Online Training

RELIABILITY MATTERS

Process and Refining Operations Course Bundle

216 Total Lessons

700 Process Systems and Operations (37)

701-01	Introduction to Petroleum Refining
701-02	Basic Petroleum Chemistry
701-03	OSHA's Process Safety Management Standard
701-04	History of Refining
701-05	Introduction to Crude Oil
701-06	Operator Qualifications in Refining
701-07	Maintenance Requirements in Petroleum Refining
701-08	Predictive and Reactive Maintenance
705-01	Refinery Overview and Configuration
705-03	Crude Unit
705-05	Catalytic Reformer
705-07	Fluid Catalytic Cracking
705-09	Coker Operations
705-11	Gasoline Blending
705-12	Diesel and Other Fuels
705-13	Sweeting
705-15	Sulfuric Acid Plant
705-17	Finishing Processes and Hydrotreating
705-19	Support Plants and Regulations
705-21	Natural Gas Refining
705-23	Lubricants
705-25	Asphalt
707-01	Features and Operation of Process Heaters
709-01	Features and Uses of Process Tanks
711-01	Introduction to Distillation
711-02	Operation of a Distillation Column
713-01	Introduction to Process Separators
715-01	Introduction to Process Reactors
717-01	Introduction to Methane Reforming and Synthesis
719-01	Safety Alarm Systems and Instrumentation
719-02	Overpressure Safety systems
721-01	Process Utilities System, Part 1
721-02	Process Utilities System, Part 2
723-01	Process Product Movement and Shipment
723-02	Tanks and Vessels Used for Storage
725-01	Sampling Principles and Methods
725-02	Testing Principles and Procedures

200 Mechanical Maintenance (55)

201-01	Working Principles of Simple Machines
203-01	Introduction to Bearings
205-01	Introduction to Gear Drives
207-01	Lubrication Selection and Sampling in Rotating Machinery
207-02	Lubrication Failures and Management in Rotating Machinery
207-03	Lubrication Analysis in Rotating Machinery
208-01	Pipe Connections and Symbols
208-03	Piping Construction and Sizing
208-04	Piping Expansion, Support, and Insulation
208-05	Piping Auxiliaries
209-01	Couplings
209-03	Pre-Alignment Procedures
209-04	Rough Alignment
209-05	Mathematical Rim-and-Face Alignment
209-06	Graphical Rim-and-Face Alignment
209-07	Reverse Dial Alignment
209-09	Laser Alignment
213-01	Lubrication Basics
213-04	Lubrication Filtration and Purification
215-01	Introduction to Valves and Their Components
215-02	Valve Actuators
215-03	Gate Valves
215-04	Globe Valves
215-05	Butterfly Valves
215-06	Ball Valves
215-07	Check Valves
215-08	Needle Valves
215-09	Plug Valves
215-10	Diaphragm Valves
215-11	Pinch Valves
215-12	Safety and Relief Valves
215-13	Solenoid Valves
215-14	Valve Positioners
215-15	Pressure Regulating Valves
219-01	Introduction to Centrifugal Pumps
219-02	Centrifugal Pump Design
219-03	Centrifugal Pump Fundamentals
219-04	Centrifugal Pump Operation
223-01	Heat Exchanger Theory
223-02	Open Heat Exchanger Design and Operation
223-03	Closed Heat Exchangers
225-01	Compressed Air Systems
225-02	Compressed Air System Components
225-03	Positive Displacement Compressors
225-04	Dynamic Compressors
229-01	Bolted Joints
229-02	O-Rings
229-03	Making Gaskets
229-04	Fasteners
229-05	Packing Material Use and Installation
229-06	Mechanical Seals Use and Installation
231-01	Introduction to Positive Displacement Pumps
231-02	Reciprocating Positive Displacement Pumps
231-03	Rotary Positive Displacement Pumps
271-01	Vibration Introduction

400 Electrical Maintenance (26)

401-01	Electron Theory
401-02	Magnetism and Electromagnetism Explained
401-03	Ohm's and Kirchhoff's Laws Relating to DC Circuits
401-04	Evaluating Series and Parallel DC Circuit Performance
401-05	Determine Circuit Outputs from Specified Inputs
402-01	Introduction to Alternating Current
402-02	Ohm's and Kirchhoff's Laws Involving AC Circuits
402-03	Inductance in AC Circuits
402-04	Capacitance in AC Circuits
402-05	Impedance in AC Circuits
402-06	AC Power
402-07	Fundamentals of 3-Phase AC
409-01	AC Induction Motors
409-02	AC Generators
411-01	Introduction to Motor Controls
415-01	Transformer Basic Operation and Theory
416-01	Battery Basics
417-01	Switchgear
417-02	Low Voltage Breakers
417-03	Medium and High Voltage Switchgear
417-04	General Switchgear Maintenance
417-05	Switchgear Specific Maintenance Procedures
417-06	Circuit Breaker Time Travel
418-01	Electrical Faults and Current Ratings
418-05	Grounding and Bonding
427-01	Electrical Freeze Protection Components and Application

