

ePilot™

E-LEARNING COURSE CATALOG



www.TheCompetencyAlliance.com



email: info@tcalliance.com

For over 50 years, our mission has been to help companies build competent petroleum professionals worldwide.

We recognize that a knowledgeable workforce plays a crucial role for companies navigating complex landscapes. This empowers them not only to meet stringent compliance demands but also to fortify their resilience against prevailing business challenges.

At the core of our mission is the facilitation of performance enhancement while concurrently mitigating risks for our clients.



Reduce Risk

Safe and productive operations rely on skilled and knowledgeable workers. Effective training means improved safety and a reduction in mishaps.



Build Competency

Instructional sound, on demand learning is designed for adult learners to accelerate competency. The ROI of increased competency pays for itself over and over.



Meet Challenges

Quick start up with ready made curriculum allows you to achieve compliance and goals. Creating and achieving enterprise standards is made easy.

Course Features



Over 600 Sources



Multi-Language Features



Audio



Pre and Post Questions



Video with Closed Captioning



Final Evaluations



Interactive Graphics



Courses Qualify for Continuing Education Units (CEUs)

ePilot™

MULTI- LANGUAGE FEATURE



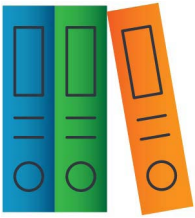
15 Languages Available

With a click of a button you can change the course language to any of the 15 machine translated languages available. Learn in the language you are most comfortable with to aid in comprehension.

- Arabic
- Azerbaijani
- Chinese
- Dutch
- French
- German
- Indonesian
- Malaysian
- Polish
- Portuguese (Brazil & Portugal)
- Spanish
- Thai
- Turkish
- Urdu
- Vietnamese



**The
Competency
Alliance**



ePilot™ Categories



Electrical Maintenance



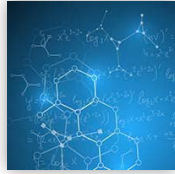
Instrumentation & Control



Process Safety



Health, Safety & Environment



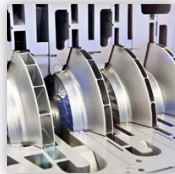
Math & Science Fundamentals



Production Operations



Health, Safety & Environment UK



Mechanical Maintenance



Refinery Operations



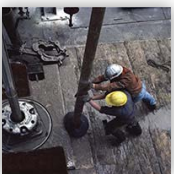
Gas Processing Operations



Offshore & Subsea Systems



Stationary Equipment



General Maintenance



Operator/Plant Administration



Utility, Safety, & Facility Systems



Geology, Petrophysics, & Reservoirs



Petrochemical Process Equipment



Well Construction, Completions & Workovers



Hand Tools & Equipment



Petroleum Industry Overview



Hydrocarbon Storage & Loading



Pipeline Operations





ePilot™ Course Category		JOB ROLES										
		Course Hours of Content	Well Servicing Crew Member	Drilling Rig Crew Member	Pipeline Operator	Gas Processing Operator	Production Operator	Refinery / Petrochem Operator	Instrument Technician	Electrical Technician	Mechanical Rotating Equipment	Mechanical Fixed Equipment
Fundamentals	General Maintenance	77	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Petroleum Industry Overview	39	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Hand Tools and Equipment	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Health, Safety & Environment (HSE)	141	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Math and Science Fundamentals	53	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operator/Plant Administration	34	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Process Safety	65	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Equipment	Mechanical Maintenance	115	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Stationary Equipment	73	✓	✓	✓	✓	✓	✓		✓	✓	
	Instrumentation and Control	113	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Utility, Safety and Facility Systems	102	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Industry Sub-sectors	Geology, Petrophysics and Reservoirs	14					✓					
	Well Construction, Completions and Workovers	15	✓	✓			✓					
	Production Operations	140			✓	✓	✓		✓	✓	✓	✓
	Offshore and Subsea Systems	6	✓	✓	✓		✓					
	Pipeline Operations	28	✓	✓	✓		✓					
	Hydrocarbon Storage and Loading	30	✓	✓	✓	✓	✓	✓				✓
	Gas Processing Operations	63			✓	✓	✓	✓				
	Refinery Operations	135			✓	✓		✓	✓	✓	✓	✓
	Petrochemical Process Equipment	20				✓	✓	✓			✓	✓

	Upstream	Midstream	Downstream	Petrochemical
Petroleum Industry Overview (35 Hours)	✓	✓	✓	✓
Health, Safety & Environment (150 hours)	✓	✓	✓	✓
Process Safety Management (100 hours)	✓	✓	✓	✓
Core Competency (175 hours)	✓	✓	✓	✓
Downstream Core Competency (125 hours)		✓	✓	✓
Exploration & Production Core Competency (225 hours)	✓			
EI&A and Mechanical Maintenance (375 hours)	✓	✓	✓	✓
Midstream Operation (150 hours)		✓		
Gas Processing Operations (Includes LNG) (35 hours)		✓		
Refinery & Process Operations (Includes Turnaround Operations) (150 hours)			✓	

You can easily integrate **ePilot** courses into your **LMS** using **SCORM** or **AICC** formats. Our team of specialists can help guide your LMS provider in mass importing ePilot course libraries.

Alternatively, our **Ability** platform can fully support hosting ePilot content as well as your custom and third-party content. In addition, the **Ability** platform provides a full suite of learning, compliance and skills management functionality.



IACET Certified: The Competency Alliance is an authorized provider by the **International Association for Continuing Education and Training (IACET)**. Earn Continuing Education Units (CEUs) as you learn and grow.

These **CEUs** serve as a testament to the quality and rigor of our educational programs, ensuring that our participants stay current, enhance their skills, and remain competitive in their fields. Whether it's professional development, compliance training, or personal growth, our commitment to excellence remains unwavering.



ePilot™

Basic Operator Training

The Competency Alliance, ePilot Basic Operator Training Courses (BOT), can help bridge the gap between theoretical understanding and practical application. Participants will acquire vital and foundational insights into units, systems, equipment, process control, physics, chemistry, safety, and instrumentation—critical components for achieving success in the dynamic energy and process industries. Our all-encompassing BOT is designed to enhance knowledge transfer, retention, and real-world recollection.



Fundamentals



Refining



Operational Duties



Fundamental Equipment
Operations



Control Room Operations

This course listing is arranged by Category and Subject in the Table of Contents. You can click on each subject and it will take you to the courses available for the subject. Each course belongs to a library denoted by a code and color on each listing (table below). A listing of courses in each library is in the back of the catalog. For more information on libraries and courses, please contact your ePilot representative.

Library	Code
Core Competency	CC
HSE - US Mandates	HSE
HSE - UK/EU Mandates	UKEU
EI&A Mechanical	EIAM
Gas Processing	GP
Industry Overview	INO
Midstream Operations	MSO
Process Safety Management	PSM
Refinery Operations	REF
Technical Exploration	TE

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HEALTH SAFETY AND ENVIRONMENT

Emergency Planning and Response

Course	Course Title	Description	Hrs
A5017	Emergency Action Plans, Alarm Systems, and Fire Prevention Plans	Emergency Action Plans, Alarm Systems, and Fire Prevention Plans is designed to help you meet the training requirements of OSHA 29 CFR 1910.38 and OSHA 29 CFR 1910.165. It covers what employees must do during an emergency to protect themselves, emergency alarms, evacuation procedures, fire hazards and fire protection equipment and systems.	1
A5008	Hazwoper: Awareness	Hazwoper: Awareness is designed to help you meet the training requirements of 29 CFR 1910.120. It covers information mandated by the standard, including what hazard materials are, and how to approach them during an incident. Also covered are methods for detecting and identifying hazardous materials and how to use the DOT emergency response guidebook.	1.5
A5009	Hazwoper: Operations	Hazwoper: Operations is designed to help you meet the training requirements of OSHA 29 CFR 1910.120(e). It covers information mandated by the standard, including hazard and risk assessment, how to select and use personal protective equipment, how to perform basic control, containment and confinement operations, and how to implement decontamination procedures.	3
A5007	Hazwoper: Overview	Hazwoper: Overview is designed to help you meet the training requirements of 29 CFR 1910.120. It covers information mandated by the standard including the requirements for different worker populations, how to determine if a release is covered by the standard, and emergency response to Hazwoper events.	1.5
A5038	Incident Reporting and Investigation	In Incident Reporting and Investigation, you will learn about the steps for reporting any incidents and near misses.	0.5
A5091	Office Fire Safety	This program is designed to help you respond safely and properly in the event of an office fire. You will learn how to operate an A-B-C fire extinguisher.	1
A5004	Portable Fire Extinguishers	Portable Fire Extinguishers is designed to help you meet the training requirements of OSHA 29 CFR 1910.157. It covers information mandated by the standard including design, operation, the various types of portable extinguishers, firefighting techniques and types of fires and how to deal with each.	2.5
A5004a	Portable Fire Extinguishers: Non-Emergency Responder	Portable Fire Extinguishers: Non-Emergency Responder is designed to help you meet the training requirements of OSHA 29 CFR 1910.157(g) for non-emergency response personnel. It covers information such as extinguisher design, operation, and the various types of portable extinguishers.	1
A5028	Spill Prevention, Control, and Countermeasures	This program is designed to help you meet the training requirements of EPA 40 CFR 112.7. Topics covered include how to operate and maintain equipment in a manner that prevents oil discharge and how to follow applicable pollution control laws.	1.25

Environmental

Course #	Course Title	Description	Hrs.
A5071	American Chemistry Council: Responsible Care	The ACC's Responsible Care® program establishes an important relationship between chemical facilities and their communities. Through Responsible Care, companies promise to manage chemical processes through only the most safe and environmentally sound practices. In this program, you will learn about the basic principles of Responsible Care and your responsibilities as a Responsible Care employee.	2.5
A5094	Environmental Awareness	In Environmental Awareness, you will learn about important regulations and practices which guide work in oil and gas process operations. You will learn about ways in which your work affects the environment.	1
A5097	Environmental Waste Management	In Environmental Waste Management, you will learn about measures your company takes to safeguard the environment and dispose of waste properly.	1

HEALTH, SAFETY & ENVIRONMENT

Hazard Communication			
Course	Course Title	Description	Hrs
A5019	Asbestos	Asbestos is designed to help you meet the basic training requirements of OSHA 29 CFR 1910.1001(j)(7). Subjects include the health effects of exposure, use and storage of asbestos, operations with exposure potential, engineering controls and work practices, respiratory protection and the medical surveillance program.	2
A5036	Assessing Occupational Exposure	In this module, you will learn about how workplace exposure to hazardous materials is determined. You will learn about worksite hazards, the role of the exposure assessment coordinator, and training and record keeping requirements.	0.75
A5005	Benzene	Benzene is designed to help you meet the training requirements of OSHA 29 CFR 1910.1028. It covers information mandated by the standard, including hazard recognition, personal protection, sampling and monitoring, and medical surveillance. It also contains reference material on benzene safety, technical guidelines and the medical program.	2
A5070	Combustible Dust Hazards	The Combustible Dust Hazards program is designed to help you work safely with and around combustible dust in industry. You will learn about why combustible dust explosions occur and what you can do to prevent them.	1.5
A5048	Explosive and Flammable Chemicals	Explosive and Flammable Chemicals is designed to help you meet the training requirements of OSHA 29 CFR 1910.1200(h). You will learn about the elements of combustion and flammability, and you will also learn about safe work practices for explosives and flammables.	1.5
A5006	Hazard Communication	Hazard Communication is designed to help you meet the training requirements of 29 CFR 1910.1200(k). It covers information mandated by the standard including detailed training on the GHS, labels and safety data sheets, physical and health hazards, and working safely with hazardous chemicals.	4
A5035a	Hazards of Naturally Occurring Radioactive Materials (NORM)	This program is designed to help you understand the hazards associated with working with naturally occurring radioactive material (NORM). You will learn about the characteristics of NORM and safeguards.	1.5
A5029	Hydrogen Sulfide (H ₂ S)	Hydrogen Sulfide is designed to help you meet the basic training requirements of OSHA 29 CFR 1910.119. Topics covered include the dangers of hydrogen sulfide and protection methods.	1.5
A5045	Irritants, Corrosives, and Sensitizers	Irritants, Corrosives, and Sensitizers is designed to help you meet the training requirements of OSHA 29 CFR 1910.1200(h). You will learn about their characteristics, hazards, and methods of personal protection, including safe work practices.	1
A5035	Naturally Occurring Radioactive Materials (NORM)	This program is designed to help you understand the requirements of working with naturally occurring radioactive material (NORM). You will learn about the characteristics of NORM, the hazards and safeguards for working with NORM.	2.5
A5049	Nitrogen Safe Use and Handling	In Nitrogen Safe Use and Handling, you will learn how to work safely with nitrogen, including characteristics and health hazards of nitrogen. You will learn how to handle spills, fires and liquid nitrogen safely.	1
A5040	Occupational Exposure to 1,3-Butadiene	Occupational Exposure to 1,3-Butadiene is designed to help you meet the training requirements of OSHA 29 CFR 1910.1051. In this program, you will learn about the characteristics of 1,3-butadiene, its health effects, exposure limits, sources, personal protective equipment, air monitoring, and medical surveillance.	1
A5052	Occupational Exposure to Carcinogens	Occupational Exposure to Carcinogens is designed to help you meet the basic requirements of OSHA 29 CFR 1910.1003 for employees who work with carcinogens. You will learn about cancer, methods of controlling carcinogens, and ways to reduce your risk.	1.25

HEALTH, SAFETY & ENVIRONMENT

Hazard Communication (Continued)

Course	Course Title	Description	Hrs
A5044	Occupational Exposure to Chlorine	Occupational Exposure to Chlorine is designed to help you meet the training requirements of 29 CFR 1910.119 for employees who work with and around chlorine. You will learn the characteristics and health hazards of chlorine and what personal protective equipment you should wear when working with or around chlorine.	0.5
A5072	Occupational Exposure to Formaldehyde	In Occupational Exposure to Formaldehyde, you will learn about the requirements of 29 CFR 1910.1048 for employees who work with formaldehyde, formaldehyde gas, or solutions and materials that release formaldehyde. You will learn how to reduce your exposure and how to respond to formaldehyde emergencies.	1
A5039	Occupational Exposure to Hexavalent Chromium	Occupational Exposure to Hexavalent Chromium is designed to help you meet the training requirements of OSHA 29 CFR 1910.1026. In this program, you will learn about the characteristics of hexavalent chromium, its health effects, exposure limits, sources, personal protective equipment, and air monitoring and medical surveillance requirements.	1
A5041	Occupational Exposure to Hydrochloric Acid	Occupational Exposure to Hydrochloric Acid is designed to help you meet the training requirements of OSHA 29 CFR 1910.119. In this program, you will learn about the characteristics of hydrochloric acid, its health effects, exposure limits, sources, and personal protective equipment.	0.5
A5053	Occupational Exposure to Lead	Occupational Exposure to Lead is designed to help you meet the requirements of 29 CFR 1910.1025. You will learn about the hazards of lead, the exposure limits, proper use of protective equipment, and the components of medical surveillance and removal.	1.25
A5037a	Occupational Exposure to Respirable Crystalline Silica	Occupational Exposure to Respirable Crystalline Silica is designed to meet the requirements of OSHA 29 CFR 1910.1053. It covers information mandated by the standard, including health effects, hazard recognition, exposure limits, personal protection, and medical surveillance.	1.25
A5037	Occupational Exposure to Respirable Crystalline Silica - General Industry	Occupational Exposure to Respirable Crystalline Silica is designed to meet the requirements of OSHA 29 CFR 1910.1053. It covers information mandated by the standard, including health effects, hazard recognition, exposure limits, personal protection, sampling and monitoring, and medical surveillance.	1.5
A5043	Occupational Exposure to Sodium Hydroxide (Caustic Soda)	Occupational Exposure to Sodium Hydroxide (Caustic Soda) is designed to help you meet the training requirements of OSHA 29 CFR 1910.119. In this program, you will learn about the characteristics of sodium hydroxide, its health effects, exposure limits, sources, and personal protective equipment.	0.5
A5033	Occupational Exposure to Sulfur Dioxide	Occupational Exposure to Sulfur Dioxide is designed to help you meet the training requirements of 29 CFR 1910.119. In this program, you will learn about the characteristics of sulfur dioxide, its health effects, exposure limits, sources, and personal protective equipment.	0.5
A5042	Occupational Exposure to Sulfuric Acid	Occupational Exposure to Sulfuric Acid is designed to help you meet the training requirements of 29 CFR 1910.119. In this program, you will learn about the characteristics of sulfuric acid, its health effects, exposure limits, sources, and personal protective equipment.	0.5

Hazmat Transportation

Course #	Course Title	Description	Hrs
A5076	DOT Drug and Alcohol Testing	DOT Drug and Alcohol Testing is designed to help you meet the training requirements of 49 CFR 199, Subparts A, B, and C. In this program, you will learn about safety-sensitive employees, the drug testing process and schedule, and consequences of refusal and positive results.	1

HEALTH, SAFETY & ENVIRONMENT

Hazmat Transportation (Continued)

Course #	Course Title	Description	Hrs
A5025	DOT Hazardous Materials Employee Safety	This program is designed to help you meet the training requirements of DOT 49 CFR 172.704. Topics include identifying hazardous materials, self-protection and employer-provided protection methods, and emergency response procedures.	1.5
A5026	DOT Hazardous Materials General Awareness	DOT Hazardous Materials General Awareness is designed to help you meet the training requirements of DOT 49 CFR 172.704(a)(1). The program explains how to prepare shipping papers, how to use the DOT Hazardous Materials Table, how to package and ship materials and how to safely load and unload hazardous materials.	3
A5059	DOT Hazardous Materials Transportation Security Awareness	DOT Hazardous Materials Transportation Security Awareness is designed to help you meet the training requirements of DOT 49 CFR 172.704 (a)(4). Topics include security hazard awareness, safe work practices, and responding to threats.	0.5
A5066	Export Compliance and Global Trade Guidelines	In Export Compliance and Global Trade Guidelines, you will learn about industry and security regulations related to international commerce.	0.5
A5073	Introduction to Hazmat Transportation Regulations	Employees at corporate offices are often tasked with preparing domestic or international hazardous material/dangerous good shipments. Because of these responsibilities, corporate employees must be familiar with international air and marine rules, and DOT regulations used for air, water, highway, rail and inter-modal transportation domestically. This module is intended to provide an overview for an office advisor or one who arranges or assists in arranging hazardous materials/dangerous goods transportation.	2

Industrial Hygiene

Course #	Course Title	Description	Hrs
A5010	Access to Medical Records	Access to Medical Records is designed to help you meet the training requirements of 29 CFR 1910.1020. It covers information mandated by the standard, including the types of medical and exposure records and how to access this information.	0.5
A5013	Eye and Face Protection	Eye and Face Protection is designed to help you meet the training requirements of OSHA 29 CFR 1910.133 and 1910.132(f). It covers information mandated by the standard, including how eye and face injuries occur, and how the proper selection and use of personal protective equipment can prevent injuries.	1.5
A5078	Eye Wash and Safety Showers	In Eye Wash and Safety Showers, you will learn about emergency wash stations including: chemical eye injuries, emergency showers, emergency eye wash stations, hand held drench hoses, combination wash units, properly using emergency wash stations.	1
A5002	Hearing Protection	Hearing Protection is designed to help you meet the training requirements of OSHA 29 CFR 1910.95(k). It covers information mandated by the standard, including how noise affects hearing; the components of the Hearing Conservation Program; selection, fitting, the use of hearing protection devices; and audiometric testing.	2
A5093	Industrial Hygiene	In Industrial Hygiene, you will learn about the roles and responsibilities of the Industrial Hygienist at your company. Most specifically, you will learn about how the Industrial Hygienist works within an occupational environment to respond to and control hazards.	1
A5011	Ionizing Radiation	Ionizing Radiation is designed to help you meet the training requirements of 29 CFR 1910.1096. It covers information mandated by the standard, including safety problems associated with exposure to radiation, sources of ionizing radiation in the workplace, and procedures and devices which can minimize exposures.	1.5

HEALTH, SAFETY & ENVIRONMENT

Industrial Hygiene (Continued)

Course #	Course Title	Description	Hrs
A5015	Laboratory Safety	Laboratory Safety is designed to help you meet the training requirements of 29 CFR 1910.1450(f). It explains the contents of the Laboratory Standard and covers the properties of hazardous chemicals. It also covers safe work practices with laboratory chemicals and chemical hygiene plan development.	3
PS-LEG-HSE-101	Legionella	This course covers basic information about Legionella bacteria and recounts the discovery of Legionnaires' disease. The learner will examine the health risks associated with Legionnaires' disease, including its symptoms and susceptibility factors. You will learn about how Legionella spreads and become familiar with methods to control the risks posed by Legionella bacteria. The course provides essential knowledge for preventing and managing Legionella-related risks in various settings.	1
A5024	Occupational Exposure to Blood-borne Pathogens	This program is designed to help you meet the training requirements of OSHA 29 CFR 1910.1030. Topics covered include the symptoms of blood-borne diseases, transmission of blood-borne pathogens, the exposure control plan, recognizing potential exposure situations and personal protective equipment.	2
A5014	Personal Protective Equipment	Personal Protective Equipment is designed to help you meet the training requirements of OSHA 29 CFR 1910.132. You will learn about the proper use of PPE, and head, ear, eye, face, and body and hand protection.	1
A5001	Respiratory Protection	Respiratory Protection is designed to help you meet the training requirements of OSHA 29 CFR 1910.134(k). It covers information mandated by the standard including respiratory hazards, types of respirators, respirator selection, fitting and maintenance, medical surveillance, and respirator training and administration.	2
A5046	Toxic Chemicals	Toxic Chemicals is designed to help you meet the training requirements of OSHA 29 CFR 1910.1200(h) for employees who work with and around toxic chemicals. You will learn about the dangers of toxic chemicals and safe handling techniques.	1.5
A5047	Unstable and Reactive Chemicals	Unstable and Reactive Chemicals is designed to help you meet the training requirements of OSHA 29 CFR 1910.1200(h) for employees who work with and around unstable or reactive chemicals. You will learn about the dangers of unstable and reactive chemicals and safe handling techniques.	1.25

Powered Industrial Equipment

Course #	Course Title	Description	Hrs
A5023	Forklifts and Powered Industrial Trucks	Powered Industrial Trucks is designed to help you meet the training requirements of OSHA 29 CFR 1910.178. It covers information regarding powered industrial trucks including Forklifts, vehicle operations, and material operations.	1.5
A5056	Rigging, Slings and Crane Lifts	In Rigging, Slings and Crane Lifts, you will learn about safe lifting and rigging practices including planning a lift, proper rigging techniques, center of gravity, rigging hardware, safe working load, types of cranes, and hand signals. In addition, you will learn about the types of slings, hitches and chain hoists including slings and sling angles, hitches and slings, multiple leg hitches, sling storage and handling, and chain hoists. It is designed to help you meet the requirements of OSHA 29 CFR 1910.179, OSHA 29 CFR 1910.180, OSHA 29 CFR 1910.181, OSHA 29 CFR 1910.182, and OSHA 29 CFR 1910.68.	2.5
A5051	Vehicle-Mounted Elevated Work Platforms and Aerial Lifts	Vehicle-Mounted Elevated Work Platforms and Aerial Lifts is designed to help you meet the requirements of 29 CFR 1910.67. You will learn about preparing and operating the aerial lift to ensure your safety and the safety of those around you.	1

HEALTH, SAFETY & ENVIRONMENT

Quality Assurance & Control

Course	Course Title	Description	Hrs
A5060	Jet Fuel Quality Control	Jet Fuel Quality Control is designed to meet the requirements set forth in Air Transport Association's Specification 103. You will learn about aviation fuel quality standards, working with aviation fuel equipment, and storage and testing requirements.	3

RCRA / Hazardous Waste Management

Course #	Course Title	Description	Hrs
A5164	RCRA Emergency Response	RCRA Emergency Response is designed to help you meet the training requirements of 40 CFR 264.16. It covers contingency planning, the emergency coordinator, and emergency equipment and procedures.	0.75
A50161	RCRA Generators	RCRA Generators is designed to help you meet the training requirements of 40 CFR 264.16. It provides a general overview of the Resource Conservation and Recovery Act and explains the specific duties of hazardous waste generators.	0.75
A50162	RCRA Transporters	RCRA Transporters is designed to help you meet the training requirements of 40 CFR 264.16. It explains the Hazardous Waste Manifest System and covers the duties of hazardous waste transporters.	0.5
A50163	RCRA Treatment, Storage, and Disposal Facilities	RCRA Treatment, Storage, and Disposal Facilities is designed to help you meet the training requirements of 40 CFR 264.16. It explains the duties of hazardous waste treatment, storage and disposal facilities.	0.5

Safe Work Practices

Course #	Course Title	Description	Hrs
A5089a	Accident Control Techniques: Introduction	In this program, you will learn basic process facility accident control techniques, including handling materials safely, personal protective equipment, and fire prevention.	3
A5089b	Accident Control Techniques: Safe Work Practices	In this program, you will learn basic process facility accident control techniques, including precautions for working near processes, replacing safeguards, working with plant machinery, equipment and vehicles	3
A5088	Accident Prevention	In this program, you will learn basics of accident prevention including causes of accidents, safe work habits, lifting and carrying loads, slips and falls, and personal protection equipment.	1
A5081	Arc Flash Safety	In Arc Flash Safety, you will learn about the types and hazards arc flashes associated with electrical faults and arc flash protection including personal protective equipment used to protect workers.	0.75
A5003	Confined Space Entry	Confined Space Entry is designed to help you meet the training requirements of 29 CFR 1910.146(k). It covers information mandated by the standard including hazard identification, safe work practices, vessel entry permit, personal protection equipment, entry procedures and exposure symptoms.	2.5
A5065	Driving Safety	In Driving Safety, you will learn about safe driving techniques within a process facility, including facility transportation, handling techniques, and safe driving procedures.	1.5
A5069	EHS Regulatory Overview	In this module, you will learn about U.S. environmental, health, safety, security, transportation and product safety regulations that impact the process industry.	1

