Boiler and Turbine Protection
- Fundamentals
- Integrated Systems

Process Sampling
- Obtaining Samples
- Testing Samples

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

Refrigeration Systems
- Basic Concepts
- Operation

Statistical Process Control
- Introduction
- Basic Control Charts
- Process Variations

Troubleshooting
- Basic Concepts
- Process Examples

Valves
- Basic Types and Operation 1
- Basic Types and Operation 2
- Introduction to Actuators
- Electric and Hydraulic Actuators

Environmental Protection
- Air Pollution
- Water Pollution & Waste Disposal

Fire Safety
- Classes of Fires and Extinguishers
- Fire Safety

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

Hazardous Waste Operations
- Hazard Communication
- HAZWOPER: Introduction
- HAZWOPER: First Responder – Awareness Level

Health
- Bloodborne Pathogens
- Hearing Conservation
- Workplace Ergonomics

Material Handling
- Material Safety Data Sheets (MSDS)
- Tank Trucks
- Transporting Hazardous Materials
- Warning Signs and Labels

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

Safety
- Back Safety
- Confined Space Entry
- Driving Safety
- Electrical Safety
- Fall Protection
- Laboratory Safety
- Lockout/Tagout
- Safety Orientation

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

Dehydration facility, Thomas Corners UGS, NY

ALL HSE COURSES WERE UPDATED IN 2010!
- Current Standards
- New Media Content

To learn more, visit us at www.ihrdc.com
Bearings
Fundamentals
Rolling Contact
Sliding Surface

Circuit Breakers
Breakers and Switchgear 1
Breakers and Switchgear 2

Compressors
Centrifugal
Reciprocating

Diagrams
Blueprints
Industrial Process Systems
Electrical

Electric Motors
AC Motor Controllers 1
AC Motor Controllers 2
DC Motors
Motor Branch Circuit Protection
Three Phase

Electrical Maintenance
Introduction to the NEC
Battery Systems
Basic Electrical Test Equipment
Digital and Analog Oscilloscopes
Troubleshooting Electrical Circuits
Fasteners
Relays 1
Relays 2

Electrical Theory
AC Circuits
Basic Electricity Review

Electrical Wiring
Cables and Conductors
Conduit Installation
Splices and Terminations

Forklifts
Operation

Gears
Overhauls
Types and Characteristics

Hydraulics
Actuators
Component Inspection & Replacement
Diagrams
Fluid and Reservoirs
Principles and Circuits

Pumps
Routine Maintenance
Troubleshooting
Valves 1
Valves 2

Lubrication
Lubrication Basics
Math
Basics of Math

Pipes and Valves
Motor Operators
Pipes and Pipe Fittings
Safety Valves
Steam Traps
Valve Types and Operation
Valve Maintenance
Pumps
Centrifugal Pump Basics and Troubleshooting
Centrifugal Pump Overhaul
Multistage Centrifugal
Positive Displacement
Rigging
Overview
Basic Lifting
Heavy Lifting
Ladders and Scaffolds
Safety
Basics
Chemical Health Hazards
Electrical

Seals
Gaskets and Packing
Mechanical
Shaft Alignment
Fundamentals
Reverse Dial and Laser
Run and Face

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

Vibration Analysis
Introduction
Welding
Arc Welding
Oxy-Fuel Gas Welding

Core
Introduction to Process Control
Introduction to Control and Data Systems
Basic Electrical Test Equipment
Principles of Calibration
Principles of Control
Digital & Analog Oscilloscopes
The Human Machine Interface

Continuous Process
Introduction to Distributed Control Systems
Field Devices: Analytical
Field Devices: Analog Configuration
Field Devices: Digital Configuration with a DCS
Field Devices: Configuring with a Laptop PC
Field Devices: Using Field Communicators
Field Devices: Level and Flow
Field Devices: Pressure, Temperature and Weight
Principles
Single Control Loop
Multiple Loop Control
Tuning Loops
Troubleshooting Loops
Smart Controllers
Pneumatic Controls
Troubleshooting DCS I/Os: Procedures
Troubleshooting DCS I/Os: Practices

Networks
Introduction
Fiber Optic Systems
Setting Up and Troubleshooting

Programmable Logic Controllers (PLCs)
Introduction to Programming
Types and Architecture
Numerics
Ladder Logic and Symbolology
I/O Communication
Installing and Maintaining
Troubleshooting Software and Networks
Troubleshooting Hardware
Human Machine Interface and Troubleshooting
Programming Common Functions
Program Entry, Testing and Modification

Variable Speed Drives (VSDs)
Introduction to VSDs
Applications
Systems and Integration
Programming Controllers
Controllers and Troubleshooting
System Troubleshooting

Refinery, Alexandria, Egypt
Our Robust Product Offerings

IHRDC e-LEARNING SOLUTIONS PRODUCTS

IHRDC’s e-Learning Solutions now offers four outstanding e-Learning series that deliver over 1,000 courses in upstream technology, operations and maintenance, oil and gas industry business fundamentals, and management essentials to users virtually everywhere in the world. These innovative, web-based products provide clients with very effective and convenient ways to meet their learning and development needs.