500 Power Generating Systems and Operations (46)

501-01	Energy Conversions
501-02	Steam Turbine Basics
501-03	Combustion System Component Overview
501-04	Boiler Water and Steam Cycle Overview
501-05	Generator Overview
505-01	Steam Turbine Design
511-01	Combustion Turbine Fundamentals
531-01	Combustion Theory
531-02	Basic Boiler Design
531-03	Boiler Valves and Fittings
531-04	Boiler Fuel and Air Systems
531-05	Boiler Water and Steam Cycle
531-06	Boiler Heat Recovery Systems
531-07	Boiler Environmental Controls
531-08	Boiler Operator Roles and Responsibilities
533-01	Fuel Combustion and Controls
533-02	Boiler Burner Controls and Management
535-01	Flue Gas Desulfurization System
535-02	Flue Gas Desulfurization System, Open Spray Design, Part 1
535-03	Flue Gas Desulfurization System, Open Spray Design, Part 2
535-04	Dry Scrubber Operation
535-05	Selective Catalytic Reduction (SCR) System
551-01	Introduction to the Circulating Water System
559-01	Molecular Chemistry of Water
559-02	Elements and the Periodic Table of Elements
559-03	Chemical Compounds
559-04	Corrosion Causes and Effects
559-05	Corrosion Control in Steam Production
559-06	Steam Chemistry Control Guidelines
559-07	Industrial Water Treatment Systems
563-02	Water and Steam Terms and Principles
563-03	Heat Transfer Principles
563-04	Laws and Principles of Thermodynamics
563-05	Performance Parameters
563-06	Balancing Efficiency, Availability, Capability and Flexibility
563-07	Instrumentation and Controls
563-08	Boiler Efficiency
568-09	Boiler Reliability
563-14	Pump Efficiency And Reliability
563-15	Environmentally Sensitive Operations
565-01	Distributed Control System Fundamentals
565-02	Distributed Control System Components
565-03	Using Distributed Control System Diagrams
567-01	Understanding the Basic Properties of Water and Steam
567-02	Saturated Steam Tables
567-03	Superheated Steam Tables

600 Instrumentation and Control (20)

603-01	Instrumentation and Control Overview
603-02	Principles of Temperature
603-03	Principles of Pressure
603-04	Principles of Level
603-05	Principles of Flow
603-06	Temperature Instruments
603-07	Pressure Measuring Devices
603-08	Level Measuring Devices
603-09	Flow Measuring Devices
603-15	Weight Measuring Devices
607-01	Analytical Instruments
607-02	Introduction to Analytical Testing
611-01	P&ID Basics
611-02	Reading a P&ID
611-03	Electrical Drawings
611-04	Logic Diagrams
611-05	Industrial Print Reading Overview
613-01	Introduction to Automated Control
613-02	Pneumatic & Electronic Control Systems
621-01	Introduction to Programmable Logic Controllers (PLC)

100 Safety, Health, and Plant Science (32)

101-01	Personal Protective Equipment
101-02	Hearing and Noise Safety
101-03	Respiratory Protection Program
101-71	Introduction to Industrial Hygiene
102-01	Slip, Trip, and Fall Prevention
102-04	Machine Hazards and Safety
103-01	First Aid
103-02	BloodBorne Pathogens
104-01	Fire Prevention and Protection Program
104-02	Fire Extinguisher Safety
105-01	Lockout/Tagout Safety Program
107-01	Electrical Safety
107-02	Energized Electrical Equipment Safety
107-03	Arc Flash Hazard Basics
108-01	Materials Handling and Storing Safety
110-01	Scaffolding Safety
117-01	Hazardous Materials Safety
117-02	Acid and Caustic Awareness
117-03	Asbestos and Silica Awareness
117-04	Ammonia Awareness
117-05	Hydrogen Sulfide Awareness
117-06	Chlorine Awareness
117-07	Radiation Awareness
117-08	Hazardous Gases – Methane, Carbon Monoxide, and Carbon Dioxide
117-09	Lead Awareness
117-20	Gas Monitoring Basics
119-03	Hazardous Communications Employee Training Program, Part 1
119-04	Hazardous Communication Employee Training Program, Part 2
119-06	Hazard Communication Programs in the Workplace
119-07	Exposure to and Detection of Hazardous Chemicals
119-08	Physical, Health, and Environmental Hazard Classes
119-09	Labeling and SDS for Hazardous Chemicals

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