HEALTH, SAFETY & ENVIRONMENT

Safe Work Practices (Continued)

Course #	Course Title	Description	Hrs
A5021	Electrical Safety for Qualified Employees	Electrical Safety for Qualified Employees is designed to help you meet the training requirements of OSHA 29 CFR 1910.332. Topics covered include identifying energized parts, testing for nominal voltage, grounding, personal protective equipment and safe clearance distances.	2
A5020	Electrical Safety for Unqualified Employees	Electrical Safety For Unqualified Employees is designed to help you meet the training requirements of OSHA 29 CFR 1910.332. Topics covered include how electricity can hurt you, protective measures for working around motors and other energized equipment, and procedures for inspecting and re-energizing electrical equipment.	1.5
A5057	Excavation and Trenching	Excavation and Trenching is designed to help you meet the training requirements of OSHA 29 CFR 1926.650. You will learn about the hazards of excavations and trenches and how to protect yourself during digs	2.5
A5057a	Excavation and Trenching for Operations Personnel	In Excavation and Trenching for Operations Personnel, you will learn about the hazards of excavations and trenches.	2
A5022	Fall Prevention	Fall Prevention is designed to help you meet the basic training requirements of OSHA 29 CFR 1910.23 (c)(1) and OSHA 29 CFR 1926.503. The program identifies the various types of fall hazards and shows you ways to reduce or eliminate the danger. Special emphasis on selection and use of lanyards, full body harnesses and anchorage points.	2
A5092	First Aid Procedures	This program is designed to help you respond safely and properly to events that require first aid treatment.	2
A5096	Hand and Power Tool Safety	In Hand and Power Tool Safety, you will the importance of hand and power tool safe work practices including selection, storage and proper personal protective equipment.	0.75
A5075	Hand Safety	Hand Safety is designed to help you meet the training requirements of 29 CFR 1910.138. In this program, you will learn about hand hazards, hand tool safety, machine guards, PPE, and how to complete a hazard assessment.	1
A5055	Heat Stress Safety	In Heat Stress Safety, you will learn how to work safely in a hot environment, including the physical effects and hazards of heat.	0.5
A5032	Helicopter Safety	Helicopter Safety is designed to help you meet the training requirements of OSHA 29 CFR 1910.183. You will learn how to safely approach, stow luggage, board and de-board a helicopter. The program also covers what you should do in emergency situations, emergency equipment found on helicopters, and how to properly don an aviation life vest.	1
A5030	Hot Work	Hot Work is designed to help you meet the training requirements of OSHA 29 CFR 1910.252. It covers information mandated by the standard including how to prepare a workspace for hot work and how to conduct fire watches to prevent incidences of fire or explosion.	1
A5031b	Industrial Ergonomics	In Industrial Ergonomics, you will learn what ergonomics is and how to prevent ergonomics-related injuries. You will learn about hand tool ergonomics and material handling ergonomics.	1.75
A5068	Ladder Safety	In this program, you will learn about the requirements for working safely with ladders as defined in OSHA 29 CFR 1926.1053. You will learn about the different types of ladders, using ladders safely, and the requirements for ladder inspection.	0.5

HEALTH, SAFETY & ENVIRONMENT

Safe Work Practices (Continued)

Course #	Course Title	Description	Hrs
A5068a	Ladder Safety for Construction	In this program, you will learn about the requirements for working safely with ladders in construction as defined in OSHA 29 CFR 1926.1053. You will learn about the different types of ladders, using ladders safely, and the requirements for ladder inspection.	0.5
A5067	Line Breaking	In this program, you will learn about specific guidelines used to eliminate or minimize the extreme hazards associated with breaking into a line, vessel, or system.	0.5
A5012	Lockout/Tagout	Lockout/Tagout is designed to help you meet the training requirements of OSHA 29 CFR 1910.147(c)(7). It covers information mandated by the OSHA standard including sources of hazardous energy, isolating equipment and controlling stored energy, applying and removing lockout/tagout and group lockout/tagout.	3
A5079	Manual Handling and Lifting Techniques	In Manual Handling and Lifting Techniques, you will learn about the manual handling and lifting techniques including manual handling hazards, assessing manual handling risks, methods to control the risks, and best practices for safely performing manual handling and lifts for avoiding injuries.	1
A5031a	Office Office Ergonomics	In this program, you will learn about office ergonomics in the workplace. You will learn what ergonomics is and how to prevent ergonomics-related injuries when performing office work.	1.5
A5090	Office Safety	In Office Safety, you will learn guidelines for working safely and ergonomically to prevent hazards and injuries. You will also learn how to properly organize a computer workstation.	3
A5080	Offshore Water Safety	In Offshore Water Safety, you will learn about offshore rig hazards, safe work practices, and emergency action/response plan elements. You will also learn about emergency evacuation plans, personal flotation devices (PFDs), and lifeboats and life rafts.	1
A5054	Oxygen-Fuel Gas Welding and Cutting	Oxygen Fuel Gas Welding and Cutting is designed to help you meet the requirements of 29 CFR 19 10.253. You will learn how to use oxygen-fuel equipment safely, how to protect yourself, and startup and shutdown procedures.	2
A5074	Process Safety and Fatigue Management	Process Safety and Fatigue Management is designed to help you meet the basic training requirements of ANSI/API's Recommended Practice 755. The module includes information regarding fatigue risks, shift work sleep disorder, and how to obtain quality sleep.	1
A5074a	Process Safety and Fatigue Management for Supervisors	Process Safety and Fatigue Management for Supervisors is designed to help supervisors meet the basic training requirements of ANSI/API's Recommended Practice 755. The module includes information regarding fatigue risks, shift work sleep disorder, and how to obtain quality sleep.	1
A5058	Scaffolding	Scaffolding is designed to help you meet the requirements of 29 CFR 1910.28. Topics include the safe use of scaffolds and scaffold requirements, including inspection criteria.	3
A5018	Specifications for Accident Prevention Signs and Tags	Specifications for Accident Prevention Signs and Tags is designed to help you meet the training requirements of OSHA 29 CFR 1910.145. Topics covered include identification of signs and tags, hazard determination, and precautions to take for personal protection as indicated by signs.	0.75
A5027	Storage and Handling of Anhydrous Ammonia	Storage and Handling of Anhydrous Ammonia is designed to help you meet the training requirements of OSHA 29 CFR 1910.111. The program explains the hazards of anhydrous ammonia and shows you how to protect yourself by avoiding exposures and using personal protective equipment. The program also shows you the proper procedures to follow when storing and transferring anhydrous ammonia.	1.25

HEALTH, SAFETY & ENVIRONMENT

Safe Work Practices (Continued)

Course #	Course Title	Description	Hrs
A5034	Toxic Substances Control Act (TSCA)	In Toxic Substances Control Act, you will learn about the EPA-administered Toxic Substances Control Act. This regulation is designed to control the hazards of chemical substances in production and prevent risks to public health and the environment.	0.5
A5077	Walking/Working Surfaces	Walking/Working Surfaces is designed to help you meet the training requirements of 29 CFR 1910.22 Subpart D. In this program, you will learn about working safely around walking and working surfaces.	0.65
A5095	Warehouse Safety	In Warehouse Safety, you will learn there are many potential hazards in warehouse operations that cause fatalities or injuries. This program identifies the more common hazards and risks involved with working in a warehousing environment including storage and rack systems; loading and unloading areas; material handling and storage hazards including manual lifting and forklift operations; and housekeeping hazards of personal protective equipment, hazard communication and slips, trips and falls.	1
A5058a	Working on Scaffolds	Working on Scaffolds covers the safe use of scaffolds and the hazards associated when working on a scaffold.	1.5

Security

Course #	Course Title	Description	Hrs
A5063	Security Training: All Personnel	Security Training: All Personnel is designed to help you meet the requirements of 33 CFR 105.210 and the Coast Guard's Homeland Security initiatives. You will learn about your security roles and responsibilities.	1
A5061	Security Training: Facility Security Officer Overview	Facility Security Officer Training is designed to help you meet the requirements of 33 CFR 105.205 and the Coast Guard's Homeland Security initiatives. You will learn about the roles and responsibilities of the Facility Security Officer.	2
A5062	Security Training: Security Personnel	Security Training: Security Personnel is designed to help you meet the requirements of 33 CFR 105.210 and the Coast Guard's Homeland Security initiatives. You will learn about your security roles and responsibilities.	2
A5064	Workplace Violence	Key to preventing workplace violence is understanding the risk factors that cause it. In this program, you will learn about the nature of workplace violence and the proper response to threats.	1

HEALTH, SAFETY & ENVIRONMENT - UK/EU

Emergency Planning & Response

Course #	Course Title	Description	Hrs
UK-HSE 5009	Hazardous Waste Spill Response, Containment and Decontamination - UK	In Hazardous Waste Spill Response, Containment and Decontamination, you will learn about hazard and risk assessment, how to perform basic control, containment and confinement operations, how to implement decontamination procedures, and how to select and use personal protective equipment.	3
UK-HSE 5038	Incident Reporting and Investigation - UK	In Incident Reporting and Investigation, you will learn about the steps for reporting any incidents and near misses.	0.5
UK-HSE 5091	Office Fire Safety - UK	Office Fire Safety is designed to help you meet the training requirements of Health and Safety at Work etc Act 1974. This program is designed to help you respond safely and properly in the event of an office fire including how to operate the standard office fire extinguisher.	1
UK-HSE 5007	Overview of Hazardous Waste Operations and Emergency Response - UK	In this program, you will learn about hazardous waste operations and emergency response, including types of events, types of workers, incident command system, and emergency response categories.	1.5
UK-HSE 5004	Portable Fire Extinguishers - UK	Portable Fire Extinguishers is designed to help you meet the training requirements of HSE Regulatory Reform (Fire Safety) Order 2005. It covers information mandated by the standard including design, operation, the various types of portable extinguishers, firefighting techniques and types of fires and how to deal with each.	2.5
UK-HSE 5004a	Portable Fire Extinguishers: Non-Emergency Responder - UK	Portable Fire Extinguishers: Non-Emergency Responder is designed to help you meet the training requirements of HSE Regulatory Reform (Fire Safety) Order 2005. for non-emergency response personnel. It covers information such as extinguisher design, operation, and the various types of portable extinguishers.	1
UK-HSE 5028	Spill Prevention, Control, and Countermeasures - UK	In Spill Prevention, Control, and Countermeasures, you will learn how to operate and maintain equipment in a manner that prevents oil discharge.	0.75

Environment

Course #	Course Title	Description	Hrs
UK-HSE- 5094	Environmental Awareness - UK	In Environmental Awareness, you will learn about important regulations and practices which guide work in oil and gas process operations. You will learn about ways in which your work affects the environment, and measures your company takes to safeguard the environment and dispose of waste properly.	2

Hazard Communication

Course #	Course Title	Description	Hrs
UK-HSE 5019 (Asbestos - UK	Asbestos is designed to help you meet the basic training requirements of Control of Asbestos Regulations 2012, Regulation 10. Subjects include the health effects of exposure, use and storage of asbestos, operations with exposure potential, engineering controls and work practices, respiratory protection and the medical surveillance program.	2
UK-HSE 5036	Assessing Occupational Exposure - UK	Assessing Occupational Exposure is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. You will learn about how workplace exposure to hazardous materials is determined. You will learn about worksite hazards, the role of the exposure assessment coordinator, and training and recordkeeping requirements.	0.75
UK-HSE 5005	Benzene - UK	Benzene is designed to help you meet the training requirements of Control of Substances Hazardous to Health Regulations 2002 (COSHH). It covers hazard recognition, personal protection, sampling and monitoring, medical surveillance, benzene safety, technical guidelines and the medical program.	2

HEALTH, SAFETY & ENVIRONMENT - UK/EU

Hazard Communication (Continued)			
Course #	Course Title	Description	Hrs
UK-HSE 5048	Explosive and Flammable Chemicals - UK	Explosive and Flammable Chemicals is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). You will learn about the elements of combustion and flammability, and you will also learn about safe work practices for explosives and flammables.	1.5
UK-HSE 5029	Hydrogen Sulphide (H ₂ S) - UK	Hydrogen Sulphide is designed to help you meet the basic training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). Topics covered include the dangers of hydrogen sulphide and protection methods.	1.5
UK-HSE 5045	Irritants, Corrosives, and Sensitizers - UK	Irritants, Corrosives, and Sensitizers is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). You will learn about their characteristics, hazards, and methods of personal protection, including safe work practices.	1
UK-HSE 5035	Naturally Occurring Radioactive Materials (NORM) - UK	Naturally Occurring Radioactive Materials (NORM) is designed to help you meet the training requirements of Ionising Radiation Regulations 1999. You will learn about the characteristics of NORM, the hazards and safeguards for working with NORM.	2
UK-HSE 5049	Nitrogen Safe Use and Handling - UK	Nitrogen Safe Use and Handling is designed to help you meet the training requirements of The Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999. You will learn how to work safely with nitrogen, including characteristics and health hazards of nitrogen. You will learn how to handle spills, fires and liquid nitrogen safely.	1
UK-HSE 5040	Occupational Exposure to 1,3-Butadiene - UK	Occupational Exposure to 1,3-Butadiene is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH) in accordance with MDHS 63/2. In this program, you will learn about the characteristics of 1,3-butadiene, its health effects, exposure limits, sources, personal protective equipment, air monitoring, and medical surveillance.	1
UK-HSE 5052	Occupational Exposure to Carcinogens - UK	Occupational Exposure to Carcinogens is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH) for employees who work with carcinogens. You will learn about cancer, methods of controlling carcinogens, and ways to reduce your risk.	1.25
UK-HSE 5044	Occupational Exposure to Chlorine - UK	Occupational Exposure to Chlorine is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH) for employees who work with and around chlorine. You will learn the characteristics and health hazards of chlorine and what personal protective equipment you should wear when working with or around chlorine.	0.5
UK-HSE- 5072	Occupational Exposure to Formaldehyde - UK	Occupational Exposure to Formaldehyde is designed to help you meet the basic training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). You will learn about the regulatory requirements for employees who work with formaldehyde, formaldehyde gas, or solutions and materials that release formaldehyde. In addition, you will learn how to reduce your exposure and how to respond to formaldehyde emergencies.	1
UK-HSE- 5039	Occupational Exposure to Hexavalent Chromium - UK	Occupational Exposure to Hexavalent Chromium is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). In this program, you will learn about the characteristics of hexavalent chromium, its health effects, exposure limits, sources, personal protective equipment, and air monitoring and medical surveillance requirements.	1

HEALTH, SAFETY & ENVIRONMENT - UK/EU

Hazard Communication (Continued)			
Course #	Course Title	Description	Hrs
UK-HSE-5041	Occupational Exposure to Hydrochloric Acid - UK	Occupational Exposure to Hydrochloric Acid is designed to help you meet the training requirements of The Management of Health and Safety at Work Regulations 1999 and Health and Safety at Work etc Act 1974. In this program, you will learn about the characteristics of hydrochloric acid, its health effects, exposure limits, sources, and personal protective equipment.	0.5
UK-HSE-5053	Occupational Exposure to Lead - UK	Occupational Exposure to Lead is designed to help you meet the requirements of Health and Safety Executive Control of Lead at Work Regulations 2002. You will learn about the hazards of lead, the exposure limits, proper use of protective equipment, and the components of medical surveillance and removal.	1.25
UK-HSE-5043	Occupational Exposure to Sodium Hydroxide (Caustic Soda) - UK	Occupational Exposure to Sodium Hydroxide (Caustic Soda) is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). In this program, you will learn about the characteristics of sodium hydroxide, its health effects, exposure limits, sources, and personal protective equipment.	0.5
UK-HSE-5033	Occupational Exposure to Sulphur Dioxide - UK	Occupational Exposure to Sulphur Dioxide is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). In this program, you will learn about the characteristics of sulphur dioxide, its health effects, exposure limits, sources, and personal protective equipment.	0.5
UK-HSE-5042	Occupational Exposure to Sulphuric Acid - UK	Occupational Exposure to Sulphuric Acid is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). In this program, you will learn about the characteristics of sulphuric acid, its health effects, exposure limits, sources, and personal protective equipment.	0.5
UK-HSE-5046	Toxic Chemicals - UK	Toxic Chemicals is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH) for employees who work with and around toxic chemicals. You will learn about the dangers of toxic chemicals and safe handling techniques.	1.25
UK-HSE-5042	Occupational Exposure to 1,3-Butadiene - UK	Occupational Exposure to 1,3-Butadiene is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH) in accordance with MDHS 63/2. In this program, you will learn about the characteristics of 1,3-butadiene, its health effects, exposure limits, sources, personal protective equipment, air monitoring, and medical surveillance.	1
UK-HSE-5047	Unstable and Reactive Chemicals - UK	Unstable and Reactive Chemicals is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH) for employees who work with and around unstable or reactive chemicals. You will learn about the dangers of unstable and reactive chemicals and safe handling techniques.	1.25

HEALTH, SAFETY & ENVIRONMENT - UK/EU

Industrial Hygiene			
Course #	Course Title	Description	Hrs
UK-HSE-5010	Access to Medical Records - UK	Access to Medical Records is designed to help you meet the training requirements of the UK Health and Safety Executive. It covers information mandated by the standard, including the types of medical and exposure records and how to access this information.	0.5
UK-HSE-5013	Eye and Face Protection - UK	Eye and Face Protection is designed to help you meet the training requirements of HSE Personal Protective Equipment at Work Regulations 1992. It covers information mandated by the standard, including how eye and face injuries occur, and how the proper selection and use of personal protective equipment can prevent injuries.	1.5
UK-HSE-5078	Eye Wash and Safety Showers - UK	Eye Wash and Safety Showers is designed to help you meet the training requirements of Health and Safety at Work etc. Act 1974 and ANSI Z358.1-2009 established performance and use requirements. You will learn about emergency wash stations including: chemical eye injuries, emergency showers, emergency eye wash stations, hand held drench hoses, combination wash units, properly using emergency wash stations.	1
UK-HSE-5002	Hearing Protection - UK	Hearing Protection is designed to help you meet the training requirements of Health and Safety Executive Control of Noise Work Regulations 2005. It covers information mandated by the standard, including how noise affects hearing; the components of the Hearing Conservation Program; selection, fitting, the use of hearing protection devices; and audiometric testing.	2
UK-HSE-5093	Industrial Hygiene - UK	Industrial Hygiene is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. You will learn about the roles and responsibilities of the Industrial Hygienist at your company. Most specifically, you will learn about how the Industrial Hygienist works within an occupational environment to respond to and control hazards.	1
UK-HSE-5011	Ionising Radiation - UK	Ionising Radiation is designed to help you meet the training requirements of Ionising Radiations Regulations 1999 Regulation 14. It covers information mandated by the standard, including safety problems associated with exposure to radiation, sources of ionizing radiation in the workplace, and procedures and devices which can minimize exposures.	1.5
UK-HSE-5015	Laboratory Safety - UK	Laboratory Safety is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH) for employees who work with and around chemicals in laboratories. It explains the properties of hazardous chemicals, safe work practices with laboratory chemicals and a chemical hygiene plan development.	3
UK-HSE-5024	Occupational Exposure to Blood-borne Pathogens - UK	This program is designed to help you meet the HSE training requirements of the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999. Topics covered include the symptoms of blood-borne diseases, transmission of blood-borne pathogens, the exposure control plan, recognizing potential exposure situations and personal protective equipment.	2
UK-HSE-5014	Personal Protective Equipment - UK	Personal Protective Equipment is designed to help you meet the training requirements of HSE Personal Protective Equipment at Work Regulations 1992. You will learn about the proper use of PPE, and head, ear, eye, face, and body and hand protection.	1
UK-HSE-5001	Respiratory Protection - UK	Respiratory Protection is designed to help you meet the training requirements of COSHH 2002 and Personal Protective Equipment at Work Regulations 1992. It covers information mandated by the standard including respiratory hazards, types of respirators, respirator selection, fitting and maintenance, medical surveillance, and respirator training and administration.	2

HEALTH, SAFETY & ENVIRONMENT - UK/EU

Powered Industrial Equipment

Course #	Course Title	Description	Hrs
UK-HSE-5023	Forklifts and Powered Industrial Trucks - UK	Powered Industrial Trucks is designed to help you meet the training requirements for HSE regarding lift trucks. It covers information regarding powered industrial trucks including Forklifts, vehicle operations, and material operations.	1.5
UK-HSE-5056	Rigging, Slings and Crane Lifts - UK	In Rigging, Slings and Crane Lifts, you will learn about safe lifting and rigging practices including planning a lift, proper rigging techniques, center of gravity, rigging hardware, safe working load, types of cranes, and hand signals. In addition, you will learn about the types of slings, hitches and chain hoists including slings and sling angles, hitches and slings, multiple leg hitches, sling storage and handling, and chain hoists. It is designed to help you meet the requirements of Lifting Operations and Lifting Equipment Regulations 1998 (LOLER), Provision and Use of Work Equipment Regulations 1998 (PUWER) and Management of Health and Safety at Work Regulations 1999.	3
UK-HSE-5051	Vehicle-Mounted Elevated Work Platforms and Aerial Lifts - UK	Vehicle-Mounted Elevated Work Platforms and Aerial Lifts is designed to help you meet the requirements of the Work at Height Regulations 2005. You will learn about preparing and operating the aerial lift to ensure your safety and the safety of those around you.	1

Process Safety

Course #	Course Title	Description	Hrs
UK-HSE-5095	Warehouse Safety - UK	Warehouse Safety is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. You will learn there are many potential hazards in warehouse operations that cause fatalities or injuries. This program identifies the more common hazards and risks involved with working in a warehousing environment including storage and rack systems; loading and unloading areas; material handling and storage hazards including manual lifting and forklift operations; and housekeeping hazards of personal protective equipment, hazard communication and slips, trips and falls.	1

Safe Work Practices

Course #	Course Title	Description	Hrs
UK-HSE-5003	Confined Space Entry - UK	Confined Space Entry is designed to help you meet the training requirements of the Health and Safety Executive Confined Space Regulations 1997. It covers information mandated by the standard including hazard identification, safe work practices, vessel entry permit, personal protection equipment, entry procedures and exposure symptoms.	2.5
UK-HSE-5065	Driving Safety - UK	Driving Safety is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. You will learn about safe driving techniques within a process facility, including facility transportation, handling techniques, and safe driving procedures.	1.5
UK-HSE-5021	Electrical Safety for Qualified Employees - UK	Electrical Safety for Qualified Employees is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. Topics covered include identifying energized parts, testing for nominal voltage, grounding, personal protective equipment and safe clearance distances.	2
UK-HSE-5020	Electrical Safety for Unqualified Employees - UK	Electrical Safety For Unqualified Employees is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. Topics covered include how electricity can hurt you, protective measures for working around motors and other energized equipment, and procedures for inspecting and re-energizing electrical equipment.	1.5

HEALTH, SAFETY & ENVIRONMENT - UK/EU

Safe Work Practices (Continued)

Course #	Course Title	Description	Hrs
UK-HSE-5057	Excavation and Trenching - UK	Excavation and Trenching is designed to help you meet the training requirements of Health and Safety Executive guidelines for excavations. You will learn about the hazards of excavations and trenches and how to protect yourself during digs.	2.5
UK-HSE-5022	Fall Prevention - UK	Fall Prevention is designed to help you meet the basic training requirements of Work at Height Regulations 2005 (WAHR). The program identifies the various types of fall hazards and shows you ways to reduce or eliminate the danger. Special emphasis on selection and use of lanyards, full body harnesses and anchorage points.	2
UK-HSE-5092	First Aid Procedures - UK	First Aid Procedures is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. It is designed to help you respond safely and properly to events that require first aid treatment.	2
UK-HSE-5075	Hand Safety - UK	Hand Safety is designed to help you meet the training requirements of Health and Safety at Work etc. Act 1974. In this program, you will learn about hand hazards, hand tool safety, machine guards, PPE, and how to complete a hazard assessment.	1
UK-HSE-5055	Heat Stress Safety - UK	Heat Stress Safety is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. You will learn how to work safely in a hot environment, including the physical effects and hazards of heat.	0.5
UK-HSE-5032	Helicopter Safety - UK	Helicopter Safety is designed to help you meet the training requirements of Health and Safety at Work etc Act 1974. You will learn how to safely approach, stow luggage, board and de-board a helicopter. The program also covers what you should do in emergency situations, emergency equipment found on helicopters, and how to properly don an aviation life vest.	1
UK-HSE-5030	Hot Work - UK	Hot Work is designed to help you meet the training requirements of The Management of Health and Safety at Work Regulations 1999. You will learn how hot work is defined, how to prepare a workspace for hot work and how to conduct fire watches to prevent incidences of fire or explosion.	1
UK-HSE-5031b	Industrial Ergonomics - UK	Industrial Ergonomics helps you meet the training requirements required by the Health and Safety at Work etc Act 1974 and specified by HSE's Ergonomics and Human Factors at Work. You will learn what ergonomics is, how to prevent ergonomics-related injuries, hand tool ergonomics and material handling ergonomics.	1.75
UK-HSE-5068	Ladder Safety - UK	In this program, you will learn about the requirements for working safely with ladders as required by HSE Work at Height Regulations 2005. You will learn about the different types of ladders, using ladders safely, and the requirements for ladder inspection.	0.5
UK-HSE-5067	Line Breaking - UK	Line Breaking is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. In this program, you will learn about specific guidelines used to eliminate or minimize the extreme hazards associated with breaking into a line, vessel, or system.	0.5
UK-HSE-5012	Lockout/Tagout - UK	Lockout/Tagout covers sources of hazardous energy, isolating equipment and controlling stored energy, applying and removing lockout/tagout and group lockout/tagout. It is designed to help you meet the training requirements of The Electricity at Work Regulations 1989.	2
UK-HSE-5079	Manual Handling and Lifting Techniques - UK	Manual Handling and Lifting Techniques will help you meet the requirements of Health and Safety at Work etc. Act 1974. You will learn about the manual handling and lifting techniques including manual handling hazards, assessing manual handling risks, methods to control the risks, and best practices for safely performing manual handling and lifts for avoiding injuries.	1