IPIMS

IPIMS is the leading e-Learning solution for building competencies in Upstream Petroleum Technology: Geology, Geophysics, Petroleum Engineering, and Formation Evaluation. Developed in partnership with industry experts from 10 major oil and gas companies, its content is rigorous and extensive. Essentially IPIMS is a relational database of learning assets with colorful graphics, award-winning video and challenging assessments that can be structured to meet competency-specific training needs. One of a kind in the industry, IPIMS now includes over 750 courses in 120 E&P topic areas, from basic to advanced content levels. It is used by over 60 companies worldwide from majors to national oil companies, from service companies to small producers, and consultants.

PETROLEUM ONLINE

Petroleum Online is a comprehensive, 14-module series that provides an in-depth overview of all sectors of the petroleum industry for those who wish to expand their understanding of the international oil and gas business. It has broad appeal to a wide audience - from entry level personnel to board members. Accessible on an individual module basis over the web, each course title takes about 2-3 hours to complete. It is now offered in Portuguese and Spanish in addition to English.

BUSINESS ESSENTIALS

Business Essentials is a self-paced e-Learning series covering four key business areas - Finance, Project Management, Human Resource Management, and Communications. These 34 modules, developed in collaboration with a faculty member at the Harvard Business School, are designed to improve the critical business skills of individuals working in the international Oil and Gas Industry. This series can be accessed on an individual module basis over the web.

O&M e-LEARNING

IHRDC’s new Operations & Maintenance e-Learning is a comprehensive e-Learning resource devoted to Process Operations, Maintenance, Control Systems, and HSE. These e-Learning courses provide Oil and Gas organizations the resources to develop competent operators and technicians for today’s advanced oil and gas industry. The O&M e-Learning series contains over 250 courses including 180 that have been translated into Spanish. These courses follow strict instructional design protocols that ensure employees understand the relevant theories, plant processes, equipment and component operations that are necessary to drive efficiencies, promote safety and achieve operational excellence.

About IHRDC

IHRDC was founded in 1969 on a commitment to offer oil and gas companies the very best products and services to train and develop their workforce. In the four decades since then – from both our Boston headquarters and our offices in Amsterdam, Cairo, Jakarta and Lagos – we have set a worldwide standard of excellence through our three major business units: Instructional Programs, e-Learning Solutions and Training Services.

Instructional Programs offers a wide array of excellent industry focused management and technology programs designed with simulation games that stimulate learning.

e-Learning Solutions consists of four e-Learning Series discussed in this brochure on the facing page.

Training Services: Competency focused consulting services developed around our highly-regarded CMS Online, our web-based competency management system.

For more information go to www.ihrdc.com.

CHECK OUT O&M e-LEARNING TODAY!

Explore O&M e-Learning today by visiting www.ihrdc.com. If you like what you see, ask us for a 30-day free trial account by contacting us directly at OMeLearning@ihrdc.com to answer any questions.
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

IHRDC/AMSTERDAM
Coen de Koninghlaan 35, 1135CM Edam, The Netherlands
Tel: 31.299.373480
Email: amsterdam@ihrdc.com

IHRDC/CAIRO
55, Road 206, Digla, Maadi, Cairo, Egypt
Tel: 20.22.519.7275
Fax: 20.22.519.7274
Email: cairo@ihrdc.com

IHRDC/JAKARTA
Villa Melati Mas Block i.12a No. 12
Serpong 13250
Tangerang, Banten, Indonesia
Tel: 62.21.68299480
Fax: 62.21.5372392
Email: jakarta@ihrdc.com

IHRDC/LAGOS
Plot 93, Block 14, Akanbi Disu Street
Off Otunba Adedoyin Ogunbe Crescent
Lekki Phase 1, Lagos, Nigeria
Tel: 234.803.301.4101
Email: lagos@ihrdc.com

WWW.IHRDC.COM

Cover Photo Credits
The picture on the left shows the Chief Mechanic demonstrating a procedure to another mechanic at a major compressor station of Thrace Basin
Natural Gas Turkiye Corporation, Turkey. On the right a fire training session at Petroleos de Venezuela, Venezuela.