HEALTH, SAFETY & ENVIRONMENT - UK/EU

Safe Work Practices (Continued)

Course #	Course Title	Description	Hrs
UK-HSE-5031a	Office Ergonomics - UK	In this program, you will learn about office ergonomics in the workplace as required by the Health and Safety at Work etc Act 1974 and specified by HSE's Ergonomics and Human Factors at Work. You will learn what ergonomics is and how to prevent ergonomics-related injuries when performing office work.	1.5
UK-HSE-5090	Office Safety - UK	Office Safety is designed to help you meet the training requirements of HSE Health and Safety at Work etc Act 1974. You will learn guidelines for working safely and ergonomically to prevent hazards and injuries. You will also learn how to properly organize a computer workstation.	3
UK-HSE-5080	Offshore Water Safety - UK	Offshore Water Safety is designed to help you meet the training requirements of Health and Safety at Work etc Act 1974. You will learn about offshore rig hazards, safe work practices, and emergency action/response plan elements. You will also learn about emergency evacuation plans, personal flotation devices (PFDs), and lifeboats and life rafts.	1
UK-HSE-5054	Oxygen-Fuel Gas Welding and Cutting - UK	Oxygen Fuel Gas Welding and Cutting is designed to help you meet the requirements of Health and Safety at Work etc. Act 1974. You will learn how to use oxygen-fuel equipment safely, how to protect yourself, and startup and shutdown procedures.	2
UK-HSE-5074	Process Safety and Fatigue Management - UK	Process Safety and Fatigue Management is designed to help you meet the basic training requirements of API's Recommended Practice 755 and Health and Safety at Work etc Act 1974. The module includes information regarding fatigue risks, shift work sleep disorder, and how to obtain quality sleep.	1
UK-HSE-5074a	Process Safety and Fatigue Management for Supervisors - UK	Process Safety and Fatigue Management for Supervisors is designed to help supervisors meet the basic training requirements of API's Recommended Practice 755 and to meet the requirements of Health and Safety at Work etc Act 1974. The module includes information regarding fatigue risks, shift work sleep disorder, and how to obtain quality sleep.	1
UK-HSE-5027	Storage and Handling of Anhydrous Ammonia - UK	Storage and Handling of Anhydrous Ammonia is designed to help you meet the training requirements of Health and Safety Executive Control of Substances Hazardous to Health (COSHH). The program explains the hazards of anhydrous ammonia and shows you how to protect yourself by avoiding exposures and using personal protective equipment. The program also shows you the proper procedures to follow when storing and transferring anhydrous ammonia.	1.25
UK-HSE-5077	Walking/Working Surfaces - UK	Walking/Working Surfaces is designed to help you meet the training requirements of The Work at Height Regulations 2005. In this program, you will learn about working safely around walking and working surfaces.	0.65
UK-HSE-5018	Specifications for Accident Prevention Signs and Tags - UK	Specifications for Accident Prevention Signs and Tags is designed to help you meet the training requirements of HSE The Health and Safety (Safety Signs and Signals) Regulations 1996. Topics covered include identification of signs and tags, hazard determination, and precautions to take for personal protection as indicated by signs.	0.75

Security

Course #	Course Title	Description	Hrs
UK-HSE-5064	Workplace Violence - UK	Workplace Violence is designed to help you meet the training requirements of HSE Health and Safety at Work etc. Act 1974. Key to preventing workplace violence is understanding the risk factors that cause it. In this program, you will learn about the nature of workplace violence and the proper response to threats.	1

ELECTRICAL MAINTENANCE

Drawings & Diagrams

Course #	Course Title	Description	Hrs
A1186	Electrical System Basics and Diagrams	In Electrical System Basics, you will learn about electrical generation and transmission, system voltages, and building schematic diagrams; Single line drawings, electrical symbols, and logic symbols and gates; and low and medium voltage motor drives and drive circuits.	3

Electrical & Communication Cables

Course #	Course Title	Description	Hrs
PS-EIA-CDB-101	Cable Duct Banks and Trays	In Cable Duct Banks and Trays, you will learn about types of duct banks, cable tray configurations, cable tray applications, proper loading and support, wiring fill and space requirements, securing cables, and proper grounding and bonding.	1
PS-EIA-CAB-101	Electrical Cables	In Electrical Cables, you will learn about the function of electrical conductors, characteristics of conductor materials, conductor construction, wiring size and rating, insulation materials, and grounding.	1
PS-EIA-FOC-101	Fiber Optic Cable	In Fiber Optic Cable, you will learn about types of fiber optic cable, connectors, operation, joining optical fibers, common causes of optical loss, and fusion splicing.	1
PS-EIA-PCB-101	Power Cables	In Power Cables, you will learn about the different types of power cables, wire characteristics, properties, and sizes; insulation, cable glands, cabling systems and installations; power cable maintenance, repair, troubleshooting, and testing.	3

Electrical Fundamentals

Course #	Course Title	Description	Hrs
PS-EIA-BED-101	Basic Electronics	In Basic Electronics, you will learn about basic electricity; basic electronics, including voltage, ground, current, resistors, capacitors, and inductors; electrical circuits, including Ohm's and Kirchhoff's Laws; current, voltage, and power; series and parallel DC circuits, transistors, and capacitors.	1.5
PS-EIA-EDO-101	Electrical Documentation	In Electrical Documentation, you will learn about types of electrical documentation, electrical loop numbers and symbols; power distribution and cable layout diagrams; control/schematic diagrams; protection and hazardous area diagrams; updating, storing, and controlling diagrams.	1.5
A1620	Electrical Fundamentals	Electrical Fundamentals covers units of electrical measurement, Ohm's law and its applications, as well as the distinctions between series and parallel circuits. The program then explores the production and utilization of magnetic fields in motors, measuring devices, and as resistors. Finally, it introduces diodes and transistors, explaining their role in rectifying current and amplifying electrical signals, along with simple transistor circuits and the use of capacitors in these circuits.	4
PS-MSO-ESP-101	Electrical System Protection	In Electrical System Protection, you will learn about electrical cables, conductors, and grounding; circuit protection, including causes of over current, fuses, circuit breakers and protection relays, switchgear and contactors; and emergency power supplies, including batteries and generators, uninterruptible power supply configuration, and emergency generators.	3
PS-EIA-GRD-101	Grounding	In Grounding, you will learn about different types of grounding systems, equipment and static grounding, lightning protection, bonding techniques, electronic system and substation grounding; ground fault monitoring, inspecting grounding and bonding systems; and tracing ground faults.	3

ELECTRICAL MAINTENANCE

Electrical Fundamentals *(Continued)*

Course #	Course Title	Description	Hrs
A1185	Understanding Electricity	This course will teach you about basic electrical terms, the effect of electric current on the human body, and why electricity is a potential hazard. Additionally, you will learn about grounding electrical equipment, the proper precautions you must take when working with electrical equipment, and how to act in an emergency. Additionally, you will learn how electric power is distributed from a generating plant to a lease, and measuring electric usage, including units of measurement and how to read a meter.	4

Motors

Course #	Course Title	Description	Hrs
A1081	AC Motors for Operators	This course will teach you about AC Motors, magnetism, alternating current and AC Motor components. You will learn about three-phase and single-phase induction motors, motor control and operating conditions including startup, lubrication, and maintenance.	5
PS-MNT-CMO-101	Condition Monitoring - Electrical Motors	In Condition Monitoring - Electrical Motors, you will learn about induction and DC motor related problems including SCR problems, DC Comparator cards, and vibration analysis.	1
PS-EIA-EMO-101	Electrical Motor Properties, Troubleshooting and Maintenance	In Electrical Motor Properties, Troubleshooting and Maintenance, you will learn about common properties; voltage selection factors, insulation and thermal properties, enclosures and bearings; routine and preventive maintenance, and troubleshooting.	5
PS-EIA-EMO-102	Introduction to AC/DC Electrical Motors for Technicians	In Introduction to AC/DC Electrical Motors, you will learn about magnetism, producing alternating current, rotating magnetic fields, types of AC motors and AC motor properties; DC motor types and operation.	3
PS-MSO-MCC-101	Motor Control Centers (MCCs)	In this course, you will learn about motor control and motor control centers (MCC) including MCC common components of vertical sections, enclosure types, NEMA phase arrangement, MCC rating, overcurrent protection devices (fuses and circuit breakers), wiring classes and combination motor control units; motor starters including full-voltage and soft starters; variable frequency drives and programmable logic controllers.	1
PS-EIA-MSA-101	Motor Signature Analysis (MCE)	In this course, you will learn about MCE functionality and detectable faults; analyzing test data and how to perform MCE analysis.	3
PS-MNT-VFD-101	Variable Speed and Frequency Drives (VFD/VSD)	In this course, you will learn about the advantages of VFD & VSDs, AC drives and motor selection, DC drives, shunt connected motors, field saturation, operator control and control signals; typical problems and maintenance; SMART troubleshooting procedures and tests.	2.5

Oil Field Electrical Equipment

Course #	Course Title	Description	Hrs
A1540c	Oil Field Electricity: Conservation and Classification	This course will teach you ways of conserving electrical energy and reducing the electric bill on a lease. The program also classifies lease areas according to fire and explosion hazards, outlines the National Electrical Code's classifications of hazardous lease areas, and why electrified equipment must meet rigid specifications for use in these classified areas.	2
A1540b	Oil Field Electricity: Electrified Equipment	In this course, we look at the various electrified operations equipment found on leases, what equipment problems you should look for and report, and what equipment must be routinely inspected and maintained. The program also covers how electrified switches and corrosion protection help control potential sources of lease pollution.	3

ELECTRICAL MAINTENANCE

Oil Field Electrical Equipment (Continued)

Course #	Course Title	Description	Hrs
A1540a	Oil Field Electricity: Fundamentals	In this course, you will learn safe electrical practices. Including basic electrical terminology, the impact of electrical current on the body, and the potential hazards it poses to personnel. You will also learn about grounding electrical equipment, taking necessary precautions when working with such equipment, and responding in emergency situations. Additionally, we cover the distribution of power from generating plants to leases, along with an overview of the distribution equipment found on a lease. Lastly, you will be taught how to measure electrical usage, including units of measurement and reading meters.	4
A1541	Oil Field Electricity: Offshore Oil Field Electricity	This program is designed to familiarize offshore operators and other personnel with the electrical systems on a platform and prepare them to recognize and report any problems with the electrical equipment.	3

Power Systems

Course #	Course Title	Description	Hrs
PS-EIA-BAT-101	Batteries	In this course, you will learn about battery components, types of cells, series and parallel connections, battery capacity and ratings, lead acid and Ni-Cad batteries; battery system performance; failure analysis and dual battery backup systems, system testing methods; preventive maintenance and safety concerns; and failure modes and system troubleshooting.	5
PS-EIA-CPB-101	Capacitor Banks	This course will teach you about capacitor theory, including capacitive resistance, power triangle, and power factor correction; harmonic distortion, resonance, and filters; power factor correction capacitor (PFCC) degradation; and capacitor bank maintenance and troubleshooting.	2
PS-EIA-PDT-101	Power and Distribution Transformers	In Power and Distribution Transformers, you will learn about basic transformer operation, types, components, connections, and operational parameters; transformer cooling; schematic symbols; and maintaining and troubleshooting low-, medium-, and high-voltage power transformers.	2
PS-EIA-PDT-102	Transformer Maintenance	In Maintenance for Power and Distribution Transformers, you will learn about maintaining and troubleshooting low-, medium-, and high-voltage power transformers.	1.5
PS-EIA-UPS-101	Uninterruptible Power Supply	In Uninterruptible Power Supply, you will learn about emergency and stand-by power systems, emergency power requirements, critical and essential load; UPS types and operation; DC UPS, UPS batteries, battery ratings and failures; maintenance and functional load testing; and UPS troubleshooting.	3

Switchgear

Course #	Course Title	Description	Hrs
PS-EIA-ARC-101	Arc Flash Causes and Mitigation	This course will teach you about arc flashes associated with electrical faults, personal protective equipment used to protect workers from arc flashes, and different switchgear including vacuum, air, gas, and oil circuit breakers used to minimize the damage caused by contact arcing.	2
PS-EIA-CBR-101	Circuit Breakers	In Circuit Breakers, you will learn the basics of overcurrent protection, types of fuses and voltage level classifications; different types of circuit breakers, their rating and operation; and maintaining, monitoring, inspecting, and troubleshooting low voltage air and medium voltage vacuum power circuit breakers.	4
PS-MSO-ELC-101	Electrical Load Centers and Panelboards	In this course, you will learn about Load Centers used in residential and light commercial applications including construction; main breaker, main lug only, and branch circuit breakers; power supply systems of 3-wire, 3-phase and 4-wire types; and load center grounding requirements.	1

ELECTRICAL MAINTENANCE

Switchgear (Continued)

Course #	Course Title	Description	Hrs
PS-EIA-GHS-101	Gas Insulated Substations (GIS) and Sulfur Hexafluoride (SF6)	In this course, you will learn about GIS, sulfur hexafluoride (SF6) properties, testing metrics, proper handling of faulted and non-faulted SF6; leak detection methods, and record keeping.	2.5
PS-EIA-GIS-101	High Voltage Gas Insulated Switchgear (GIS)	This course will teach you about high voltage circuit switchers, circuit switcher construction, operating principles, safety, preventive maintenance; SF6 properties and handling; PPE and safety equipment, typical failures, and troubleshooting.	2
PS-EIA-HSS-101	High Voltage Substation Switchgear	In this course, you will learn about substation switchgear and circuit breaker control, types of HV circuit breakers, HV relay protection, switchgear classification and operation, switchgear maintenance, handling SF6, and troubleshooting HV switchgear.	2
PS-EIA-LAR-101	Lightning Arrester	This course will teach you about lightning surges and strikes; lightning protection, including classes and types of lightning arresters; grounding and installation guidelines; basic safety precautions; and lightning arrester troubleshooting.	3
PS-EIA-LVS-101	Low Voltage Substation Switchgear	In this course, you will learn about switchgear terminology and construction, including indoor and outdoor switchgear, bus bars, metering, circuit breakers, and wiring; switchgear operation, preventive maintenance, typical failures, and general guidelines for troubleshooting.	3
PS-EIA-LVI-101	LV Intelligent Switchgear	In this course, you will learn about low voltage intelligent switchgear components, monitoring functions and preventive maintenance; MCU parameterization, failure codes, and terms and abbreviations; LV switchgear and communications troubleshooting.	3
PS-EIA-MVS-101	Medium Voltage Substation Switchgear	In Medium Voltage Substation Switchgear, you will learn about types of switchgear and typical layouts, medium voltage operation, component functions, maintenance, and troubleshooting.	3
PS-EIA-MVV-101	Medium Voltage Vacuum Contactors	In Medium Voltage Vacuum Contactors, you will learn about types of switches, disconnectors, contactors, circuit breakers, vacuum contactors and principles of operation; preventive maintenance and integrity testing; and basic troubleshooting guidelines.	2
PS-EIA-PRE-101	Protective Relays	In Protective Relays, you will learn about electrical system problems, types of protective relays, sensing equipment, transformers, relay numerical function types, protection schemes and strategies; zones of protection and feeder circuits; setting and adjusting protective relays, and troubleshooting electromechanical and electronic protective relay systems.	3

GAS PROCESSING OPERATIONS

Dehydration

Course #	Course Title	Description	Hrs
PS-MSO-GST-101	Glycol Sampling and Testing	In this course, you will learn about visual checks, glycol sampling properties, and normal ranges and testing frequency.	1
PS-MSO-DPT-101	Dewpoint Testing/Requirements	In Dewpoint Testing/Requirements, you will learn about hydrocarbon and water dew points, dew point control, how dew point is measured, and dew-point testing accuracy.	1
A1585	Glycol Dehydration	In Glycol Dehydration, you will learn about water vapor, the process of glycol dehydration, measuring water content, monitoring equipment, and testing and operations.	5
PS-MSO-GDO-101	Glycol Dehydration Equipment and Operation	In Glycol Dehydration Equipment and Operation, you will learn about the glycol dehydration process, contactor and regeneration main equipment, and the process variables that affect glycol dehydration operation.	1
PS-MSO-GIS-201	Glycol Injection System Operation	In Glycol Injection System Operation, you will learn about the function of monoethylene glycol (MEG), glycol loss, scaling and fouling, hydrocarbon carryover; glycol regeneration operation, including stripping gas, reflux ratio control, salt contamination, increasing separation efficiency, plant turndown, and foam control.	0.5
A2508	Molecular Sieve Dehydration	In Molecular Sieve Dehydration, you will learn about solid bed adsorption and molecular sieve dehydration including the purpose, function, and types of solid bed adsorbents, the advantages and process of mol sieve dehydration, and how to troubleshoot solid bed adsorption.	2
A2505	Solid Bed Adsorption and TEG Dehydration	In Solid Bed Adsorption and TEG Dehydration, you will learn about gas dehydration strategies, including solid bed adsorption, mol sieve dehydration, and TEG gas dehydration.	4
PS-MSO-SLD-101	Solid Desiccants	Solid desiccants adsorb water from process gas streams. In Solid Desiccants, you will learn about solid desiccant adsorption, types of solid desiccants and how they are selected, and modes of operation.	1

Fractionation Process and Equipment

Course #	Course Title	Description	Hrs
PS-MSO-CSS-201	Condensate Stabilization System	In Condensate Stabilization System, you will learn about condensate formation, specifications, stabilization, process flow, and process temperature control.	1
PS-MSO-FDF-201	Fractional Distillation Process Fundamentals	In this course, you will learn about distillation and vapor pressure, the fractional distillation process, distillation columns and process flow, feed and reflux, process equipment and tray design; NGL fractionation, the NGL temperature/pressure relationship, and methane, propane, and butane separation.	2
A2504	Fractionation in Gas Processing	This course will teach you about the process of fractionation during gas processing, consequences of deviation, and how to regulate tower temperature and pressure.	4
PS-MSO-HMO-101	Heat Medium and Hot Oil Systems	In this course, you will learn about the function of heat medium systems and hot oil systems, including heat medium distribution, heater, surge tank, pumps, and filter; direct fired heat components, including fuel supply, burners, pilot, burner management system (BMS), and draft and dampers.	1
PS-MSO-HMS-101	Heat Medium System Operation	In this course, you will learn about Heat medium systems, routine operator checks, the heat medium heater, and plant startup and shutdown requirements.	1
PS-MSO-HPG-201	High Pressure Gas Sampling	In this course, you will learn about the purpose of gas sampling, accuracy requirements; types of high pressure sampling containers, including constant pressure and floating piston high pressure cylinders; sampling station parts and connections; and taking a high pressure sample.	1.5

GAS PROCESSING OPERATIONS

Fractionation Process and Equipment (Continued)

Course #	Course Title	Description	Hrs
PS-MSO-HPL-201	High Pressure Liquid Sampling	This course will teach you about critical aspects of sampling, spot and composite samples, sample containers; sampling methods, including fluid displacement, floating piston, and purge methods; and high pressure liquid sample shipping.	2
PS-MSO-LSS-101	Liquid Storage Systems	In this course, you will learn about natural gas liquid storage systems including cavern storage, tank storage, high pressure bullet storage, and tube storage.	1
PS-MSO-MIN-101	Methanol Injection	In Methanol Injection, you will learn about gas hydrates, the properties of methanol, typical methanol injection systems and the effect of methanol on other systems.	0.75
PS-MSO-PRU-201	Propane Refrigeration Units and Low Temperature Separators (LTS)	In Propane Refrigeration Units and Low Temperature Separators (LTS), you will learn about refrigeration process equipment, including compressors, condensers, economizers and subchillers; chillers, and low temperature separators.	1
PS-MSO-REC-201	Recycle Compressor Operation	In this course, you will learn about recycle compressor function; drivers and recycle compressor operation, including pre-start checks and starting sequence; compressor and motor controls; and recycle compressor maintenance.	1
PS-MSO-REF-101	Reflux in Fractionation Operations	In Reflux in Fractionation Operations, you will learn about factors affecting distillation, column operations, including feed, vapor flow, and process upsets; tray design, and reflux flow and separation efficiency, including reflux ratio and operating considerations.	1
PS-MSO-SGC-202	Sales Gas Compressor Types, Use and Limitations	In Sales Gas Compressor Types, Use and Limitations, you will learn about advantages and limitations of centrifugal, reciprocating, and rotary screw compressors, along with dynamic and positive displacement compressor capacity control.	1
PS-MSO-SGF-201	Sales Gas Filter Replacement	In Sales Gas Filter Replacement, you will learn about the function of a coalescing sales gas filter, typical installation, filter replacement and return to service.	1
PS-MSO-TCC-201	Tower Fouling and Corrosion Cleaning	In Tower Fouling and Corrosion Cleaning, you will learn about natural gas fractionating tower chemical cleaning, symptoms of corrosion or fouling, chemical treatments, corrosion and fouling control, and chemical cleaning procedures.	1

Inlet Separation

Course #	Course Title	Description	Hrs
PS-MSO-CFL-101	Coalescing Filters	In Coalescing Filters, you will learn about the process of coalescence, types of coalescers, sales gas coalescers, mechanical and electrostatic coalescers.	1
PS-MSO-MNF-101	Manifold Systems Overview	In Manifold Systems Overview, you will learn about types of manifolds; metering stations and meter proving; and types of meters, including turbine, positive displacement, Coriolis, ultrasonic gas, and thermal mass flow meters.	1
PS-MSO-PWT-101	Produced Water Treatment	This course will teach you about produced water composition; conventional water treatments, including oil-water separators, dissolved and induced gas flotation units, hydro cyclones and centrifuges, aeration, oxidation, adsorption and soluble organics removal; as well as advanced water treatment methods, such as ion exchange, mechanical evaporation (distillation), and membrane processes (ED and EDR).	2

GAS PROCESSING OPERATIONS

Liquefied Natural Gas

Course #	Course Title	Description	Hrs
A2512	H2S Scavenger	This course covers the concepts of non-regenerable vs regenerable adsorption processes, explains the differences between physisorption vs chemisorption and demonstrates when a non-regenerable H2S scavenger (throw-away) adsorbents can be used in the natural gas processing facility. An overview of the commercial adsorbents is also discussed.	3
A2511	LNG and LPG (Gas) Carrier Loading	This course covers LNG and LPG carriers, including the system from the tank to the ship, equipment involved, and vapor recovery. It discusses loading arms, their types, and operations such as ship connection, cooling, and draining. Safety features like ship-to-shore interfaces, emergency shutdown, and surge protection are addressed. The course also includes information on marine facilities for gas carrier berthing and basic marine operations from ship arrival to departure. Lastly, it highlights the distinctions between LNG and LPG loading systems.	3
A2513	LNG Cargo Carriers	In this course you will learn about the ship side perspective of the LNG cargo carrier. Trends in LNG Shipping, and the importance of marine transport in the LNG value chain. You will become familiar with the LNG carrier fleet, different ship types and containment systems. You will learn about specific LNG cargo handling equipment, LNG propulsion systems and cargo operations. You will also learn about marine issues, carrier management and loading and unloading guidelines.	3
A2509	LNG Refrigeration and Heat Exchange	This course will teach you how natural gas is converted to a liquid by refrigeration to produce LNG.	3
A2510	LNG Storage	This course covers LNG storage and includes management of boil off gas from the storage tanks.	2
A2503	Turboexpander NGL Extraction	In this course you will learn about the purpose and function of the turboexpansion unit, including its primary and auxiliary equipment.	3

Phase Behavior

Course #	Course Title	Description	Hrs
A2501	Hydrocarbon Phase Behavior and Vapor-Liquid Equilibrium	In Hydrocarbon Phase Behavior and Vapor-Liquid Equilibrium, you will learn about the phase behavior, vapor-liquid equilibrium, the water content of gas, and hydrates.	4

Process Overview

Course #	Course Title	Description	Hrs
A2500	Introduction to Gas Processing for Operations	In Introduction to Gas Processing, you will learn about gas processing hydrocarbons and about the equipment and process for gas conditioning and processing.	3

Safe Work Practices

Course #	Course Title	Description	Hrs
A2507	Gas Processing Hazards	In Gas Processing Hazards, you will learn about hazards within a typical gas processing facility.	4

GAS PROCESSING OPERATIONS

Sweetening

Course #	Course Title	Description	Hrs
A2506	Amine Sweetening Process	In the Amine Sweetening Process program, you will learn about amine sweetening, absorption in amine sweetening, primary absorption equipment, and controlling the sweetening process.	5

Thermodynamics

Course #	Course Title	Description	Hrs
A2502	Gas Processing Thermodynamics	In Gas Processing Thermodynamics, you will learn about thermodynamics, heat transfer, the gas laws, and compression ratio.	5

GENERAL MAINTENANCE

Bearings, Seals & Fasteners

Course #	Course Title	Description	Hrs
PS-MNT- BEA-101	Bearings	You will learn in this course industrial applications, bearing classifications and specifications, common bearing configurations; installing, removing, and maintaining bearings, and problem troubleshooting.	2.5
PS-MNT- FAS-101	Fasteners	In this course, you will learn about different types of fasteners, including wedge anchors, buckles, cable ties, clamps, clips, pins, retaining rings, rivets, screws, bolts, nuts, and washers; their classifications, specifications, and standards; inspection, maintenance, troubleshooting, handling, and storage.	4
PS-MNT- SDG-101	Gaskets, Seals and Packing	In this course, you will learn about non-metallic, semi-metallic, and metallic gaskets; flange types and standards, tensile strength surface finish, and load sealability; seals and packing types and materials; and gasket installation, inspection, storage, handling, and troubleshooting.	2.5

Cleaning Activities

Course #	Course Title	Description	Hrs
A1207	Cleaning Activities	This program identifies the tools and procedures for cleaning pipes, burners, and other equipment. Major topics include cleaning gauge/sight glasses, strainer, and burner cleaning, and changing filter elements.	1

Corrosion Control

Course #	Course Title	Description	Hrs
PS-MNT- CPS-101	Cathodic Protection Systems	In this course, you will learn about using cathodic protection to control metal surface corrosion, including: galvanic protection and anodes, impressed current and rectifier systems; cathodic protection surveys, inspection, testing, and record-keeping; and cathodic system safety, maintenance, and troubleshooting.	3
A1122	Corrosion Control	This program will teach you the basics of the corrosion process, the methods used to monitor the rate of corrosion and the control techniques used to protect equipment. By successfully controlling corrosion, the destructive effects can be minimized, and facility operations can be more profitable.	4
PS-MNT- COR-101	Corrosion in Metal	This course will teach you about the corrosion process, including metal corrosion, corrosion damage, and corrosion cells; and corrosion control, including cathodic protection, protective coatings, corrosion monitoring and measurement, and corrosion monitoring techniques.	3
A1580	Oil Field Corrosion	This course will teach you the basics of the corrosion process, the methods used to monitor the rate of corrosion and the control techniques used to protect equipment. By successfully controlling corrosion, the destructive effects can be minimized, and the operation of the lease can be more profitable.	4

Couplings & Gears

Course #	Course Title	Description	Hrs
PS-MNT- DRC-101	Drive Couplings	In Couplings, you will learn about drive couplings, including classification, rigid and flexible couplings; online and off-line drive coupling maintenance, belt tensioning, coupling removal and installation, and troubleshooting.	3.5
PS-MNT- GEA-101	Gears	In Gears, you will learn about gear purpose, classifications, and applications; routine maintenance; gear installation and removal; gearbox maintenance, overhaul, and assembly; and gear troubleshooting.	4

GENERAL MAINTENANCE

Filters

Course #	Course Title	Description	Hrs
PS-MNT-DCF-101	Dust and Coalescer Filters	In Dust and Coalescer Filters, you will learn about the application and workings of coalescing filters, the purpose of dust filters, and how to safely remove and install filter elements.	1
PS-MNT-FTS-101	Filters and Strainers	In Filters and Strainers, you will learn about filtration, filter media, and operation; mechanical, absorbent, and adsorbent filters; Y-basket and temporary (geometric) strainers; filter and strainer cleaning and maintenance.	2

General Maintenance Concepts

Course #	Course Title	Description	Hrs
PS-MNT-BLD-101	Blinding and De-blinding	In Blinding and De-blinding, you will learn about slip blinds, spectacle blinds, and blind flanges, blind and flange sizes, and blind installation and removal.	1
PS-MNT-CMB-101	Condition Monitoring - Balancing	In Condition Monitoring - Balancing, you will learn balance quality grades and standards, calculating imbalance, vibration; in-place and single plane balancing, the four-step balancing method and balancing in one run; field balancing, and balancing in two planes.	2.5
PS-MNT-CMG-101	Condition Monitoring - General	In Condition Monitoring - General, you will learn about life, preventive, reactive, and predictive maintenance; potential fault analysis (PFA); vibration analysis, including imbalance, misalignment, and looseness analysis; and maintenance and maintainability data.	3
PS-MNT-FDT-101	Fault Diagnosis, Troubleshooting and Machine Inspections	This course will teach you about common techniques of diagnosing and troubleshooting machine failures including Fault Tree Analysis (FTA) and Failure Mode and Effects Analysis (FEMA), machine performance monitoring, troubleshooting techniques using operation records, vibration analysis, and lubricating oil analysis and the non-destructive testing (NDT) methods of visual inspection, liquid penetrant, magnetic particle, ultrasonic, radiography and eddy current.	1.5
PS-MNT-CPM-101	Fundamentals of Condition and Predictive Monitoring	This course covers the many different ways of monitoring the mechanical condition of equipment including vibration analysis, oil and wear debris analysis, ultrasonics, and infrared thermography.	1
PS-MNT-ITP-101	Insulation and Thermal Protection	In Insulation and Thermal Protection, you will learn about the purpose, types and applications of insulation and thermal protection.	0.5
PS-MNT-MFD-101	Maintenance Fundamentals	In Maintenance Fundamentals, you will learn about the principles and types of maintenance, including proactive, preventative, corrective, breakdown, and turnaround maintenance; and maintenance workflow planning and strategies.	1
PS-MNT-MND-101	Manuals and Drawings	In Manuals and Drawings, you will learn about maintenance drawings, orthographic, process flow, piping and instrumentation, and schematic drawings; reading drawings and blueprints; standards organizations; and operations and maintenance manuals.	2
PS-MNT-PCB-101	Planned, Corrective, and Breakdown Maintenance	In Planned, Corrective, and Breakdown Maintenance, you will learn planned, corrective, and breakdown maintenance, including planning, implementing, and executing maintenance schedules.	1.5
PS-MNT-PMP-101	Preventative Maintenance Plans	In Preventative Maintenance Plans, you will learn about the basic steps involved with the development of a preventative maintenance plan as well as the benefits of such a plan including: benefits, purpose, the Development process and principles of the program.	0.5

GENERAL MAINTENANCE

Leak Detection

Course #	Course Title	Description	Hrs
A1198	Leak Detection and Repair	In this program, you will learn about controlling hazardous emissions through leak detection and repair.	1
PS-MNT-LDR-101	Leak Detection in Refrigeration Lines	In this program, you will learn about different methods for detecting and repairing leaks in refrigerant lines.	1

Lubrication

Course #	Course Title	Description	Hrs
A1210	Lubrication Concepts	In this course, you will learn about the different lubricants and their qualities so that you can choose the proper lubricant for the equipment you operate.	1
PS-MNT-LCA-101	Lubrication Systems, Classifications and Applications	In this course, you will learn about frictional force, types of lubrication, lubricant properties, viscosity index and oxidation; lubricant classifications, and synthetic and specialized lubricants; types of lubrication systems; lubrication charts and inspection tasks; lubricant application and storage.	5

Machine Alignment

Course #	Course Title	Description	Hrs
PS-MNT-MAL-101	Machine Alignment	In Machine Alignment, you will learn about the purpose of alignment, parallel and angular misalignment, alignment method selection; and performing precision, non-precision, and laser alignment.	2

Pipes, Hoses & Fittings

Course #	Course Title	Description	Hrs
A1205	Flange Piping	This program explains the use of flange piping and the procedures for connecting flanges. Major topics include types of fittings and flanges, flange gaskets, and blinding lines.	2
PS-MNT-MHS-101	Mechanical Hoses	In Mechanical Hoses, you will learn about utility hose elements and selection, handling, cleaning, and storing hoses, specialty hoses, hose inspection and RMA testing standards; grounding hoses, and hose troubleshooting.	3
A1202	Pipe Fitting Basics	This program covers the various pipes and fittings that make up a piping system and explains how to read piping diagrams. You will learn how pipe connections are made and how to select the proper equipment.	1
PS-MNT-PSU-101	Pipe Supports	In Pipe Supports, you will learn about rigid, dynamic, and spring type pipe supports and their applications; pipe support design and inspection points; inspection and testing, extended maintenance, and troubleshooting.	3
PS-MNT-PFI-101	Pipes and Fittings	In Pipes and Fittings, you will learn about pipe material, tubing, fittings, piping and instrumentation symbols, proper selection, and piping inspection and maintenance.	1
PS-MNT-PTF-101	Pneumatic Tubing and Fittings	In Pneumatic Tubing and Fittings, you will learn about pneumatic tubing applications, tubing types, how to select the proper tubing, types of pneumatic fittings, and tubing installation guidelines.	1
A1204	Small Threaded Pipe	This program covers applications for small threaded pipe and how to cut and thread piping joints. You will learn how to replace temperature and pressure indicators and how to operate pipe threading equipment.	2
A1203	Tubing	This program explains the various uses for tubing and how to make up a small tubing run. Major subjects include types of tubing and fittings, tubing applications, tube bending, and how to assemble and tighten tubing.	2

GENERAL MAINTENANCE**Structural Safety**

Course #	Course Title	Description	Hrs
PS-MNT-STS-101	Structural Safety	In Structural Safety, you will learn about OSHA requirements for ladders and stairways, handrail requirements; corrosion prevention and treatment; rebar corrosion and concrete damage, and structural repairs and inspection techniques.	3

GEOLOGY, PETROPHYSICS & RESERVOIRS

Geology

Course #	Course Title	Description	Hrs
A1681	Plate Tectonics	In Plate Tectonics you will learn about the basics of plate tectonics including evidence and causes of continental drift; divergent, convergent and transform continental margins; and the effect on petroleum.	1
A1715	Porosity	Basic Core Analysis depends on fluid saturation, porosity, and permeability properties. These are often the most critical properties in reservoir evaluation for assessing residual fluid saturations of oil, water, and gas; reservoir storage capacity (porosity); and reservoir flow potential (permeability). In this program, you will learn about porosity, including types of porosity; and calculating bulk, grain, and pore volumes.	1

Oil & Gas Reservoirs

Course #	Course Title	Description	Hrs
A1400b	Oil and Gas Reservoirs: Barriers and Traps	In this program, you will learn the differences between structural and stratigraphic traps, and how they are formed; methods of discovering traps; and factors which make a reservoir commercial or non-commercial. Your understanding of the nature of the reservoir will aid you in maintaining reservoir pressure and in interpreting the significance of changes in pressure and composition of fluid during production.	4
A1400a	Oil and Gas Reservoirs: Fundamentals	This program covers the nature and formation of the traps in which oil and gas have collected. You will learn about the formation of sedimentary rocks, the significance of porosity and permeability in the development of a reservoir, the migration of oil and gas during the formation of a reservoir, and the kinds and effects of reservoir pressures.	4

Petrophysics

Course #	Course Title	Description	Hrs
A1711	Basic Core Analysis	In this course, you will learn about fluid saturation, porosity, and permeability, and how they are measured in the laboratory. We will review several methods of fluid saturation measurement, including Dean-Stark distillation, Karl Fischer titration, pressure retained and sponge core techniques, along with non-destructive scanning techniques.	1
A1710	Coring and Core Preservation	In this course, you will learn about coring objectives for the various stages of field development; types of coring, including bottomhole coring (conventional and coring-while-drilling), bottomhole coring assembly parts, and disposable liners and barrels. We will cover sidewall coring, including percussion and rotary or drilled sidewall coring, plus other sidewall coring methods, along with their advantages and disadvantages.	2
A1712	Special Core Analysis	In this course, you will learn about advanced laboratory core measurement and evaluation properties for wettability, capillary pressure, and relative porosity.	1

HAND TOOLS & EQUIPMENT

Hand Tools & Equipment			
Course #	Course Title	Description	Hrs
PS-EIA-TTF-101	Electrician's Tools and Test Equipment	This course will teach you about different types of electrician's tools; electrical test equipment, including analog and digital multimeters, ammeters, circuit tracers, insulation testers, phase and motor rotation meters, power analyzers, wire sorters, and other test equipment; instrumentation and calibration.	4
PS-MNT-HTM-101	Hand and Power Tools for Technicians	In this course, you will learn about hand tools, cutting tools and power tools; and how to select, use and maintain them safely and efficiently.	3.5
PS-MNT-MEA-101	Measuring Tools	In Measuring Equipment, you will learn about general and precision measuring tools; and how to select, use and maintain them safely and efficiently.	1.5
A1201	Working with Hand Tools	This program covers the basic hand tools that are normally found in an operator's toolbox. You will learn to identify each tool and how to use it properly.	2
A1208	Working with Power Tools	In this course, you will learn the purpose, function, and proper orientation of power tools. You will learn specific requirements of each type of power tool and how to use them safely.	2
PS-MNT-WTE-101	Workshop Tools and Equipment	In Workshop Tools and Equipment, you will learn about the different parts and safe operation of hydraulic bench presses, drill presses, pedestal and angle grinders, band saws, sandblasters, and lathes.	2

HYDROCARBON STORAGE & LOADING

Railroad Transportation

Course #	Course Title	Description	Hrs
A5082	Railroad Safety	In Railroad Safety, you will learn about safety when working around railroads and rail cars including railroad accident statistics, trains entering the facility, receiving the rail car and general rail car safety.	1
PS-MSO-RCI-201	Rail Car Inspection	In Rail Car Inspection, you will learn about routine visual inspection at ground level, routine inspection at dome, including vapor and liquid connections, PRV, Thermowell, gauge rod, and inspection after loading/offloading.	1
PS-MSO-RLO-101	Rail Car Loading and Offloading	In Rail Car Loading and Offloading, you will learn about rail car access, connections, liquid, and vapor valves; emergency shutoff and excess flow valves; C3/C4 loading and NGLs offloading rail cars; measuring rail car content, using magnetic gauges and slip tube rods.	1
PS-MSO-RCS-201	Rail Car Sampling and Composition Testing	In Rail Car Sampling and Composition Testing, you will learn about rail car sampling equipment and analysis; testing composition of offloading NGLs and gas chromatography analysis.	0.75

Safe Tank Cleaning

Course #	Course Title	Description	Hrs
A1133	Safe Tank Cleaning: Cleaning the Tank	Safe Tank Cleaning is a series of four learning programs designed to teach anyone involved in the planning or supervision of a tank cleaning job the safety procedures for gas freeing and cleaning stationary storage tanks. Cleaning the Tank covers the physical removal of sludge and other residue from the tank interior. You will learn about the proper tank cleaning supplies, personal protective equipment, and tests required prior to tank entry. You will also learn general safety precautions to be taken throughout the tank cleaning job.	1
A1132	Safe Tank Cleaning: Gas-Freeing	Safe Tank Cleaning is a series of four learning programs designed to teach anyone involved in the planning or supervision of a tank cleaning job the safety procedures for gas freeing and cleaning stationary storage tanks. In Gas Freeing, you will learn specific information on gas freeing three different tank designs, with the assumption that each tank contains a low-sulfur crude oil. The program emphasizes the importance of accurately performing tests for flammable vapors, toxic substances, and oxygen deficiency.	2
A1134	Safe Tank Cleaning: Hazardous Materials	Safe Tank Cleaning is a series of four learning programs designed to teach anyone involved in the planning or supervision of a tank cleaning job the safety procedures for gas freeing and cleaning stationary storage tanks. In Hazardous Materials, you will learn how a specific tank design, combined with the specific material that the tank contains, determines what gas freeing and tank cleaning procedures will be necessary. You will also be introduced to a chart that cross-references tank designs with specific materials a tank may contain. You will learn how to use the chart and its accompanying data sheets to obtain information on a variety of tank cleaning situations.	2
A1131	Safe Tank Cleaning: Preparing for Cleaning	Safe Tank Cleaning is a series of four learning programs designed to teach anyone involved in the planning or supervision of a tank cleaning job the safety procedures for gas-freeing and cleaning stationary storage tanks. Preparing for Cleaning explains why tank cleaning is necessary and outlines the steps that must be carried out before any tank cleaning work begins. You will also learn about the hazards that must be minimized or eliminated at the tank cleaning site, and the ways to handle those hazards. The program also covers basic test equipment and discusses the use and importance of permits as they apply to tank cleaning.	2

HYDROCARBON STORAGE & LOADING

Storage Tanks			
Course #	Course Title	Description	Hrs
PS-MSO-APS-101	Atmospheric and Pressure Storage Tanks	In Atmospheric and Pressure Storage Tanks, you will learn about storage tank construction, pressurized and atmospheric storage tanks, and tank classification; effects of water and storage tank water detection and removal; and storage tank roof inspection, including safety precautions, visual and non-destructive inspection, and external tank roof inspection.	3
PS-MNT-STT-102	Maintaining Storage Tanks	In Maintaining Storage Tanks, you will learn about corrosion, internal coatings, tank inspection and repair, emissions, removing a tank from service, tank cleaning, silo maintenance and inspection, and safety.	1.5
PS-MNT-STT-104	Purging Storage Tanks	In Purging Storage Tanks, you will learn about the purpose of purging, isolating the tank; the purging process, including water fill, air ventilation, inert gas fill, handling tanks containing sulfur or hydrogen sulfide, and atmospheric testing the tank interior.	0.75
PS-MNT-STT-101	Storage Tanks	In Storage Tanks, you will learn about tank designs, including cone roof, floating roof, dome roof, and pressure vessels; fire protection and hazards, flammable vapor testing, auxiliary equipment, and environmental hazards.	2
PS-MSO-TSO-101	Tank Isolation	In this course, you will learn about performing tank isolation including its purpose, planning, locking out tank electrical equipment, blinding and blanking using blanks, spectacle blinds, paddle blinds, and double block and bleed systems, blinding safety procedures and transient vapors.	1
PS-MNT-STT-103	Tank Roof Inspection	In Tank Roof Inspection, you will learn about the purpose, procedures, regulatory requirements, and methods involved with tank roof inspections including visual inspection, non-destructive techniques, and safety precautions.	1
PS-MSO-TVS-101	Tank Venting Systems	In Tank Venting Systems, you will learn about the purpose of tank venting, sizing the venting system, pressure/vacuum relief vents, flame arrestors, discharge piping, and compressor and venturi vapor recovery systems.	1
PS-MSO-UST-101	Underground Storage Tank Inspection and Monitoring	In Underground Storage Tank Inspection and Monitoring, you will learn the purpose of underground storage tank inspections, the various types of release detection using automatic and manual tank gauging, interstitial monitoring, ground water monitoring, vapor monitoring, tank tightness and inventory control requirements for daily, monthly, and annual inspections	1
A1565	Vapor Recovery Systems	This course explains the operation and routine maintenance of Vapor Recovery Systems. It describes the principles behind vapor recovery, the component parts of vapor recovery units, a method of determining quantities of vapors recovered, and how to keep the equipment operating efficiently.	3
PS-MSO-WRT-101	Water Removal from a Storage Tank Bottom	In this Water Removal from a Storage Tank Bottom, you will learn about the detection and removal of water from a petroleum storage tank including the effects of water in petroleum storage tanks, storage tank floor design, and manual and automatic draining systems.	1

Truck Transportation			
Course #	Course Title	Description	Hrs
PS-MSO-ITI-101	ISO Truck Tank Construction and Inspection	In this course, you will learn about the characteristics of cryogenic ethylene and the construction and inspection of an ISO truck tank including regulatory truck tank markings, rated holding time, marked rated holding time, one way travel time, the location of valves, gauges and fittings, and leak detection.	1
PS-MSO-NTO-101	Natural Gas Liquids (NGL) Truck Offloading	This course will teach you about NGLs, the truck loading system; flow element and vapor eliminator, the automated offloading system, Scully ground prover and high-level shutoff; fire protection, meter proving; truck offloading requirements, and truck offloading.	0.5

HYDROCARBON STORAGE & LOADING

Truck Transportation (Continued)

Course #	Course Title	Description	Hrs
PS-MSO-PPT-101	Pentane (C5)+ Truck Loading	In this course, you will learn about pentane, C5 truck loading system; condensate pump and flow control valves and pressure control, the loading control system, ground prover and high-level shutoff; custody transfer of condensate, and meter proving.	0.75
PS-MSO-PBT-101	Propane and Butane Truck Loading	In this course, you will learn about propane and butane, C3/C4 truck loading system; pressure control valve, flow element and vapor eliminator, pressure transmitter functions, the loading control system, and high level shutoff; automatic odorizing system, meter proving, fire protection, and truck loading requirements and sequence.	0.75
PS-MSO-TSM-101	Testing Composition of Offloading Truck NGLs	In this course, you will learn about the three most common methods for sampling the composition of product at truck loading racks - Coriolis Meters for Density, Online Gas Chromatograph, and Grab Sampling.	0.75

Underground Storage

Course #	Course Title	Description	Hrs
PS-MSO-SCS-101	Salt Caverns and Underground Storage	This course will teach you about salt cavern formation, operation, capacity, overfilling and flow rate restrictions, brine systems, and underground tube storage.	1

INSTRUMENTATION & CONTROL

Analyzers & Inferenceals			
Course #	Course Title	Description	Hrs
PS-EIA-ASC-101	Analyzer Sampling and Conditioning System	In Analyzer and Conditioning Systems, technicians will learn about process sampling, sampling probes, sample transfer and return lines, and sampling time; factors affecting the sample conditioning system; and how to troubleshoot sampling and conditioning systems.	1
PS-EIA-ANS-101	Analyzer Shelters	An analyzer shelter is designed to provide a safe and environmentally-controlled atmosphere for plant analyzers. In Analyzer Shelters, you will learn about enclosure and building (walk-in) types of shelters; analyzer shelter components and safety systems; and shelter troubleshooting.	1
PS-EIA-CHA-101	Chlorine Analyzers	In Chlorine Analyzers, you will learn about colorimetric and amperometric chlorine analyzers, calibration, routine maintenance and troubleshooting.	1.5
PS-EIA-DOA-101	Dissolved Oxygen Analyzers	In Dissolved Oxygen Analyzers, you will learn about electrochemical and optical (luminescent) techniques for measuring the amount of dissolved oxygen in a process stream, and analyzer calibration and troubleshooting.	1
PS-EIA-GCH-101	Gas Chromatography	In Gas Chromatography, you will learn about gas chromatography separation techniques, chromatograms, components, calculating component concentration, calibration, and troubleshooting hardware and programming failures.	3
PS-EIA-GDA-101	Gas Density Analyzers	In this course, you will learn about gas density analyzers, the Wobbe Index, and density measurement techniques, including vibrating cylinder and combustion calorimeter configurations; specific gravity analyzers; and calibrating and troubleshooting gas density analyzers.	1.5
A2065	Instrumentation: Analyzers and Inferenceals	Process analysis is continuously performed to determine the quality of raw materials, intermediates, and finished products. In this course, you will learn about working with analyzers and analytical instruments, key tools in instrumentation process control.	2
PS-MSO-GCH-102	Introduction to Gas Chromatography	In Introduction to Gas Chromatography, you will be introduced to the process and analysis results for Gas Chromatography.	0.5
PS-EIA-MFA-101	Melting Flow Rate Analyzers	In Melting Flow Rate Analyzers, you will learn about weighted piston and pump type melting flow rate analyzers, calibration, and troubleshooting.	1.5
PS-EIA-MAN-101	Moisture Analyzers	In Moisture Analyzers, you will learn about dew point, moisture content, relative humidity, vapor pressure, partial pressure, types of sensors and their features; and how to calibrate and troubleshoot them.	0.5
PS-EIA-NRL-101	Nuclear Radiation Level Measurement	In Nuclear Radiation Level Measurement, you will learn nuclear radiation level detection, radioactive materials, sources, and types of detector devices; configuration, calibration, safety, and troubleshooting.	1.5
PS-MSO-HST-201	Operating Hydrogen Sulfide (H ₂ S) Tube Samplers	In Operating Hydrogen Sulfide (H ₂ S) Samplers, you will learn about detector tube operation, detector tubes, piston and bellows-type detectors, and common operating instructions.	1
PS-EIA-OXA-101	Oxygen Analyzer	In Oxygen Analyzer, you will learn about paramagnetic, thermoparamagnetic, and conductivity sensors, procedures for calibrating, and analyzer troubleshooting.	1.5
PS-EIA-PAN-101	pH Analyzers	In pH Analyzers, you will learn about pH measurement indicators, probes, transmitters, and effects of process temperature; one- and two-point calibration, and pH analyzer troubleshooting.	1.5
PS-EIA-PHA-101	Photometric Analyzers	In Photometric Analyzers, you will learn about energy absorption, photometric analyzer components, including sources, sample cells, wavelength selectors, detectors, electronics and output; different photometer configurations, and how to calibrate and troubleshoot photometric analyzers.	2
PS-MSO-TUM-101	Turbidity Measurement	In Turbidity Measurement, you will learn why turbidity measurement is important; common turbidity measuring devices including Single Beam Style, Ratio Style, and Modulated Four-Beam Style; and turbidity units and standards.	1

INSTRUMENTATION & CONTROL

Analyzers & Inferenceals (Continued)

Course	Course Title	Description	Hrs
PS-EIA-MAN-101	Moisture Analyzers	In Moisture Analyzers, you will learn about dew point, moisture content, relative humidity, vapor pressure, partial pressure, types of sensors and their features; and how to calibrate and troubleshoot them.	0.5
PS-EIA-PHM-101	Understanding pH Measurement	In Understanding pH Measurement, you will learn about pH, how it is measured with both Colormetric and pH meters, and how to calibrate a pH meter.	1

Control Systems

Course #	Course Title	Description	Hrs
PS-MSO-ACA-101	Automated Control Applications	In Automated Control Applications, you will learn about on/off control systems; process dynamics, electronic proportional, integral, and derivative (PID) control; analog electronic controllers including operational amplifiers (op-amps) and automatic process control.	3
PS-EIA-CTL-101	Control Loops	In this course, you will learn about control loops and controller action, including control types, controllers, variables, control modes; types of control schemes, including cascade, ratio, split range, feed forward, multi-variable and adaptive control; and control loop tuning techniques.	3
A2066	Instrumentation: Regulatory Control	In this program, you will learn about regulatory control, including valves, signal transmission, and basic and advanced control systems.	4
A2060	Instrumentation: Fundamentals of Control	In Fundamentals of Control, you will learn about the basics of instrumentation, including the control loop, process variable indicators, process instrument equipment, and piping and instrumentation diagrams.	4
PS-MSO-CCO-101	Introduction to Computerized Control Systems	In this course, you will learn about computerized control systems used in the process facilities including human machine interfaces (HMI); the basic concepts of a distributed control systems (DCS) and its associated equipment; the functions of programmable logic controllers (PLC); and supervisory control and data acquisition (SCADA) systems.	1
PS-EIA-SCA-101	Introduction to Supervisory Control and Data Acquisition (SCADA)	This course will teach you about Supervisory Control and Data Acquisition (SCADA) and Distributed Control Systems (DCS). SCADA function and basic elements are described, including HMIs, PLCs, and RTUs, along with SCADA communications.	0.75
PS-EIA-CSN-102	Network and Communication Systems	In Network and Communications, you will learn about communication networks, transmission modes, encoding, communication speeds, data error detection, common industrial communication standards and protocols, including HART, FOUNDATION Fieldbus, Modbus, and Profibus / PROFINET networks.	1.5
PSEIA-PNE-101	Pneumatic Control Systems	In Pneumatic Control Systems, you will learn about the fundamentals and basic components of a pneumatic control system including the flapper and nozzle mechanisms, booster relays, and pneumatic transmitters and controllers.	1
PS-MSO-PCS-101	Process Control Strategies	In Process Control Strategies, you will learn about process variables and instrumentation control systems including open loop systems, feedback control systems, feed-forward control systems, and Proportional-integral-derivative controller (PID).	1
PS-EIA-SIC-101	Safety in Instrumentation and Control Systems	In Safety in Instrumentation and Control Systems, you will learn about emergency shutdown systems, standards, safety system technologies, SIS architecture; system integrity levels (SIL), equipment failure modes and analysis, SIS factors, and procedures for overriding ESD and SIL systems.	3
PS-EIA-SCA-102	SCADA Operation	This course will teach you about Supervisory Control and Data Acquisition (SCADA) and Distributed Control Systems (DCS). SCADA function and basic elements are described, including HMIs, PLCs, and RTUs, along with SCADA communications.	1

INSTRUMENTATION & CONTROL

Control Systems (Continued)

Course #	Course Title	Description	Hrs
PS-EIA-SCS-101	Simple Control System (PLC)	In Simple Control Systems, you will learn about PLC fundamentals, including architecture, basic PLC control and programming, external functions and hardware; PLC maintenance, and general troubleshooting.	2

Custody Transfer

Course #	Course Title	Description	Hrs
PS-EIA-CSM-101	Custody Meters	In Custody Meters, you will learn about custody transfer systems, types of meters and metering components, meter accuracy and standards, flow meter applications, meter proving; and calibrating and troubleshooting custody meters.	3
A1535	Lease Automatic Custody Transfer (LACT)	Lease Automatic Custody Transfer is an introduction to the components and the functions of LACT units. The fundamentals of oil volume measurement are explained and then related to the operation of the individual LACT components. Meter reading and sample removal and analysis are covered in detail. The relationship of the producer and the gatherer is discussed. Throughout the program, measurement accuracy is emphasized.	3

Drawings & Diagrams

Course #	Course Title	Description	Hrs
A2067	Instrumentation: Process and Instrumentation Drawings	Through this program, you will gain knowledge about the types of diagrams used in process facilities, and about standard symbols utilized in instrumentation systems and learn how to effectively implement them.	2

Electrical Measurement

Course #	Course Title	Description	Hrs
PS-EIA-CDA-101	Conductivity Analyzers	In Conductivity Analyzers, you will learn about inductive and contactive conductivity measurement, effect of temperature on conductivity; and conductivity analyzer operation, installation, calibration, and troubleshooting.	1.5
PS-EIA-ELM-101	Electrical Level Measurement	In Electrical Level Measurement, you will learn about resistance, conductance, and capacitance level measurement; capacitance level probes, and calibrating and troubleshooting electrical level measurements.	1

Flow Measurement

Course #	Course Title	Description	Hrs
PS-EIA-DPR-101	Differential Pressure Flow Measurement	In Differential Pressure Flow Measurement, you will learn about fluid flow, flow conditioners, flow measurement, Reynold's Number and flow equation factors; orifice plate construction, types, designs, pressure taps, removing orifices; other flow meters; differential pressure transmitters; and calibrating and troubleshooting differential pressure flow meters.	2.5
PS-EIA-FGR-101	Flow Gauging (Rotameter)	In Flow Gauging (Rotameter), you will learn about measuring flow rate with a rotameter, glass, plastic, and metal types of rotameters, and fault conditions.	1
A2064	Instrumentation: Measuring Flow	In Measuring Flow, you will learn about flow rate and measurements, including differential pressure and positive displacement flow meters.	3
PS-EIA-MFM-101	Mass Flow Measurement	In Mass Flow Measurement you will learn about the features of coriolis and thermal mass meters, and how to calibrate and troubleshoot them.	1
PS-EIA-VMF-101	Volumetric Flow Measurement	In Volumetric Flow Measurement, you will learn about positive displacement and velocity flow meters, calibration, and troubleshooting.	1.5

INSTRUMENTATION & CONTROL

Lease Instrumentation

Course #	Course Title	Description	Hrs
A1570c	Lease Instrumentation: Control Equipment	In this course you will learn about regulators and controllers, pressure and temperature control, liquid level control and flow control.	4
A1570b	Lease Instrumentation: Final Control Devices	This course will teach you about valves and plugs, and valve operators.	2
A1570a	Lease Instrumentation: Sensing and Measuring Equipment	In this course, you will learn about pressure instruments, temperature and level instruments, and flow instruments.	3

Level Measurement

Course #	Course Title	Description	Hrs
PS-EIA-HHL-101	Hydrostatic Head Level Measurement	In Hydrostatic Head Level Measurement, you will learn about open and closed tank measurement, adjustments, zero suppression and zero elevation, dry and wet leg closed tank measurement.	1
PS-EIA-HHL-102	Hydrostatic Head Level Measurement - Device Troubleshooting and Calibration	In Hydrostatic Head Level Measurement - Device Calibration and Measurement, you will learn about calibrating techniques and troubleshooting errors and faults for instruments and devices dealing with hydrostatic head level measurement,	1
A2063	Instrumentation: Measuring Liquid Level	Effective control of liquid level is important to good process unit operation and safety. It is important that you understand how the different types of level measures function and how they can produce incorrect levels. In Measuring Liquid Level, you will learn about the different ways to measure liquid level.	3
PS-EIA-MLL-101	Microwave and Laser Level Measurement	In this course, you will learn about guided wave and non-contacting wave level measurement, laser level measurement, calibration and troubleshooting.	1.5
PS-EIA-PLS-101	Point Level Switches	In this course, you will learn about point and continuous level measurement; safety switch components, types of switches, including ball (float), displacer, vibrating point, ultrasonic, capacitance probe, conductive, and radiation or nuclear level switches; and how to calibrate and troubleshoot them.	1.5
PS-EIA-TGS-101	Sight and Float Gauging	In Sight and Float Gauging, you will learn about types of gauge glasses, magnetic level indicators, float and tape gauges; calibrating float and tape gauges; cleaning gauge glasses, and troubleshooting sight and float gauges.	2
PS-EIA-MLL-101	Tank Gauging System	In Tank Gauging System, you will learn about the float and tape and displacer and servomotor methods of tank gauging; displacer installation, output signals, calibration, and troubleshooting.	1.5
PS-EIA-ULM-101	Ultrasonic Level Measurement	This course will teach you about ultrasonic waves, measurement, installation, non-invasive transducers, calibration, and troubleshooting.	1

Measurement Fundamentals

Course #	Course Title	Description	Hrs
PS-EIA-ICA-101	Fundamentals Principles of Instrument Calibration	In this course, you will learn about a general calibration procedure and terminology, calibration standards, and the zero, span, linearity and hysteresis calibration errors.	0.5
PS-MSO-MEA-104	Introduction to Measurement: Density, Moisture, pH, and Conductivity	In this course, you will learn about density measurement, including buoyant force, differential pressure, frequency, and nuclear absorption; moisture measurement, including microwave, infrared, and capacitance measurement; pH measurement; and conductivity measurement, including measurement units and cell constant, and conductivity probes.	1.5

INSTRUMENTATION & CONTROL

Measurement Fundamentals (Continued)

Course #	Course Title	Description	Hrs
PS-MSO- MEA-103	Introduction to Measurement: Level and Flow	In this course, you will learn about direct and indirect measurement, indirect and direct level measuring instruments. Additionally, you will learn various types of measurement, such as volumetric and mass flow, differential pressure measurement, mechanical, electromagnetic and advanced flow measurement.	3
PS-MSO- MEA-102	Introduction to Measurement: Temperature and Pressure	In this course, you will learn about heat transfer, temperature scales and sensors; different types of pressure, pressure measurement primary standards (manometers and deadweight testers); and mechanical and electrical pressure sensors and gauges.	3
PS-EIA- MCB-101	Measurement and Calibration Basics	This course will teach you about measurement technology, including range, span, turndown ratio, accuracy, repeatability, linearity, resolution, hysteresis, error, measured and actual values; measurement devices, calibration terminology and equipment, and safety.	2

Pressure Measurement

Course #	Course Title	Description	Hrs
A2062	Instrumentation: Measuring Pressure	In Measuring Pressure, you will learn about the basics of measuring pressure, including the tools used for sensing pressure and pressure gauges.	3
PS-EIA- PRM-101	Pressure Measurement	In this course, you will learn about types of pressure, and thermodynamics, primary elements, such as bourdon tubes, bellows, diaphragms, capsules, piezoelectric sensors, and strain gauges; pneumatic instruments, pressure regulators; and device installation, calibration, and troubleshooting.	2

Tank Gauging

Course #	Course Title	Description	Hrs
A1196	Tank Gauging	In this course, you will learn about different types of tanks, safe work practices, and verifying the gauge. The course will also teach you about gauging equipment, gauging accuracy and procedures. Additionally, you will learn about sample containers, and sampling materials.	4

Temperature Measurement

Course #	Course Title	Description	Hrs
A2061	Instrumentation: Measuring Temperature	In Measuring Temperature, you will learn about instruments designed to sense temperature, including electrical temperature sensors.	2
PS-EIA- TPM-101	Temperature Measurement	In Temperature Measurement, you will learn about heat transfer, and temperature sensing devices, including thermometers, bimetallic strips, filled thermal systems, RTDs and thermistors, thermocouples and thermowells; calibration procedures, and troubleshooting.	2.5

MATH & SCIENCE FUNDAMENTALS

Basics of Mathematics

Course #	Course Title	Description	Hrs
A1130	Basic Mathematics	In Basic Mathematics, you will learn about the principles and operations involving mathematics within a process facility, including addition, subtraction, multiplication, and division of fractions and decimals. You will also learn about using percentages, ratios, proportions, and triangles to solve problems involving process plant activities, such as mixing liquids, determining actual amounts in storage, and angle fitting.	5

Basics of Hydrocarbon Chemistry

Course #	Course Title	Description	Hrs
A1181	Hydrocarbon Chemistry 101	In Hydrocarbon Chemistry 101, you will learn about basic hydrocarbon composition and properties; carbon and hydrocarbon bonding, and hydrocarbon structures. Finally, you will learn about single, double and triple bonds, isomers and ring hydrocarbons.	3
A1180	Process Plant Chemistry	In this program, you will learn about the basic chemistry behind the refining process. You will learn basic chemical terminology, molecular formulas, structural formulas, some common chemical symbols, and the various hydrocarbon groups used within the petrochemical industry.	2

Physics of Fluid & Flow

Course #	Course Title	Description	Hrs
A1610a	Fundamentals of Fluids for Production Operations: Fluid Behavior	In this program, you will learn about the types of fluids and their chemical and physical nature, the nature of phase, how phase change is used, and how it can be controlled. The program goes on to cover the instruments and units for measuring fluids. This includes units for measuring pressure, temperature, density, and viscosity. You will also learn about the nature of absolute measurements and how to convert measurements from one unit to another.	5
A1610b	Fundamentals of Fluids for Production Operations: Gases and Static Pressure	In this program, you will learn how to predict pressure, temperature, and volume changes that occur in gas compression and storage. You will also learn to recognize hazards in gas handling and the precautions used to avoid these hazards. This program also covers the nature, calculation, and uses of static pressure, including how to calculate pressure from liquid level and liquid level from bottom gauge pressure, the instruments that operate on the principle of static pressure, the nature and hazards of vacuum; and the uses of static pressure in handling and transporting fluids.	3
A1044	Mechanics of Fluids: Fluids in Motion	In Fluids in Motion, you will learn the factors affecting flow rate and how these can be controlled, the basic principles and instruments of flow measurement, and the control of rate through valves and through pumping.	4
A1041a	Mechanics of Fluids: Introduction to Process Fluids	This course will teach you about various fluid types and their chemical and physical properties. Topics covered include the compressibility of gases and the incompressibility of liquids. Additionally, you will delve into the nature of phases, explore the applications and control of phase changes, and gain insights into the fluid distillation process. The course also covers different types of fluid systems and emulsions.	4
A1041b	Mechanics of Fluids: Units of Fluid Measurement	Units of Fluid Measurement is a course that teaches you about the different ways to measure fluids. You will learn about pressure, temperature, density, gravity, and viscosity. You will also learn about absolute measurement and how to convert measurements from one unit to another.	4

MATH & SCIENCE FUNDAMENTALS

Physics of Fluid & Flow (Continued)

Course #	Course Title	Description	Hrs
A1042	Mechanics of Fluids: Behavior of Gases	In Behavior of Gases, you will learn how to predict the pressure, temperature, and volume changes that occur in the compression and storing of gases. You will also learn to recognize hazards in gas handling and the precautions used to avoid these hazards.	4
A1043	Mechanics of Fluids: Static Pressure and Head	This course will teach you about the nature of static pressure, how to calculate it, and how it is used. You will learn how to calculate pressure from liquid level, how to calculate liquid level from bottom gauge pressure, and about the instruments that operate on the principle of static pressure. You will also learn about the nature and hazards of vacuum, and how static pressure is used in handling and transporting fluids.	5

Physics of Gases & Compression

Course #	Course Title	Description	Hrs
A1051	Introduction To Compression	In this course, you will learn about the construction and operation of gas compressors. You will learn about the basic laws of gas behavior and the units of gas measurement. You will learn the nature of compression, including the compression ratio, the heat effects of compression, and the factors affecting compressor horsepower requirements.	4

Physics of Heat & Temperature

Course #	Course Title	Description	Hrs
A1023	Nature of Heat: Fuels and Combustion	This course covers the nature of combustion. Major topics include basic chemical reactions, combustion requirements, combustion of solid, gas and liquid fuels, combustion reactions, combustion control, and analysis of combustion products.	4
A1021	Nature of Heat: Heat and Temperature	This course introduces heat as a form of energy, describes its effects on the phases of matter, introduces the differences between amount of heat and intensity of heat, and describes heat of transformation. Evaporation, pressure considerations, superheat, specific heat, the thermal properties of refinery products, and temperature measurements and expansion are also described.	4
A1022	Nature of Heat: Heat Transfer	The subject of Heat Transfer covers three fundamental methods: conduction, convection, and radiation. This course also delves into topics such as heat transfer in furnaces, understanding heat transfer rates, and exploring various types of heat exchangers. These include fixed shell-and-tube, U-tube, and floating head designs.	2

MECHANICAL MAINTENANCE

Air Compressors

Course #	Course Title	Description	Hrs
A1050	Air Compressors	This course will teach you about the different types and applications used in the oil and gas industry including their principles of operation based upon Boyle's and Charles gas laws, reciprocating and rotary positive displacement compressors, and centrifugal, ejector and axial flow dynamic compressors.	1

Centrifugal Compressors

Course #	Course Title	Description	Hrs
A1053a	Centrifugal Compressors: Introduction	This course will teach you about energy and compression, compressor capacity, and compressor operations.	3
A1053b	Centrifugal Compressors: Construction and Operation	In this course you will learn about compressor construction, various types of seals, compressor systems, such as the oil circulating system and cooling system, and operation of compressors.	4

Centrifugal Pumps

Course #	Course Title	Description	Hrs
A1071b	Centrifugal Pumps: Equipment and Operation	This course will teach you about the construction of pump parts, including packing boxes, seals, bearings, balancing drums, and couplings. We will review maintenance of centrifugal pumps. We will explore the details of pump operation including start-up, normal operation, and shut-down. Additionally, we review common problems that arise during centrifugal pump operation.	4
A1071a	Centrifugal Pumps: Introduction	Centrifugal pumps are machines that use centrifugal force to move liquids. In this program, you will learn the principles, parts, and general operation of these pumps, what pump efficiency is, and how head and pressure are calculated.	4

Compressor Performance

Course #	Course Title	Description	Hrs
PS-MSO-GCP-201	Gas Compressor Performance	In Gas Compressor Performance, you will learn about performance differences between centrifugal, reciprocating, and screw compressors, including capacity, conditions that affect compressor performance, and pressure/volume (P/V) diagrams.	1

Condition Monitoring

Course #	Course Title	Description	Hrs
PS-MNT-CMO-105	Condition Monitoring - Agitators and Mixers	This course will teach you about energy and compression, compressor capacity, and compressor operations.	0.5
PS-MNT-CMO-102	Condition Monitoring - Compressors	In Condition Monitoring - Compressors, you will learn about centrifugal, axial, reciprocating, and screw compressor monitoring.	1
PS-MNT-CMO-103	Condition Monitoring - Pumps	In Condition Monitoring - Pumps, you will learn about centrifugal and positive displacement pump detectable faults and allowable vibration.	1
PS-MNT-CMO-104	Condition Monitoring - Turbines, Fans and Blowers	In Condition Monitoring - Turbines, Fans and Blowers, you will learn about turbine diagnostics, critical speeds, and vibration limits; common problems with fans and blowers.	1

MECHANICAL MAINTENANCE

Condition Monitoring (Continued)

Course #	Course Title	Description	Hrs
PS-MNT-RED-101	Rotating Equipment Condition Diagnosis	In Rotating Equipment Condition Diagnosis, you will learn about vibration theory, including harmonic motion, RMS vs. peak, time and frequency domain; FFT algorithms, frequency spans, spectrum, and measurement basics; accelerometers; vibration due to imbalance, misalignment, or looseness; gear problems; bearing failures; peak-vue analysis; severity charts and standards; oil analysis; and selecting measurement parameters to determine optimum maintenance intervals.	5

Coupling & Gears

Course #	Course Title	Description	Hrs
A1085b	Couplings, Gear Trains, and V-Belts: Gear Trains and V-Belt Drives	This course covers gear and V-belt drives, the physical principles of power transmission, and the relationship of speed and torque as different forms of power. Topics also include simple and compound gear trains, and how gear trains may be used as speed changers or torque increasers. We will delve into construction and applications for single and multiple V-belt drives, using V-belt drives as speed changers, adjusting and replacing V-belts, and controlling slippage.	4
A1085a	Couplings, Gear Trains, and V-Belts: Machine Connections and Couplings	This program covers how one-way drivers connect to driven equipment. You will learn about the special advantages and problems associated with couplings, and their adjustment and preventive maintenance requirements. This course will walk you through the causes and control of misalignment, end float, surges in torque, and the different basic types of rigid and flexible couplings.	3

Dynamic Compressors

Course #	Course Title	Description	Hrs
PS-MNT-DYC-102	Dynamic Compressor Systems, Seals and Routine Tasks	In Dynamic Compressor Systems, Seals and Routine Tasks, you will learn about compressor construction, systems, bearings, balancing drums, seals and routine tasks including safe startup and shutdown.	5
PS-MNT-DYC-101	Dynamic Compressors: Introduction and Operation	In Dynamic Compressors: Introduction and Operation, you will learn about energy and compression, centrifugal and axial compressors; compression ratio and capacity, head of compression, R, RPM, and horsepower.	4

Dynamic Pumps

Course #	Course Title	Description	Hrs
PS-MNT-DYP-101	Dynamic Pumps	In Dynamic Pumps, you will learn about fluid flow, dynamic pump properties and applications; installing, removing, and maintaining dynamic pumps; types of seals and seal maintenance; performing a major pump overhaul, and troubleshooting.	5
A1070	Introduction to Dynamic Pumps	In Introduction to Dynamic Pumps, you will learn about fluid flow, dynamic pump classifications and properties of the two dynamic pump types - axial and centrifugal.	1

MECHANICAL MAINTENANCE

Fans & Blowers

Course #	Course Title	Description	Hrs
PS-MNT-FBL-101	Fans and Blowers	In Fans and Blowers, you will learn about centrifugal, cross-flow, and axial flow fans, mechanical draft, positive displacement, and dynamic blowers; fan and blower system characteristics, and fan efficiency.	3
PS-MNT-FBL-102	Fans and Blowers Maintenance	In Fans and Blowers Maintenance, you will learn about performing routine and extended maintenance on fans and blowers, including belt, bearing, fan, motor, and other component inspections; fan and blower installation and removal; and assessment and troubleshooting.	2

Gas Compression Systems

Course #	Course Title	Description	Hrs
PS-MSO-SGC-201	Sales Gas Compressor Operation	In this course, you will learn about types of sales gas compressors, including double-acting reciprocating and centrifugal compressors; types of drivers; pre-start, startup, shutdown, and emergency shutdown procedures; and compressor maintenance.	1

Gas Turbines

Course #	Course Title	Description	Hrs
A1083b	Combustion Gas Turbines: Equipment and Operation	In this course, you will learn about the functions of casing seals, bearings and lubrication in a combustion gas turbine. The course also covers control and operation; start-up, operating, and shutdown procedures; and ways to control vibration, critical speed, and turbine imbalance. Finally, you will learn about temperature control, the use of turning gears, and turbine control using the automated control panel.	4
A1083a	Combustion Gas Turbines: Introduction	In this course, you will learn the operating principles of the compressor, the combustion chamber, and turbine section. You will also learn about the construction of the compressor, combustion chamber, and turbine section; the blading arrangement; and the use of the turbine as a driver and hot-gas generator. Also covered is turbine auxiliary equipment such as starting devices, governors, and overspeed mechanisms, and their functions.	4
PS-MNT-GTU-101	Gas Turbines for Technicians	In Gas Turbines for Technicians, you will learn about gas turbine classification, operation, components, and applications; routine and extended maintenance; and gas turbine troubleshooting, including lubrication, vibration, and efficiency problems.	5

HVAC System

Course #	Course Title	Description	Hrs
PS-MNT-HVC-102	Maintaining HVAC Systems	In Maintaining HVAC Systems, you will learn about the vapor compression cycle, HVAC components, window and package air conditioning unit maintenance; common mechanical faults and component malfunction troubleshooting.	4

Internal Combustion Engines

Course #	Course Title	Description	Hrs
A1084a	Internal Combustion Engines: Introduction	This course will teach you the principles of the internal combustion engine, and its general operation and parts. You will learn some of the more common cylinder arrangements, construction of an internal combustion engine, the natural gas admission system, safety devices, and the electrical system. You will learn how each of these parts functions as a part of the total engine. Finally, you will learn the principles of a diesel engine, how it operates and how it differs from the traditional IC engine.	4

MECHANICAL MAINTENANCE

Internal Combustion Engines (Continued)

Course #	Course Title	Description	Hrs
A1084b	Internal Combustion Engines: Operating Techniques	In this course, you will learn about IC engine auxiliary systems, including the cooling system, lubrication system, air cleaners, superchargers and exhaust systems. You will also learn typical engine start-up and shut-down procedures, and preventive maintenance procedures for daily, weekly, and monthly checks.	3
PS-MNT-SPP-101	Spark Plugs	In Spark Plugs, you will about learn the purpose, design characteristics and selection criteria of spark plugs; common failure causes; typical removal and installation procedures.	1

Mixers & Blenders

Course #	Course Title	Description	Hrs
PS-MNT-MXB-201	Mixers and Blenders	In Mixers and Blenders, you will learn about the difference between liquid and solid blending; solids mixing, including convective, shear, and diffusive mixing; fluids mixing, including bulk transport, molecular diffusion, and turbulent and laminar mixing; semi-solid mixing; advantages and disadvantages of batch and continuous mixing; types of mixing equipment, including blenders, agitators, and heavy duty mixers.	3

Positive Displacement Compressors

Course #	Course Title	Description	Hrs
A1052b	Positive Displacement Compressors: Construction and Operation	In the hydrocarbon processing and production industry, gas is compressed for transportation to consuming markets and for use in processing operations. This program is about the construction and operation of compressors. In this program you will learn the construction, principal parts, and operation of reciprocating compressors.	4
A1052a	Positive Displacement Compressors: Introduction	In the hydrocarbon processing and production industry, gas is compressed for transportation to consuming markets and for use in processing operations. This program is an introduction to positive displacement compressors. In this program you will learn the operating principles of reciprocating compressors, the different types of rotary compressors, and techniques for controlling compressor output.	3

Positive Displacement Pumps

Course #	Course Title	Description	Hrs
PS-MNT-PDP-101	Positive Displacement Pumps for Technicians	In Positive Displacement Pumps for Technicians, you will learn about pump classification, drives, pump installation and removal, routine maintenance, and troubleshooting.	3
A1072b	Positive Displacement Pumps: Equipment and Operation	This course offers and understanding of packing, lubrication, and cooling systems, the construction and operation of pump valves, pulsation dampeners and suction stabilizers, variable displacement devices and bypasses and relief valves. Additionally, you will learn startup and shutdown procedures, how to recognize and solve common pumping problems; and proper operating maintenance.	5
A1072a	Positive Displacement Pumps: Introduction	This course will teach you the operating principles and performance characteristics of positive displacement pumps, what determines their capacity, pressure, horsepower and efficiency, and how NPSH is calculated. You learn the basic types of reciprocating and rotary pumps, including piston pumps, plunger pumps, diaphragm pumps, direct-acting steam and air pumps, and rotary lobe, vane, gear and screw pumps, and how these pumps differ from each other in design and performance.	5

MECHANICAL MAINTENANCE

Reciprocating Compressors

Course #	Course Title	Description	Hrs
PS-MNT-RCO-101	Reciprocating Compressors	This course will teach you about positive displacement (PD) compressor performance, stages, and construction, lubricated compressors and labyrinth pistons; compression cycle and compression ratio, P-V diagrams, double-acting cylinders; capacity control; cylinder arrangement and components; lubrication and cylinder cooling systems; installing and maintaining reciprocating compressors; preventive maintenance, and troubleshooting.	5

Screw Compressors

Course #	Course Title	Description	Hrs
PS-MSO-SCC-101	Screw Compressor Components and Auxiliary Equipment	This course will teach you about screw compressor components, including rotors, bearings, balance piston, shaft seals, and stepless capacity control; along with auxiliary systems such as suction scrubbers, oil system, oil cooling, economizer, and utilities.	2

Steam Engines & Pumps

Course #	Course Title	Description	Hrs
A1086a	Steam Engines and Pumps: Introduction	This course will teach you about steam engine and pump basics, steam engine and pump valves, constructing steam engines and pumps, and steam engine control.	4
A1086b	Steam Engines and Pumps: Operation and Maintenance	This course will teach you about steam engine control systems, steam engine lubrication, operation and maintenance, and steam pumps.	4

Steam Turbines

Course #	Course Title	Description	Hrs
A1082b	Steam Turbines: Equipment and Operation	This course will teach you about turbine components; the oil circulation system; pre-start inspection; and turbine operation and operating problems. With this understanding of turbine principles, construction and control, you will be able to ensure the efficiency and safety of turbine operations.	4
A1082a	Steam Turbines: Introduction	In this course, you will learn how impulse and reaction turbines convert thermal energy to mechanical energy, how condensing and non-condensing turbines work, how turbine speed is controlled, and how the over-speed trip protects the turbine against failure of other speed controls.	4

OFFSHORE & SUBSEA SYSTEMS**Offshore & Subsea Systems**

Course #	Course Title	Description	Hrs
A1760	Offshore Systems	In Offshore Systems, you will learn about the Offshore Industry including it's history, types of offshore structures, topside facilities, subsea system and field architecture; fixed offshore platforms and floating production structures.	3
A1765	Subsea Systems	In this course, you will learn about the history and application of subsea systems and subsea wells; the characteristics of various subsea equipment including subsea tree systems, chokes, manifolds, control systems, connection systems, subsea flowlines and laying methods, risers, jumpers, umbilicals, and remotely operated vehicles.	3

OPERATOR / PLANT ADMINISTRATION

Best Practices

Course #	Course Title	Description	Hrs
A1100	Cost Reduction for Operators	In Cost Reduction for Operators, you will learn important strategies for reducing the waste of time, materials, and labor by running equipment at top efficiency and supporting a preventive maintenance program. Emphasis is placed on using instruments to accurately determine at which point in a process enough becomes too much. You will also learn ways to avoid fuel and steam waste, heat loss, waste of utilities, and ways to avoid excess equipment loss and repair through a preventive maintenance program.	2
A1137	Performing Skills Assessment	A performance assessment is a tool that is used to measure, maintain, and improve the behaviors associated with completing a task. In this program, you will learn how to assess job performance to ensure that each employee performs their assigned tasks in a safe manner.	1
A1200	Operator Responsibilities	In this course, you will learn about general duties, training, and task observance competency; safety (process, environmental, personal, fire, and chemical); and process and maintenance operations, including shift turnover responsibilities and unit checks. You will also learn about communication and documentation, including radio communication practices, log sheet entries, checklists, and permits.	1
PS-MNT-RAC-101	Reports and Communication	In Reports and Communication, you will learn about giving oral reports, including preparation, delivery, visual aids, and handouts; how to structure technical reports; and how to update and mark up diagrams and schematics.	1

Drawings and Diagrams

Course #	Course Title	Description	Hrs
PS-MNT-ENG-101	Engineering Drawings and Symbols	In this course, you will learn about the different types of engineering drawings, various drawing formats, and the types of symbols used.	0.5

General Operations Knowledge

Course #	Course Title	Description	Hrs
PS-EIA-EFA-101	EI&A Field Awareness	In EI&A Field Awareness, you will learn about electrical power systems, emergency power systems, AC and DC UPS; cathodic protection, heat tracing, lighting and grounding systems; types of instrumentation systems; types of analyzer systems, and hazard awareness.	4
PS-MSO-HAC-101	Fundamentals of Hazardous Area Classifications	This course will teach you about equipment protection classifications including explosive limits, flashpoint, auto-ignition temperature, ignition energy, and vapor density of material properties.	0.5
PS-EIA-HAP-101	Hazardous Area and Protection Classifications	In this course, you will learn about hazardous areas, the combustion triangle, determining area classifications; IEC and North American Protection Methods; and IP and NEMA equipment protection ratings.	2
PS-MSO-MEA-101	Introduction to Measurement: Measurement Basics and Standards	Understanding measurement is essential to performing work. In this first program, Measurement Basics and Standards, you will learn about the universal SI system, the rules for writing SI units, and how to make conversions between similar units and SI/Imperial conversions.	1

OPERATOR / PLANT ADMINISTRATION

Quality Assurance and Control

Course #	Course Title	Description	Hrs
A1090	Process Control Tests	This course will teach you how process control tests are used to aid in the production of high-quality products. You will learn about common tests: what they are, when they are used, and what the tests results mean. You will learn why products are tested, the different kinds of tests, how to obtain a good sample, and to interpret test results..	5
PS-MNT-EXE-102	Extruder Equipment Maintenance	In this course, you will learn about extruder maintenance, including dismantling and installing parts, inspection scheduling, and maintenance hazards; routine and extended maintenance checks, overhaul and replacement scheduling; and troubleshooting, including bearings and mixers.	4

PETROCHEMICAL PROCESS PLANT

Extruder

Course #	Course Title	Description	Hrs
PS-MNT-EXE-101	Extruder Equipment	In this course, you will learn about types of extruders, sections, components, and lubrication systems; safety and utilities; extruder operation, and building vacuum system.	1.5
PS-MNT-EXE-102	Extruder Equipment Maintenance	In this course, you will learn about extruder maintenance, including dismantling and installing parts, inspection scheduling, and maintenance hazards; routine and extended maintenance checks, overhaul and replacement scheduling; and troubleshooting, including bearings and mixers.	4

Hyper Compressor

Course #	Course Title	Description	Hrs
PS-MNT-HYP-101	Hyper Compressor	This course will teach you about hyper compressor key components, including HP and LP packing assemblies, cylinder lubricating system, plunger and central valve; safety devices; lubricating and cooling systems; performing basic and extended maintenance; detecting damage and troubleshooting.	2.5

Pellet Dryer

Course #	Course Title	Description	Hrs
PS-MNT-GPD-101	Gala Pellet Dryer for Technicians	This course will teach you about the pellet dryer process, lubrication, cleaning, inspection, and routine and extended maintenance, part replacement, and troubleshooting.	2.5

Pelletizers

Course #	Course Title	Description	Hrs
PS-MNT-PEL-101	Pelletizers	In this course, you will learn about pelletizer operation and components; process safety; routine and extended maintenance, including lubrication and inspection, bearing vibration and temperature data collection, pelletizer knife maintenance and shaft alignment, screen pack replacement; and troubleshooting.	4

Reactors

Course #	Course Title	Description	Hrs
PS-MNT-REA-101	Reactors	In Reactors, you will learn about reactor classification, preventative and routine maintenance, including external and internal inspections, EFS assessment for corrosion; enhanced inspection methods and repairs; and reactor troubleshooting.	1.5

Regenerative Thermal Oxider

Course #	Course Title	Description	Hrs
PS-MNT-RTO-101	Regenerative Thermal Oxidizer	In Regenerative Thermal Oxidizers, you will learn about waste gas treatment processes, oxidizer components, safety precautions, routine maintenance and troubleshooting.	2

Rotary Feeders

Course #	Course Title	Description	Hrs
PS-MNT-RFE-101	Rotary Feeder	In Rotary Feeder Maintenance, you will learn about routine and extended maintenance, rotary feed installation and removal; equipment faults, possible causes, and corrective measures.	1.5

PETROLEUM INDUSTRY OVERVIEW

Exploration & Production			
Course #	Course Title	Description	Hrs
PS-EPT-INO-107	Drilling Operations and Systems	In Drilling Operations and Systems, you will learn about well function, drilling history, onshore and offshore drilling, drilling programs, drilling rig components, and drilling systems; including drilling, rotating, fluid, and blowout prevention systems.	3
PS-EPT-INO-106	Exploration Rights and Surface/Subsurface Technologies	In Exploration Rights and Surface/Subsurface Technologies, you will learn about basins, plays, and risk analysis, mineral ownership, and contracts; surface exploration technologies, such as gravity, magnetic, and geochemical surveys, and seismic imaging and interpretation; and subsurface technologies such as mud logging, appraisal wells, coring, well logging, and drill stem testing.	3
PS-EPT-INO-110	Hydrocarbon Recovery	In Hydrocarbon Recovery Mechanisms, you will learn about primary recovery drives such as dissolved gas (solution gas) drive, water drive, gas cap expansion drive, and combination drives. You will also learn about enhanced oil recovery, including secondary and tertiary recoveries such as water flood, miscible flood, steam cycle, and steam drive, along with expected recovery efficiencies.	1
PS-EPT-INO-109	Production Technology: Flowing Wells and Artificial Lift	In Production Technology: Flowing Wells and Artificial Lift you will learn about production roles; artificial lift, including beam pumps, gas lift, and submersible pumps; and production logging and workover operations.	1
PS-EPT-INO-102	The E&P Asset Life Cycle	In The E&P Asset Life Cycle, you will learn about asset life cycle economics and the phases of the asset life cycle, including: exploration, appraisal, development and production, and mature production and enhanced oil recovery.	1
PS-EPT-INO-108	Well Completion and Stimulation	In Well Completion and Stimulation, you will learn about casing and cementing, wellhead installation, types of well completions, formation damage and well perforation, sand control problems and strategies, and well stimulation.	1.5

Gas Processing			
Course #	Course Title	Description	Hrs
PS-EPT-INO-114	Gas Processing Overview	In Gas Processing Overview, you will learn about salable products recoverable from raw, produced gas; gas composition and contaminants; sales gas specifications; gas sweetening and dehydration; hydrocarbon liquid products and extraction processes, Nitrogen removal and helium recovery; NGL fractionation/stabilization; NGL product treating; and sulfur recovery and disposal.	3

Industry Overview			
Course #	Course Title	Description	Hrs
PS-EPT-INO-101	Modern Oil and Gas Industry	In Modern Oil and Gas Industry, you will learn about the historical, geographical, and modern context of the petroleum industry; its organization, the petroleum value chain, and economic drivers.	2

PETROLEUM INDUSTRY OVERVIEW

Liquefied Natural Gas

Course #	Course Title	Description	Hrs
PS-EPT-INO-120	Introduction to LNG (Liquefied Natural Gas)	In "Introduction to LNG (Liquefied Natural Gas)," you will learn about different natural gas products, along with the advantages of LNG and its applications. The processes that occur at LNG terminals (receiving/unloading, storage, regasification, and transmission), and the LNG distribution network are also covered. Finally, you will learn about the natural gas and LNG value chains, gas processing, and the liquefaction process.	2

Midstream Industry Segment

Course #	Course Title	Description	Hrs
PS-EPT-INO-112	Overview of the Midstream Industry Segment	In Overview of the Midstream Industry segment, you will learn about the Petroleum Value Chain, the midstream segment, conventional and unconventional reservoirs, the crude oil and natural gas value chains and value chain investment trends; natural gas terminology, global energy demand and trade, gas production and contracts; and gas processing, including end use products, contaminants and sales gas specifications, gas conditioning, dehydration, hydrocarbon dewpoint control, NGL extraction and stability, and NGL product treating.	3

Oil & Gas Reservoirs

Course #	Course Title	Description	Hrs
PS-EPT-INO-104	Petroleum Geology	In Petroleum Geology, you will learn about Earth structure and plate tectonics; types of rocks, the rock cycle, clastic, biogenic, and chemical source sedimentary rocks; and historical geology, including superposition, index fossils, depositional environments, and global vs. regional stratigraphy.	4
PS-EPT-INO-105	Petroleum Reservoirs	In Petroleum Reservoirs, you will learn about basins and plays, unconventional resources, and petroleum systems; reservoir rock properties: porosity and permeability, grain size, distribution, and sorting; and fluid distribution and flow characteristics. You will also learn about structural and stratigraphic traps, reservoir mapping, reservoir phase behavior and fluid properties, reservoir classification, and phase diagrams.	5
PS-EPT-INO-103	Reservoir Fluids	In Reservoir Fluids, you will learn about reservoir fluids, physical and chemical properties, and the impact on these properties at reservoir and surface conditions.	1

Petrochemicals

Course #	Course Title	Description	Hrs
PS-EPT-INO-119	Introduction to Solvents	In this course, you will learn about basic solvent chemistry, its purpose and selection. Solvent chemistry, including types of bonds, electronegativity, and polar bonds are covered. Chemical and hydrocarbon solvent properties, are covered. Additionally, you will learn about solvent applications, such as paints, sealants, cleaners, and polishes; drilling and metalworking fluids; water treatment; pesticides; concrete release fluids, and heat transfer fluids.	2
PS-EPT-INO-118	Introduction to the Petrochemical Industry	This course will teach you about the processes and equipment that make up the petrochemical industry. You will be introduced to petrochemical products, including plastics, resins, fibers, and foams; base chemicals and their derivatives, and primary petrochemical feedstocks. You will also review petrochemical chemistry, and learn about petrochemical economic drivers. Finally, you will learn about petrochemical manufacturing; including refinery and chemical processes, such as cat cracking, reforming, isomerization, steam cracking, and extraction.	2

PETROLEUM INDUSTRY OVERVIEW

Petrochemicals *(Continued)*

Course #	Course Title	Description	Hrs
PS-EPT-INO-117	Steam Cracking	Steam cracking is the main production process for petrochemicals, including ethylene, propylene and butadiene. The process involves breaking long chain hydrocarbons into shorter chains. In “Steam Cracking”, you will learn about types of steam crackers and the functions performed in key areas, including the furnace, quench, compression, and chilling and separation sections. You will also learn about the difference between conversion and selectivity and the factors that affect ethane selectivity.	1

Pipeline Systems

Course #	Course Title	Description	Hrs
PS-EPT-INO-113	Pipelines and Storage Systems	In Pipelines and Storage Systems, you will learn about the different hydrocarbon transportation systems, advantages of pipelines, pipeline projects, pipeline construction and types of pipelines; pipeline system design and components; pipeline problems and protection; and pigging. In addition, you will learn about hydrocarbon storage systems for liquids and gases, including appropriate types of tank designs and use of depleted reservoirs and salt caverns.	2

Refining

Course #	Course Title	Description	Hrs
PS-EPT-INO-115	Fundamentals of Refining	In Fundamentals of Refining, you will learn about the refining industry as part of the downstream petroleum value chain including characteristics of crude oil and the refining products made from it, refining economics, a typical refinery configuration with its process streams and units.	2

Surface Processing

Course #	Course Title	Description	Hrs
PS-EPT-INO-111	Surface Processing of Produced Fluids	In Surface Processing of Produced Fluids, you will learn about the integrated production system, fluid separation, emulsion breaking, crude products, gas separation and natural gas processing, NGL usage, and natural gas conversion to LNG and GTL.	1

PIPELINE OPERATIONS

General Pipeline Operations

Course #	Course Title	Description	Hrs
PS-MSO-HYD-101	Hydrates	In Hydrates, you will learn about hydrate formation and detection; hydrate prevention equipment and methods, and handling hydrates.	1
PS-MSO-COM-101	Pipeline Commissioning	In Pipeline Commissioning, you will learn about dry and wet commissioning, pre-checks, the commissioning process, and completion.	1
PS-MSO-ISO-101	Pipeline Isolation	In Pipeline Isolation, you will learn about isolation pre-checks, isolating a pipeline, and potential hazards.	1
PS-MSO-PRG-101	Pipeline Purging with Nitrogen	In Pipeline Purging with Nitrogen, you will learn about Nitrogen purging pre-checks, initiating the purge, completing the purge, and purging hazards.	1
PS-MSO-RSS-101	Remote Pipeline Startup and Shutdown	In Remote Pipeline Startup and Shutdown, you will learn about remote pipeline pre-checks and startup steps, post-startup field checks, remote pipeline shutdown pre-checks, shutdown tasks, and potential hazards.	1

Pigging

Course #	Course Title	Description	Hrs
PS-MSO-PIG-101	Introduction to Pigging	In Introduction to Pigging, you will learn about pigging components, types of pigs, the pigging operation, safety, and troubleshooting a missing or stuck pig.	1
PS-MSO-PIG-102	Pig Launching and Receiving	In Pig Launching and Receiving, you will learn about pig launching and receiving pre-checks, preparing the trap barrel to launch or receive a pig, loading, launching, and receiving procedures; pig removal, returning the trap to normal, and potential hazards.	2
PS-MSO-PIG-104	Pipeline In-Line Inspection Tools	In Pipeline In-Line Inspection (ILI) Tools, you will learn about the function and of different types of in-line inspection tools, including magnetic flux leakage (MFL) tools; geometry/caliper tools, such as inertia mapping units (IMU) and multi-channel caliper units; crack detection tools, and potential hazards.	0.75
PS-MSO-PIG-103	Roto-Launch Automatic Multiple Pig Launcher	In this course, you will learn about the multiple pig launching system including system overview, benefits of a multiple launching system, rotary and “pig caddie” type launchers, isolation valve and pipeline adapter.	0.5

Pipeline Fundamentals

Course #	Course Title	Description	Hrs
PS-MSO-FPH-101	Flowing Pipeline Hydraulics	In this course, you will learn about calculating flowing pipeline hydraulics, including flow rate and friction factor, relative roughness and Reynold’s number, pressure drop, converting pressure profiles to hydraulic profiles and finding interface head and hydraulic gradient; how vapor pressure affects pipeline pressure, back pressure requirements in static and flowing pipelines, maximum operating pressure, and pipeline surge or “hammer”.	2
PS-MSO-IPH-101	Introduction to Pipeline Hydrocarbons	In Introduction to Pipeline Hydrocarbons, you will learn about natural gas and natural gas products; hydrocarbon compounds and isomers; natural gas impurities; crude oil molecular composition and classification; and oil sands and bitumen processing.	2
PS-MSO-BAT-101	Pipeline Batching	In Pipeline Batching, you will learn about batching operations, interface management, measurement devices, and field operations batching requirements.	1
PS-MSO-PFC-101	Pipeline Flow Characteristics and Static Pipeline Hydraulics	In this course, you will learn about pipeline flow, including multiphase flow, and types of liquid slugs and slug catchers; and static pipeline hydraulics, including specific and API gravity, pressure and elevation, calculating hydraulic gradient and static pressure, and the control point.	2

PIPELINE OPERATIONS

Pipeline Fundamentals *(Continued)*

Course #	Course Title	Description	Hrs
PS-MSO-PHM-101	Pipeline Hydrocarbon Measurement and Testing	This course will teach you about flow measurement, including flow rate, types of flow, pressure and factors that affect flow and flow meters; density measurement, including specific, API, and Baume gravity, and density measuring instruments; conductivity and turbidity measurement and turbidity meters; pH and pH meters; and dew point testing, including water and hydrocarbon dew point, cricondenthem temperature, and hydrocarbon dew point control and measurement.	5

Pipeline Systems

Course #	Course Title	Description	Hrs
PS-MSO-CIS-201	Chemical Injection Systems	In Chemical Injection Systems, you will learn about the function of chemical injection systems, injection method selection, components, and characteristics; and glycol use and typical injection points.	0.75
PS-MSO-IPS-101	Introduction to Pipeline Systems	In Introduction to Pipeline Systems, you will learn about pipeline design and components; monitoring pipelines with corrosion protection and pigging; and gas and liquid pipeline system storage and transportation.	2
PS-MSO-MOS-101	Mercaptan Odorizing Systems	In Mercaptan Odorizing Systems, you will learn about mercaptan properties, types of odorizing systems, mercaptan detection and hazards, and odorizing (stencing) a propane rail car.	1
PS-MSO-NDE-101	Non-Destructive Examination (NDE)	In Non-Destructive Examination (NDE), you will learn about the function and different types of NDE, including Ultrasonic Testing (UT), Radiographic Testing (RT), Magnetic Particle Inspection (MPI), and EDDY current testing.	0.5
PS-MSO-PBS-101	Pipeline Bridge Systems	In Pipeline Bridge Systems, you will learn the purpose for a pipeline bridge system crossing and inspection methods used to maintain a safe operating structure.	0.5
PS-MSO-CRS-101	Pipeline Crossings	In Pipeline Crossings, you will learn about types of pipeline crossings, roles and responsibilities, starting the process and possible hazards, right-of-way (ROW) activities, and hydrovac guidelines.	1
PS-MSO-IES-101	Pipeline Input/Feed and Export Systems	In Pipeline Input/Feed and Export Systems, you will learn about input/feed systems, LACT units, export systems, ESDs, and possible input/export system hazards.	1

PROCESS SAFETY

Emergency Planning & Response

Course #	Course Title	Description	Hrs
A1112	Fire Fighting: Extinguishing Agents	This course will teach you about the use of water, foam, carbon dioxide, dry chemicals, halons, and dry powders for controlling or extinguishing fires and for protecting men and equipment. You will also learn about proper hose handling and how to use small and large handlines, monitors, and fixed spray systems.	4
A1111	Fire Fighting: Fuels and Combustion	In this course, you will learn that fire is combustion requiring fuel, oxygen, and a source of ignition. You will also learn about the flammability of typical liquid and vapor fuels, the sources of oxygen, the sources of ignition, and the causes and effects of various kinds of explosions and detonations. Finally, you will learn the three ways of extinguishing fires—quenching, smothering, and starving—and the techniques of dispersing flammable vapors to keep them from igniting or re-igniting during a fire.	3
A1113	Fire Fighting: Portable Fire Extinguishers	In this course, you will learn about portable fire extinguishers, which are the first line of defense in many fire situations. This program covers how to select and operate them properly. You will also learn about the construction of CO2 and dry chemical extinguishers and how they are used for putting out small fires.	4
A1113b	Fire Fighting: Foams	In this course, you will learn about the use of foam for extinguishing large area flat fires, and how both chemical foams and air foams are prepared and applied.	?
A1114a	Fire Fighting: Tactics	The way you attack a fire depends on several different factors, including how the fuel is burning and the location of the fire. In this course, you will learn the tactics of hose handling, of operating valves under fire exposure, of using dry chemical and foam, and of protecting pressure vessels.	3
A1114b	Fire Fighting: Strategies	In this course, you will learn pre-fire planning and basic strategy. You will also learn strategies for fighting tank and dike fires. Finally, you will walk through a series of fire fighting exercises covering different types of fires.	3

Process Safety Management

Course #	Course Title	Description	Hrs
A5050	Introduction to Process Safety Management (PSM)	Introduction to Process Safety Management (PSM) is designed to help you meet the training requirements of OSHA 29 CFR 1910.119. You will learn about how PSM works to protect people and the environment and what you can do to prevent accidental releases.	0.75
PS-PSM-PSO-107	Process Safety in Operations: Audits and Key Performance Indicators	It is important to monitor systems and establish performance measurements so that we can improve. In Operations, the plant, procedures and practices can degrade over time. This program will review steps we take in order to be alert to changes and correct deficiencies.	0.5
PS-PSM-PSO-106	Process Safety in Operations: Emergency Response and Incident Investigation	The plant and facilities need to be prepared to deal with unforeseen events and have plant, equipment and procedures in place to mitigate the consequences of an incident. This is commonly referred to as an Emergency Response Program. This program reviews typical steps within emergency response and preparedness and how these take Process Safety into consideration. We also examine the importance of incident investigation in process safety.	1
PS-PSM-PSO-102	Process Safety in Operations: Hazards	In this program, you will review hazard identification within the Risk Assessment process and explore various hazards, material properties and reactions, and how these conditions and failures impact process safety. You will be introduced to the use of hazard scenario used when designing a plan and the tools used to identify hazards for Process Safety Management (PSM).	1

PROCESS SAFETY

Process Safety Management (Continued)

Course #	Course Title	Description	Hrs
PS-PSM-PSO-101	Process Safety in Operations: Introduction	Understanding Process Safety is important at all levels of the organization. This program introduces Process Safety in the industry, reviews global Process Safety incidents and consequences, and acquaints the learner with components of Process Safety Management (PSM) including concept design, detailed design and steps to manage Process Safety in operations.	0.75
PS-PSM-PSO-105	Process Safety in Operations: Management of Change	To ensure that change (equipment, procedural, or organizational) does not bring risk with it, we have processes for managing the change. Process Safety is a key piece throughout the required steps. This program will introduce change and the management of change in the plant in light of Process Safety Management.	0.75
PS-PSM-PSO-104	Process Safety in Operations: Projects, Construction and Operations	From an Operations perspective, process safety is critical. This program will review the role of Process Safety during Project initiation and construction phase into Operations. Operations teams must operate, inspect and maintain the equipment, plant and risk reduction measures to ensure they are working effectively in order to manage the risk of a major incident.	1.5
PS-PSM-PSO-103	Process Safety in Operations: Risk Management	Once we have identified hazards and scenarios, we move toward Risk Assessment and Risk Management steps to reduce risks and identify barriers of protection. In this program you will be introduced to the role of Risk Analysis in the Risk Assessment process and become acquainted with key Risk Analysis tools. With these tools, we will review and select risk reduction measures and how to use the Bow-Tie model and its use in Risk Management.	1.5

Safe Work Practices

Course #	Course Title	Description	Hrs
A1197	Job Hazard Analysis and Stop Work Authority	Working within the process industry can result in exceptionally high safety risks, and employers put programs in place to reduce the likelihood of accidents and injuries. Job Safety Analysis (JSA) and Stop Work Authority (SWA) require all employees to watch for safety risks and potential hazards. In this program, you will learn about JSAs and SWA and how you can help implement both.	1
A1170	Safe Handling of Light Ends	In this program, you will learn the physical properties of gaseous hydrocarbons that create hazards, and the special handling and safety procedures that are required.	3
A1190	Safe Laboratory Operations	This course will teach you about fires and hazards in the lab, the handling of hazardous materials, hazards associated with glassware, as well as personal protective equipment and mechanical safeguards. You will learn about practical safety information on a variety of specific tests and test equipment.	4

PRODUCTION OPERATIONS

Artificial Lifts

Course #	Course Title	Description	Hrs
A1545a	Electrical Centrifugal Subsurface Pumps: Equipment	This program first reviews the reasons for artificial lift. Then, it explains the principles of a centrifugal pump and how such a pump can lift well fluids. The program shows the location of pumping system equipment, both at the surface and downhole. Then the program details the specifics of the downhole equipment and its operation. Once downhole operations are covered, the function of the motor control panel and other surface equipment is described. And finally, the careful handling of electrical cable is discussed.	4
A1545b	Electrical Centrifugal Subsurface Pumps: Ammeter Recording and Charts	In this program, you will learn that routine ammeter chart reading and prompt reporting of pumping system problems are ways to minimize maintenance costs. You will also learn how to read ammeter charts and how to avoid some common operating problems.	2
A1560b	Gas Lift: Equipment	The injection of gas into the well fluids in the tubing of an oil well is one method of artificial lift. Gas Lift is a series of three learning programs describing this method in detail. In Gas Lift: Equipment, you will learn specifics about the equipment used in gas lift operations, including monitoring and measuring equipment, gas lift valves, mandrels, fluid pressure operated valves, reverse check valves, and bottomhole installations.	3
A1560a	Gas Lift: Fundamentals	The injection of gas into the well fluids in the tubing of an oil well is one method of artificial lift. Gas Lift is a series of three learning programs describing this method in detail. Fundamentals introduces the characteristics of reservoirs that affect production: formations, porosity, and permeability, and goes on to discuss wellbore installations and gas lift equipment.	2
A1560c	Gas Lift: Operating Techniques	The injection of gas into the well fluids in the tubing of an oil well is one method of artificial lift. Gas Lift is a series of three learning programs describing this method in detail. In Operating Techniques, you will learn about gas lift operations, including, operating efficiency, unloading and controlling both continuous and intermittent flow wells, and reading two-pen recorder charts.	3
A1550a	Hydraulic Subsurface Pumping Systems: Downhole Pumps and Engines	This course will teach the basic hydraulic principles of power transmission and how they are used in the operation of downhole pumps. You will learn about the three basic hydraulic engines and pumps and how they can be combined for the most effective operation, and how power fluid application is controlled and transmitted by pump valves.	4
A1550c	Hydraulic Subsurface Pumping Systems: Installation and Testing	This course elaborates on downhole conditions that determine pump installation practices and the use of gas anchors and mud anchors. The program discusses how these devices affect pump performance. It also discusses other devices that combat the problems of paraffin and scale. Because power fluid quality strongly affects pump life, this program also focuses on power fluid handling and conditioning.	2
A1550d	Hydraulic Subsurface Pumping Systems: Pump Performance	In Pump Performance, you will learn to calculate pump and engine efficiency and learn various pump monitoring techniques, including: last stroke pressure to indicate fluid level and pump condition; metering production; and pressure checks for casing and standing valve leaks.	2
A1550b	Hydraulic Subsurface Pumping Systems: Surface and Tubing Equipment	This course will teach you about the surface equipment that supplies and regulates the flow of power fluid. The program describes the characteristics and advantages of various tubing arrangements and how different tubing-pump arrangements are run in the hole. The program also discusses special downhole equipment used to maximize pump performance.	5
A1421a	Well Pumping: Introduction to Sucker-Rod Systems	In this course, you will learn about fluid behavior in a well, and about the six principle methods of secondary recovery—when they are used, and how they work.	3
A1423b	Well Pumping: Operating Sucker-Rods	In this course, you will learn how to start-up, inspect, and shut down a sucker-rod walking beam assembly. You will study some typical operating problems and decide how they should be solved. And, you will learn how to make minor repairs	3

PRODUCTION OPERATIONS

Artificial Lifts (Continued)

Course #	Course Title	Description	Hrs
A1422	Well Pumping: Sucker-Rod Pump Performance	This course is about the well factors that affect the pump's efficiency and how to control them: how gas anchors work, and when to use them; how to control sand and other solids in the fluid, when to increase or decrease submergence, and when to use back pressure control, how to control heading, to detect and control pounding, and to break a gas lock.	4
A1423a	Well Pumping: Sucker-Rod Surface Equipment	In this course, you will learn about walking beam assemblies and hydraulic pumping units, either of which can be used to operate a sucker-rod pump. You will learn the principles behind the counterbalance system, and how the balance is adjusted on each kind of sucker-rod surface pumping unit.	4
A1421b	Well Pumping: Sucker-Rod Systems	In this course, you will learn about the pumps, rods, and other subsurface equipment used in sucker-rod pumping systems. You will learn about the different types of pump design, and the kinds of rods and couplings used. You will learn how rod stretch and tubing stretch affect the rods and the pump.	3

Gas Flow Measurements

Course #	Course Title	Description	Hrs
A1465	Gas Measurement: Electronic Flow Measurement	In this program, you will learn about the components that make up an electronic flow measurement system. You will learn how the major components operate and how to maintain them, and you will learn to read and interpret generic EFM computer printout sheets. The program also provides a comparison of the advantages and disadvantages of EFM to traditional chart-recording meters.	2
A1462a	Gas Measurement: Equipment and Calculations	In this course, you will learn about differential pressure within a flowing fluid. the course defines and discusses rate, velocity and critical flow of a fluid. You will learn about the basic operation of, and the method of measuring with pilot tubes, permanently installed pilot tubes, calibrated choke nipples, orifice well testers, and critical flow provers. We also cover topics on various types of meters, as well as proving with test meters, with low-pressure flow provers, and critical flow meter proving.	6
A1461	Gas Measurement: Fundamentals	This course teaches the relationships between gas pressure, temperature and volume. You will also learn about different types of gas laws. We will teach you the difference between real and ideal gases. The program also explains absolute, gauge and atmospheric pressures, the difference between a temperature scale and its absolute equivalent. Additionally, you will learn about the concepts of specific gravity and density. The problem of calculating standard volume from measured volume provides a practical focus for the theory and concepts.	3
A1462c	Gas Measurement: Orifice Flow Calculations	Orifice Flow Calculations is an in-depth program covering the measurement of gases flowing through orifice meters. You will learn about the orifice flow rate equation and the eleven factors in the orifice meter flow constant. Tables are provided for the factors so you can work through the field measurement problems.	4
A1462b	Gas Measurement: Orifice Meters	Orifice Meters introduces the learner to the behavior and measurement of gases flowing through an orifice meter. This course covers the American Gas Association's (AGA's) installation recommendations for orifice meters, including both mercury manometer-type and bellows-type meters. Also covered is the operation, inspection, and maintenance of pressure and temperature recorders and recorder-chart handling; auxiliary equipment; and gas measurement economics, including the cost of vented gas loss.	4
A1466	Gas Measurement: Witnessing	In this program, you will learn about the major responsibilities of the witness during an orifice meter test. This program covers the equipment and supplies needed to witness an orifice meter test; identifies what components should be checked during a witnessing session; describes the proper methods for calibrating temperature, static, and differential pressure elements; and describes the required checks for the orifice plate and fitting.	2

PRODUCTION OPERATIONS

Process Safety Management

Course #	Course Title	Description	Hrs
A1638	SEMS Standard and Requirements	In SEMS Standards and Requirements, you will learn about the Bureau of Ocean Energy Management (BOEM) and Bureau of Safety Environmental Enforcement (BSEE) regulations established in 30 CFR, 250, Subpart S.	1

Production Facilities

Course #	Course Title	Description	Hrs
A1600	Production Facility Gas Processing	In this course, we discuss basic principles on which most refrigerated gas processing plants operate. We will discover how natural gas is formed, its composition and contaminants it contains. You will learn about different types of separators in addition to different options for crude oil dehydration. Additionally, you will learn about NGL extraction and the different extraction technologies available, ending the section with the Claus unit.	4

PSST (T2)

Course #	Course Title	Description	Hrs
A1630	Oil and Gas Production Overview	In this course, you will learn about the basic geology and fluid science of oil and gas production, including liquid separation. Operators will also learn about well equipment and oil and gas processing systems. This course is designed for operators who require a basic understanding of offshore oil and gas production, processing and equipment.	3
A1634	Process Component Safety Analysis and System Testing	In this course, you will learn about process component safety analysis, safety analysis checklists and safety analysis function evaluation charts. This course also includes topics covering out-of-service procedures and safety system testing. This program is designed for Production Foremen, Senior (Lead) Operators, "A" Operators, Instrument and Electrical Technicians, and/or other positions.	4
A1631	Production Safety Equipment and Support Systems	In this course, you will learn about process components, variables, and safety devices involved in offshore oil and gas production. Operators will also learn about safety requirements specified in API's Recommended Practice 14C, including identifying undesirable events, reading and interpreting Safety Flow Charts, and identifying components of the Emergency Shutdown System.	5
A1633	Production Safety Systems Regulations and Device Identification	In this course, you will learn about the regulations governing safety systems and the different types of safety devices found on offshore process components. This program is designed for "B" Operators, Instrument and Electrical Technicians, "A" Operators, Senior (Lead) Operators, Production Foremen and/or other positions.	2
A1639	Reducing Marine Trash and Debris	Reducing Marine Trash and Debris is designed to help you meet the training requirements of 30 CFR 250.300 (a) and (b)(6). It covers information related to marine trash and debris in offshore environments, including how to report pollution, and how to prevent it.	1
A1635	Safety Device Operation	This course will teach you about pressure devices, level and flow devices. Additionally, you will learn about safety and shutdown valves, and fire and gas detection auxiliary devices. This program is designed for Production Foremen, Senior (Lead) Operators, "A" Operators, Instrument and Electrical Technicians, and/or other positions.	4
A1636	Testing and Setting Safety Devices	In this course, you will learn how to test the operating performance of a safety device in each major class of surface and subsurface safety devices. Operators will also learn how to properly adjust, calibrate or reset these devices. This program is designed for Production Foremen, Senior (Lead) Operators, Instrument and Electrical Technicians, and/or other positions.	4

PRODUCTION OPERATIONS

PSST (T2) (Continued)

Course #	Course Title	Description	Hrs
A1632	Well Control and Production Safety Regulations	This course will teach you about regulatory requirements governing well control and production safety duties specified in 30 CFR 250, including pollution prevention requirements, well completion requirements, and oil and gas drilling requirements. This course is designed for Mechanics and Electricians, "B" Operators, Instrument and Electrical Technicians, "A" Operators, Senior (Lead) Operators, Production Foremen and/or other positions.	3

Water Treatment

Course #	Course Title	Description	Hrs
A1575c	Water Treatment and Disposal: Facilities and Testing	In Facilities and Testing, you will learn about water storage and disposal, and water testing.	2
A1575a	Water Treatment and Disposal: Fundamentals	In this course, you will learn about the fluids found in reservoirs, scale deposits, and corrosion and microorganisms.	3
A1575b	Water Treatment and Disposal: Processes and Equipment	In Processes and Equipment, you will learn about gas exchange and degasification equipment, coagulation and sedimentation, and filters.	3

Well System Performance

Course #	Course Title	Description	Hrs
A1413c	Flowing Wells: Chokes	In this course, you will learn about the kinds of chokes used at a wellhead to control flowing wells, how they are installed, and how they are adjusted. You will also learn how to select the choke size needed for any particular well.	3
A1411	Flowing Wells: Introduction to Pressure and Flow	This course will teach you about the basic properties of fluids and the nature and causes of fluid pressure. You will also learn the factors that affect the flow rate of fluids and the basic principles of flow control.	4
A1414	Flowing Wells: Operating Flowing Wells	In this program, you will learn how to open the well, how to shut it in, how to stop-cock a heading well, and how to equalize a well to return it to flow. You will also learn to identify and solve problems likely to occur in flowing wells.	3
A1413b	Flowing Wells: Packers and Valves	In this course, you will learn about the types, function, and installation of packers in a producing well. You will also learn about the installation, function, and construction of surface valves and auxiliary equipment.	3
A1413a	Flowing Wells: The Wellhead, Wellbore, and Christmas Tree	In this course, you will learn about the structure of a producing well and the location and function of wellhead and wellbore equipment. Finally, you will learn about the components of the Christmas Tree.	3
A1412	Flowing Wells: Pressure and Flow in Producing Wells	In this course, you will learn to analyze wellbore pressures and predict their changes. You will learn to recognize the flow patterns that develop in producing wells, and how pressure drops affect flowing fluids. Finally, you will learn about the conditions that lead to solid deposits in the wellbore and surface lines.	4
A1481	Emulsions	In Emulsions, you will learn how emulsions are formed and how stable emulsions are broken by chemical treatment.	1
A1555a	Heater Treaters: Fundamentals	This course introduces you to the treatment given to crude oil as it is produced. The program covers how emulsions are formed and how stable emulsions are broken by chemical treatment. The program also introduces you to the basics of heater treater construction and operation.	3
A1555b	Heater Treaters: Types and Operation	The subject of Heater Treaters covers the construction and operation of horizontal heater treaters, thermal-electric horizontal heater treaters, and vertical heater treaters. The program also covers troubleshooting and heater treater operating economy.	3

PRODUCTION OPERATIONS

Well System Performance (Continued)

Course #	Course Title	Description	Hrs
A1452	Oil Well Performance and Surveillance: Equipment	In Oil Well Performance and Surveillance Series: Equipment, you will learn about production equipment, pump equipment maintenance, and gas lift wells.	3
A1451a	Oil Well Performance and Surveillance: Fundamentals	This course will teach you the fundamental factors that determine how oil wells can be produced. It covers such basic topics as reservoir pressure, porosity, permeability, viscosity, and multiphase fluid flow, and how these factors affect the well production process. You will also learn about important topics such as the skin effect, productivity index, and inflow performance relationship.	4
A1451b	Oil Well Performance and Surveillance: Testing	In this course, you will learn the importance of accurate record keeping, the necessity for accurate well tests and how to make them, and basic preventative maintenance and troubleshooting procedures.	3

REFINERY OPERATIONS

Catalytic Reformer

Course #	Course Title	Description	Hrs
A1096	Catalytic Reforming	In this course on catalytic reforming, you will learn about the equipment in a reformer unit and how it operates, how to maximize product yields and quality, and your duties as a catalytic reformer operator.	5

Coker Operations

Course #	Course Title	Description	Hrs
PS-REF-COK-104	SYDEC Delayed Coking Process Auxiliary Equipment	In this program, you will learn about coker unit auxiliary equipment related to the fractionator and the code drums, including coke cutting and handling.	2
PS-REF-COK-105	SYDEC Delayed Coking Process Consequences of Deviation	In this program, you will learn how to prevent an abnormal operation in the coker unit, including within the fractionator. You will also learn about hazards specific to the coking process.	2
PS-REF-COK-103	SYDEC Delayed Coking Process Overview	In this program, you will learn about the process flow through the fractionator, heater, and code drums. You will also learn about operating procedures and gas plant operations.	7
PS-REF-COK-101	SYDEC Delayed Coking Process Overview	In this program, you will learn about the basics of SYDEC delayed coking, including coker systems, process flow, and chemistry.	3
PS-REF-COK-102	SYDEC Delayed Coking Process Primary Equipment	In this program, you will learn about the primary equipment involved in the SYDEC delayed coking process, including the fractionator, heater, coke drum, and gas plant equipment.	5
PS-REF-COK-106	SYDEC Delayed Coking Process: Process Hazards	In this program, you will learn how to about the process hazards in the coking process.	1

Distillation

Course #	Course Title	Description	Hrs
A1012c	Practical Distillation: Abnormal Operation and Tower Safety	In this course, you will learn to recognize the symptoms of abnormal fractionating tower operation and how to make corrections by collecting data, considering the problem, safely correcting the operation, and checking the results. The course also covers abnormal tower conditions, including the hazards and problems associated with foreign deposits and liquid traps during tower operations.	3
A1012b	Practical Distillation: Complex Towers	In this course, you will learn about various complex tower configurations and the functions of side draws, side stripper towers, and pumparound circuits. This course also explains how the liquid and vapor traffic change inside a complex tower. You will learn how changes in a single parameter can affect the rest of a complex tower, and how to adjust the tower to meet product specifications.	3
A1014	Practical Distillation: Operating Problems	In this course, you will apply what you've learned about distillation to solve operating problems under normal conditions. Pay close attention to practice scenarios and compare the current data with the data presented.	4
A1011a	Practical Distillation: Properties and Basic Fractionation Concepts	Practical Distillation: Properties and Basic Fractionation Concepts begins by explaining how crude oil is processed. Next, it discusses the different properties of oil, giving special attention to the properties often referred to or measured in the refining process. This course will also provide you with a general knowledge of how the properties affect the distillation process.	3
A1012a	Practical Distillation: Simple Towers	This course covers basic fractionating equipment and the process of maintaining the material and energy balance in the tower. You will also learn how to control the normal operation of a fractionating tower. This includes collecting data, considering the problem, correcting the operation, and checking the results.	4

REFINERY OPERATIONS

Distillation (Continued)

Course #	Course Title	Description	Hrs
A1013	Practical Distillation: Special Fractionation Applications and Computerized Control	In this course you will explore the fundamental principles of distillation in this comprehensive course. You'll learn about control procedures for both normal and abnormal operations, delve into extractive and azeotropic distillation techniques, and master shutdown and startup protocols. Additionally, you will gain insights into computer-controlled distillation columns and understand the roles of absorber, stripper, and absorber-stripper towers, including challenges unique to the absorber-stripper tower.	4
A1011b	Practical Distillation: Tower Auxiliary Equipment and Internals	This course covers auxiliary fractionating equipment and operating fractional towers, including shutdown, cleaning, and testing. You will learn how heat balance adjustments affect product composition. Additionally, you will be introduced to several different types of columns and the basic instrumentation used to control a distillation tower. The distillation columns and related equipment shown in this program may not be the same as the columns and equipment used in your plant. However, the principles and practices presented in this program are applicable to any normal distillation process.	3

FCC

Course #	Course Title	Description	Hrs
A1095	Fluid Catalytic Cracking	In this course, you will learn about cat cracking unit equipment and how it operates. You will also learn how the unit operating variables affect conversion and product yields. Finally, you will learn about methods you can use to identify and correct abnormal operating problems.	5
PS-REF-FCC-106	Fluid Catalytic Cracking Abnormal Operations	In the Abnormal Operations module of the Fluid Catalytic Cracking series, you will learn how to properly respond to process problems.	1
PS-REF-FCC-104	Fluid Catalytic Cracking Auxiliary Equipment	In the Auxiliary Equipment module of the Fluid Catalytic Cracking series, you will learn about the equipment used in fluid catalytic cracking operation, including the feed preheat system, the flue gas system, catalyst storage and handling, and refinery headers.	4
PS-REF-FCC-105	Fluid Catalytic Cracking Consequences of Deviation	In the Consequences of Deviation module of the Fluid Catalytic Cracking series, you will learn about how to prevent and react to improper system operation, including equipment problems. You will also learn about events inside and outside that can adversely affect the fluid catalytic cracking operation.	4
PS-REF-FCC-103	Fluid Catalytic Cracking Key Process Variables	In the Key Process Variables module of the Fluid Catalytic Cracking series, you will learn about the variables and conditions that can impact fluid catalytic cracking operations and how those variables are controlled.	3
PS-REF-FCC-102	Fluid Catalytic Cracking Primary Equipment	In the Primary Equipment module of the Fluid Catalytic Cracking series, you will learn about the main components of the FCC process: the reactor, regenerator, and fractionator.	4
PS-REF-FCC-107	Fluid Catalytic Cracking Process Hazards	In the Process Hazards module of the Fluid Catalytic Cracking series, you will learn about how to work safely with a fluid catalytic cracker, including its unique process hazards, its safety systems and equipment, pressure integrity, and handling hot steam condensate.	4
PS-REF-FCC-101	Fluid Catalytic Cracking Process Overview	In the Process Overview module of the Fluid Catalytic Cracking series, you will learn about the basic function of fluid catalytic cracking, including process chemistry, and fluid catalytic cracking equipment and systems.	2

REFINERY OPERATIONS

Gasoline Blending

Course #	Course Title	Description	Hrs
PS-REF-GAS-101	Gasoline Blending Operations	In this program, you will learn about the process and operations involved in gasoline blending, including the metrics and cost of a blend, blending systems, quality tests, and the mathematics of gasoline blending.	51

Refinery Overview

Course #	Course Title	Description	Hrs
PS-REF-OVR-104	Refinery Process Overview: Catalytic Reforming	This course will teach you the basics of catalytic reforming, catalytic equipment, and the reforming process.	2
PS-REF-OVR-103	Refinery Process Overview: Fluid Catalytic Cracking	The primary function of the fluid catalytic cracking (FCC) process is to convert larger, higher-boiling hydrocarbon molecules, such as gas oils and residues, to smaller, lower-boiling, higher-value molecules, which can be used for transportation fuels and other petrochemicals; here we will review the equipment used in an FCC.	4
PS-REF-OVR-106	Refinery Process Overview: Gasoline Blending	In this course, you will learn about octane and be able to identify its economic costs. You will also be introduced to Reid Vapor Pressure and its characteristics. Additionally, we will cover gasoline blending systems.	2
PS-REF-OVR-101	Refinery Process Overview: Introduction	In this course, you will learn about refining operations and the products manufactured in a refining facility. You will also be introduced to crude distillation and gain a basic understanding of the systems within these facilities.	2
PS-REF-OVR-107	Refinery Process Overview: Refinery Process Hazards	In this course, you will learn about refining operations and the hazards they pose. You will also be introduced both simple and complex refineries, and gain a basic understanding of the systems within these facilities.	4
PS-REF-OVR-102	Refinery Process Overview: Crude Distillation	In this course, you will learn about the basic distillation process, including the function of the distillation tower. You will also be introduced to both steady and unsteady state distillation.	2
PS-REF-OVR-105	Sulfur Recovery and Tail Gas Processing Overview	This course will teach you about the primary purpose of the sulfur recovery unit, including a process chemistry, and an overview of the tail gas process.	4

Solvent Deasphalting

Course #	Course Title	Description	Hrs
PS-REF-SDA-101	Introduction to Solvent Deasphalting	In Introduction to Solvent Deasphalting, you will learn the purpose and function of the Solvent Deasphalting (SDA) unit within a refinery, the main steps in the SDA process, its principal products, and the main chemical reactions.	1
PS-REF-SDA-105	Solvent Deasphalting Analytical Methods and Sample Frequency	In Solvent Deasphalting Analytical Methods and Sample Frequency, you will learn about the testing types, frequencies and methods in the solvent deasphalting unit.	0.5
PS-REF-SDA-102	Solvent Deasphalting Primary Equipment	In this course, you will learn about primary solvent deasphalting equipment, including extraction, resin recovery, DAO recovery, pitch recovery, and solvent recovery. In addition you will learn about the SDA's primary recovery equipment including the resin settler, resin feed flash drum, resin stripper, DAO stripper, flash drum, separator, pitch stripper, pitch stripper feed flash drum, hot oil heater, hot oil drum, the solvent drum and coolers.	2
PS-REF-SDA-104	Solvent Deasphalting Process Operations	In Solvent Deasphalting Process Operations, you will learn about solvent flow through the SDA unit and process flow through the extractor, the DAO separator and stripper, resin stripper and pitch stripper.	1
PS-REF-SDA-103	Solvent Deasphalting Process Variables	In Solvent Deasphalting Process Variables, you will learn about SDA process variables including extraction system temperature, feed composition, and pressure requirements; and SDA solvent process variables including solvent recovery variables, solvent composition importance, solvent-to-oil ratio importance and solvent handling.	1

REFINERY OPERATIONS

Solvent Deasphalting (Continued)

Course #	Course Title	Description	Hrs
PS-REF-SDA-106	Solvent Deasphalting Unit Hazards	In Solvent Deasphalting Unit Hazards, you will learn about the process hazards in the SDA unit including safely responding to emergency situations, hydrocarbon and hydrogen sulfide hazards unique to SDA operations, and the chemical and other hazards present.	0.75

Sulfuric Acid Plant

Course #	Course Title	Description	Hrs
PS-REF-SAP-103	Sulfuric Acid Plant: Auxiliary Equipment	In the Auxiliary Equipment module of the Sulfuric Acid Plant series, you will learn about sulfur and acid storage, sulfur pumps, and the economizer.	1
PS-REF-SAP-101	Sulfuric Acid Plant: Introduction and Process Overview	In the Process Overview module of the Sulfuric Acid Plant series, you will learn about characteristics, uses, and types of sulfuric acid; and the production and chemical processes used to manufacture it.	2
PS-REF-SAP-102	Sulfuric Acid Plant: Primary Equipment	In the Primary Equipment module of the Sulfuric Acid Plant series, you will learn about the main components of the sulfuric acid plant including the drying tower, sulfur burner, converter, absorption towers, and the associated heating and cooling equipment.	2
PS-REF-SAP-104	Sulfuric Acid Plant: Process Safety	In the Process Safety module of the Sulfuric Acid Plant series, you will learn about how to work safely with in the sulfuric acid plant, including its unique process hazards, firefighting measures, spill containment, emissions, and acid mist removal.	1

Turnaround

Course #	Course Title	Description	Hrs
PS-REF-TUR-101	Turnaround Operations	During process operations, equipment becomes less flexible and increasingly unable to reach maximum production capacity because operating conditions deteriorate. To keep conditions optimal for production, process facilities schedule turnaround (T/A) operations to restore unit operating capabilities. In this series, you will learn about T/A operations, how they are implemented, and the overall impact a turnaround operation has on facility costs.	5

STATIONARY EQUIPMENT

Boilers

Course #	Course Title	Description	Hrs
A1145	Steam Boiler Operations	Steam boilers are used in stationary applications to provide heat, hot water, or steam. A boiler provides an efficient way to transfer stored thermal energy from a fuel source to the water in the boiler, and then to an end application. In this program, you will learn about steam boiler process chemistry and process flow.	4
PS-MNT-SBO-101	Steam Boilers	In Steam Boilers, you will learn about steam boiler operation and classification, routine and extended maintenance, troubleshooting and causes of corrosion failure.	2.5

Columns & Process Vessels

Course #	Course Title	Description	Hrs
PS-MNT-CPV-101	Columns and Process Vessels	In Columns & Process Vessels, you will learn about components and functions of process vessels; regulations and standards for performing inspections, internal and external inspections; and packed and tray tower internal and external repairs and maintenance.	3

Condensers

Course #	Course Title	Description	Hrs
A1075	Condensers	In Condensers, you will learn about condenser function, aerial coolers, inefficient cooling transfer, including fouling, damage, fin delamination, reduced and inefficient air flow; water cooled exchangers, and back-flushing water cooled exchangers.	1

Fired Heaters

Course #	Course Title	Description	Hrs
A1165	Fired Heaters: Equipment and Design	In this course, you will learn about basic furnace operating principles of fired heaters and details of equipment construction and function, and different types of burners.	3
A1166	Fired Heaters: Operating Techniques	In this course, you will learn about safe and efficient operating procedures for fired heaters, including variables that are monitored on the process and combustion sides of the furnace, and the major steps and safety measures in furnace startup, shutdown, emergency shutdown, and troubleshooting.	4

Furnace

Course #	Course Title	Description	Hrs
A1032	Furnace Operations: Working With Furnaces	This course will teach you about operating principles, such as fuels and combustion, flue gas analysis and air control. You will also learn about start-up and shutdown procedures and operating problems like unwanted air and after-burning.	4
A1031	Introduction to Furnace Operations	This course describes the furnace and its components. You will learn about how the components function in the total process of making heat and transferring it to the petroleum materials being processed into useful products.	4

STATIONARY EQUIPMENT

Heat Exchangers

Course #	Course Title	Description	Hrs
PS-MNT-HEX-101	Heat Exchangers for Technicians	In Heat Exchangers for Technicians, you will learn about types and functions of heat exchangers, contaminants, cleaning requirements, testing and repairs.	3
A1022a	Nature of Heat: Heat Exchange Equipment	In this course, different types of heat exchangers, including fixed shell-and-tube, U-tube and floating head are examined.	2
A1160a	Heat Exchangers: Introduction	In this course, you will learn about heat transfer as it is applied in modern refining techniques, conduction and convection as methods of heat transfer and heat transfer in tubes. You will also learn the various parts of heat exchangers and their functions, as well as the various types of shell and tube heat exchangers.	4
A1160b	Heat Exchangers: Operations and Maintenance	In this course, you will learn about startup and shutdown procedures in heat exchanger operation and maintenance, the various problems of exchanger maintenance, and the flow and mechanisms of various heat exchange systems.	3
PS-MNT-THE-101	Shell and Tube Heat Exchangers	In Shell and Tube Heat Exchangers, you will learn about shell and tube components, exchanger operation and flow paths; cleaning procedures and requirements; contaminants, testing and repairs.	3

Oil & Gas Separators

Course #	Course Title	Description	Hrs
A1470	Oil and Gas Separators	In Oil and Gas Separators, you will learn the effects of pressure, temperature, and density on fluid separation and the function of separator components. We will cover topics such basic separators as vertical, horizontal, spherical, double-tube, baffling, and metering separators. And, you will be introduced to liquid level control.	3

Separators

Course #	Course Title	Description	Hrs
PS-MSO-CTS-101	Two Phase and Three Phase Separators	In Two and Three Phase Separators, you will learn about separator function, operating pressure; vertical, horizontal, and spherical separators; primary separation, secondary separation, mist extraction, and liquid accumulation sections, and separator external components and controls.	2

Steam Turbines

Course #	Course Title	Description	Hrs
PS-MNT-STC-101	Steam Turbine Controls	This course will teach you about steam turbine characteristics, including turbine stages, blade design, and steam flow direction; controls; types and characteristics of governors; controllers, including startup control, speed, frequency, and load, and shutdown control; and calibrating and troubleshooting steam turbine controls.	2
PS-MNT-STU-101	Steam Turbines for Technicians	In this course, you will learn about steam turbine operation, components, and classification; routine and extended maintenance, including inspection, lube oil, bearing, and steam system checks, and troubleshooting.	3

STATIONARY EQUIPMENT

Valves			
Course #	Course Title	Description	Hrs
PS-MNT- ACT-101	Actuators	In this course, you will learn about different types of actuators, including electric, hydraulic, electro-hydraulic, pneumatic piston, and spring and diaphragm actuators; control valve action (rotary and sliding stem, direct and reverse acting); and actuator calibration and troubleshooting.	3
PS-MNT- RSV-101	Rotary Stem Valves for Technicians	In this course, you will learn about the main types of rotary stem valves, including ball, butterfly, rotating disc, and rotating plug valves; actuators, valve selection considerations; and calibrating and troubleshooting rotary stem valves.	2
PS-MNT- SSV-101	Sliding Stem Valves for Technicians	In Sliding Stem Valves, you will learn about types of control valves, components, accessories, and selecting, maintaining, and troubleshooting sliding stem valves.	3
PS-MNT- SPV-101	Special Valves	In Special Valves, you will learn about high pressure steam turbine bypass valves, steam conditioning valves, high pressure startup bypass valves, noise abatement valves, and how to calibrate and maintain them.	1
PS-MNT- VLA-101	Valve Accessories	This course will teach you about valve accessories, including hand wheels, manual levers and loading stations, transducers, air sets, volume boosters, fail-safe systems, limit switches, and positioners; and calibrating and troubleshooting.	2
PS-MNT- VDC-101	Valve Design and Characteristics	In Valve Design and Characteristics, you will learn about fluid flow in pipes, selecting a valve, valve body materials, mounting styles, sizing, cavitation, flashing, noise, and flow characteristics.	1.5
PS-MNT- VLV-101	Valves Inspection, Testing and Repair	In Valves Inspection, Testing and Repair, you will learn about types of valves, valve components, specifications and standards; visual inspection, repairs and maintenance, removing and installing valves, and pressure testing.	3
A1206	Valve Maintenance	This program reviews the various types of valves in piping systems and the maintenance required to keep them in good operating condition. You will learn how to lubricate valves, adjust valve packing, and inspect steam traps	2
A1140a	Valves: Introduction to Valves	In this course, you will learn about the construction and operation of the most widely used valves, such as gate, globe, plug, and check valves	5
A1140b	Valves: Operating Valves	In this course, you will learn to operate and maintain valves. You will also learn what valves should be used with various types of service and how to troubleshoot difficulties that may develop due to fouling, leakage, or wear.	3

UTILITY, SAFETY AND FACILITY SYSTEMS

Chillers

Course #	Course Title	Description	Hrs
PS-MNT-APC-101	Ambient and Process Chillers	In Chillers, you will learn about process and ambient chillers along with routine maintenance activities for each.	1

Compressed Air Systems

Course #	Course Title	Description	Hrs
PS-MNT-AIR-102	Compressed Air Dryers	In this course, you will learn the purpose and operational theory behind the more common types of air dryers including regenerative, absorption, refrigeration and mechanical dryers, and how they fit into a compressed air system.	1
PS-MNT-PNE-101	Pneumatic Systems	In this course, you will learn about pneumatic system components, common pneumatic valves; working safely with pneumatic systems; schematics and troubleshooting; and removing and installing components.	2
PS-MNT-AIR-101	Utility and Instrument Air Systems	This course will teach you about compressed air systems, components, piping configuration, methods of moisture removal, and the hazards and risks associated with them.	2

Cooling Towers

Course #	Course Title	Description	Hrs
PS-MNT-CTW-101	Cooling Towers for Technicians	In this course, you will learn about natural draft, louver covered natural draft, mechanical draft, and induced draft types of cooling towers, components, classification and modes of operation; maintaining water and filtration systems, fan and drive systems, heat transfer surfaces, fill pack, drift eliminator, and air inlet louver maintenance, and troubleshooting.	5
A1150a	Cooling Towers: Introduction	In this course, you will learn about water and cooling, cooling tower systems and heat transfer. You will also learn about cooling tower variables and performance. Additionally, you will learn about types of cooling towers as well as equipment and construction.	5
A1150b	Cooling Towers: Water Conditioning	In this course, you will learn about water conditioning and its effect on the efficiency and upkeep of cooling tower units.	5

Elevator Systems

Course #	Course Title	Description	Hrs
PS-MNT-IDE-101	Industrial Elevators	In this course, you will learn about industrial elevator components, safety codes, classifications, differences between freight and passenger elevators; elevator safety, drop and load tests, maintenance; and troubleshooting.	2

Fire & Gas Systems

Course #	Course Title	Description	Hrs
PS-EIA-FDE-101	Fire Detection	This course will teach you about fire detection systems, including heat, smoke, and flame detectors; hydrocarbon emissions, UV/IR sensors and how to calibrate and troubleshoot these systems.	2
PS-MNT-FPS-101	Fire Protection Systems	In this course, you will learn how about fire protection system components, fire pump types, operation, and maintenance; gas detector system types and sensors; Fire/gas detection system types, control, and operation; fire/gas protection systems, extinguishers, and maintenance, and fire/gas panels and maintenance.	6

UTILITY, SAFETY AND FACILITY SYSTEMS

Fire & Gas Systems (Continued)

Course #	Course Title	Description	Hrs
PS-EIA-FSD-101	Flame Scanning Devices	In this course, you will learn about flame scanning devices, features, and how they operate; calibration, false alarms, proper installation and detection range, the square law, and testing; and maintaining and troubleshooting fire eye flame scanners.	2
PS-EIA-GDE-101	Gas Detection	In Gas Detection, you will learn about gas terminology, combustible gas detection, sensor types and features; detector and sensor calibration and troubleshooting.	1.5

Flare Systems

Course #	Course Title	Description	Hrs
PS-MSO-FSF-101	Flare System Fundamentals	This course will teach you about applications for gas flaring, such as high pressure protection, natural gas processing, solution gas, and well testing; flare systems; flame monitoring; fuel, pilot, makeup, and purge gases; and flare system equipment.	2
PS-MSO-FSH-101	Flare System Hazards and Ignition	This course will teach you about gas flaring and flare system safety, including thermal radiation, explosion hazards, liquid carryover, noise, temperature limits and incomplete combustion; flame ignition and detection systems, pilot flame ignition systems, and flare ignition systems.	1
PS-MSO-FSP-201	Flare System Purging Startup and Shutdown	In Flare System Purging Startup and Shutdown, you will learn about general purging considerations; purging methods, including displacement, dilution, and pressure cycle purging; and flare system startup and shutdown inspection, preparation, and procedures.	1
PS-MSO-PKD-201	Pumping Out Flare Knockout Drums	In Pumping Out Flare Knockout Drums, you will learn about flare knockout drum function, hazards, knockout drum liquid disposal considerations, ambient air monitoring, and general procedures.	0.5

Generator & Emergency Power Systems

Course #	Course Title	Description	Hrs
PS-MNT-EMB-101	Emergency Backup	In Emergency Backup, you will learn about emergency power systems, emergency and diesel generator power, critical and essential loads, uninterruptible power supplies (UPS), and standby generator maintenance.	1.5
PS-EIA-EPS-101	Emergency Power Systems	In this course, you will learn about emergency power systems and how they compare to standby power systems including power requirements according to international standards; the typical emergency backup system, configuration, and components; and the different types of UPS systems.	1

Generator Systems

Course #	Course Title	Description	Hrs
PS-MNT-DEG-101	Diesel Engine Generators	In this course, you will learn about how diesel engine generators work; their main components, including cooling, exhaust, and lubricating systems, engine, battery charger, control panel and main assembly frame; and how to maintain and inspect diesel engines, including general maintenance checks, procedures, and troubleshooting.	2

UTILITY, SAFETY AND FACILITY SYSTEMS

Heat Tracing

Course #	Course Title	Description	Hrs
PS-MNT-EHT-101	Electrical Heat Tracing	In this course, you will learn about electrical heat tracing advantages and disadvantages; types of heat tracing, including steam tracing, mineral and silicone insulated, constant wattage, power-limiting, SECT, self regulating polymer, induction heating, and blanket electric heaters; heat tracing applications and precautions; installation and monitoring; maintenance and troubleshooting.	4

HVAC Systems

Course #	Course Title	Description	Hrs
PS-MNT-HVC-101	HVAC Fundamentals	In HVAC Fundamentals, you will learn about the fundamentals of heating, ventilation and air conditioning systems including the types of heat transfer, HVAC system components, HVAC system operation, and the vapor compression and refrigeration cycle.	1
PS-MNT-HVC-102	Maintaining HVAC Systems	In Maintaining HVAC Systems, you will learn about the vapor compression cycle, HVAC components, window and package air conditioning unit maintenance; common mechanical faults and component malfunction troubleshooting.	4

Hydraulic Systems

Course #	Course Title	Description	Hrs
PS-MNT-HYD-101	Hydraulic Systems	In Hydraulic Systems, you will learn about hydraulic principles, pressure and flow, hydraulic components; controlling direction, speed, and pressure; hydraulic safety; nitrogen accumulators, maintaining hydraulic systems, storage and handling; hydraulic symbols and schematics, and troubleshooting.	4

Liquid Nitrogen Systems

Course #	Course Title	Description	Hrs
PS-MNT-LNN-101	Liquid Nitrogen Storage Systems	In Liquid Nitrogen Storage Systems, you will learn about the properties and characteristics of nitrogen, the major health hazards and precautions for handling, common industry applications for nitrogen, and the major system equipment in a liquid nitrogen storage system.	0.75

Plant Communication Systems

Course #	Course Title	Description	Hrs
A1192	Plant Radio Communication	In Plant Radio Communication, you will learn how to operate plant radio equipment to communicate effectively and according to FCC rules.	1
PS-MNT-RCS-101	Radio and Communication Systems	In this course, you will learn about wired communication systems; intercom and public address systems and maintenance; conventional radio systems, including scanning, simplex and duplex channels, trunked systems, and radio system equipment; paging systems; TETRA radio systems; and closed circuit television system.	5

UTILITY, SAFETY AND FACILITY SYSTEMS

Plant Lighting

Course #	Course Title	Description	Hrs
PS-MNT-PLT-101	Plant Lighting	In Plant Lighting, you will learn about rated life and efficiency of plant lighting; equipment protection ratings; types of lighting, including incandescent, fluorescent, high intensity discharge and LED lamps, and lighting system maintenance.	2.5

Powered Industrial Equipment

Course #	Course Title	Description	Hrs
PS-MNT-FOM-101	Forklifts	In this course, you will learn about basic principles of forklift operation, applications, pallets and stillages, palletless handling, hydraulically powered fork options, telescopic handlers, inspection and certification.	1

Pressure Safety Devices

Course #	Course Title	Description	Hrs
PS-MNT-PRS-101	Pressure Relief Safety Devices	This course will teach you about the purpose of pressure relief safety devices, common types including conventional relief valve, balanced relief valve, pilot operated relief valve and rupture disk; the difference between a full lift, high lift, or low lift pressure relieving safety device, internal material options for the different service conditions and major factors involved in the selection of a pressure relieving safety device.	1

Security Systems

Course #	Course Title	Description	Hrs
PS-MNT-SSY-101	Security Systems	This course will teach you about various security systems, sensor types, control methods; hydraulic bollard systems and road blockers, including construction and maintenance; rising arm and sliding gate barriers; turnstiles, card readers and access control; SabreFonic and microwave fence detection systems and repair and maintenance.	5

Steam Lines

Course #	Course Title	Description	Hrs
PS-MNT-SCH-101	Steam Condensate Hazards and Removal	In Steam Condensate Hazards and Removal, you will learn steam condensate and the risks associated with its presence in a steam system including the formation of condensation and how various types of steam traps are used for steam condensate removal.	0.5
PS-MNT-STR-101	Steam Traps	In Steam Traps, you will learn about the purpose, types and classifications of steam traps, how to perform routine and extended maintenance, and how to troubleshoot and test steam traps.	3

Vent & Rundown Systems

Course #	Course Title	Description	Hrs
PS-MNT-VSR-101	Vent System and Rundown System	In Vent and Rundown System, you will learn about vent stacks and rundown vessels, including vertical and horizontal flash tank operation; internal and external inspections; maintaining stacks and rundown vessels, and packed tower repairs.	2.5

UTILITY, SAFETY AND FACILITY SYSTEMS

Warehousing

Course #	Course Title	Description	Hrs
PS-MNT-BAM-101	Laydown Yards and Area Management	This course will teach you about identifying and establishing laydown yards, scrap yard management, lubricant storage and spill prevention and recovery; maintenance related buildings, managing resources, and compliance and auditing.	3.5

Water Treatment

Course #	Course Title	Description	Hrs
PS-MNT-DWT-101	Fundamentals of Demineralized Water Treatment Systems	In this course, you will learn about the fundamentals of demineralized water treatment systems including the need for boiler water treatment, reverse osmosis process and ion exchange cycle operation, regeneration, mixed bed polishing, and selective ion exchange.	0.75
PS-MNT-ROS-101	Fundamentals of Reverse Osmosis Systems	In this course, you will learn about the reverse osmosis process, the differences between natural and reverse osmosis, pre-treatment options and system maintenance.	1
PS-MNT-PWT-101	Potable Water Treatment System	In Potable Water Treatment Systems, you will learn about the need for potable water treatment, types of water contamination, potable water treatment process, water disinfection, and reverse osmosis.	1
A1102	Wastewater Treatment: Biological Treatment Process	This course examines the activated sludge process operation, equipment, treatment and disposal methods used before treated wastewater can be discharged as effluent into the environment.	3
A1101	Wastewater Treatment: Preliminary Treatment	In this course, you will learn about wastewater contaminants. You will also learn about the physical, treatment processes. The course also covers methods used to remove and recover emulsified oil from wastewater and the different chemical unit operations that are used to improve the operation of the physical treatment processes.	4
A1103	Wastewater Treatment: Process Control	This course examines the environmental and control factors, process variables and the relationship between them. You will also learn strategies that you can use to monitor and optimize the process operation. The course includes some simple calculations that you can perform to determine the operating target levels.	3
A1104	Wastewater Treatment: Testing and Troubleshooting	This course will teach you testing methods, units of measurement and the methods of calculating the results of the tests for total solids, volatile solids, and suspended solids. The BOD5 test procedure is covered for general information and methodology. The course also covers the 30-minute sludge-settling test and calculation of the sludge volume index.	2
PS-MSO-WSS-101	Water Softening Systems	In Water Softening Systems, you will learn about "hard water" and how it is softened using ion exchange, lime softening and reverse osmosis processes	1.5

Weighing Equipment

Course #	Course Title	Description	Hrs
PS-MNT-WBS-101	Weigh Bridges, Docks Levelers & Scales	In Weighbridges, Dock Levelers and Scales, you will learn about the purpose of weighbridges, dock levelers, and scales, and how to maintain and troubleshoot them.	1
PS-MNT-WDV-101	Weighing Devices	In Weighing Devices, you will learn about weighing terminology, types of load cells, sensors, and feeders; truck and rail scales; calibrating weighing devices; and troubleshooting strain gages, load cell electrical problems, and instrumentation and communications problems.	2

WELL CONSTRUCTION, COMPLETIONS & INTERVENTIONS

Artificial Lifts

Course #	Course Title	Description	Hrs
A1740	Introduction to Artificial Lift	In Introduction to Artificial Lift, you will learn about reservoir pressure and drawdown; factors affecting drawdown, such as GOR, GLR, and the flowing pressure gradient; and how inflow performance relationship (IPR) is used for evaluating wells and sizing tubulars. You will also learn various types of artificial lift, along with advantages and disadvantages of each type.	2

Completions & Interventions

Course #	Course Title	Description	Hrs
A1660	Introduction to Service Rig Operations	In Introduction to Service Rig Operations, you will learn about conventional service rig types, their components including drawworks, workstring, and blowout preventer (BOP) and service rig operation for casing replacement and remedial cementing.	0.5
A1705	Well Completion and Stimulation Fundamentals	In this course, you will learn about casing design, casing selection factors, grades and types of casing. Next, you will learn about cementing and perforating. Additionally, you will learn about well completion requirements, open hole and cased hole completions, as well as single and, multiple completions.	3
A1735	Wellhead Components	In Wellhead Components, you will learn about the wellhead's purpose and components including bore hole piping, types of casing, wellhead spools, tubing head spool, tubing head adapter, the Christmas tree assembly, valves, and chokes.	1
A1665	Wireline and Sonar Well Operations	In Wireline and Sonar Well Operations, you will learn about wireline function and equipment, including wireline trucks, stuffing box, lubricator and blowout preventer (BOP); Wireline operation on a cavern in service, including the brine hydrocarbon interface level and mechanical testing; and sonar surveying an empty cavern.	1

Drilling

Course #	Course Title	Description	Hrs
A1701	Drilling Fundamentals: Part 1	In Drilling Fundamentals: Part 1, you will learn about the drilling process, including drilling components, drilling crew responsibilities, and the drilling/completion program. The rotary system is also covered, including the drill string, drilling fluid, drill pipe and collars, pipe strength, drill bits, weight considerations, and the Kelly and Top-drive systems. Finally, you will learn about the fluid (circulating) system, including its function, the fluid circulating process, circulation path and equipment, and drilling mud and mud additives.	2.5
A1702	Drilling Fundamentals: Part 2	In Drilling Fundamentals: Part 2, you will learn about hoisting and power systems, including hoisting and power system equipment. You will also learn about the blowout prevention (BOP) system function and equipment, types of blowout preventers (annular, pipe rams, blind/shear rams), and BOP activation examples. Finally, you will learn about drilling technologies, including measurement while drilling (MWD); directional drilling, along with its advantages and challenges; bottom hole assembly (BHA) drilling, bent sub and rotary steerable systems (RSS); and horizontal drilling.	2.5

WELL CONSTRUCTION, COMPLETIONS AND INTERVENTIONS

Stimulation

Course #	Course Title	Description	Hrs
A1730	Introduction to Hydraulic Fracturing	In Introduction to Hydraulic Fracturing, you will learn about proppant hydraulic fracturing, including the purpose and history of hydraulic fracturing; conventional and unconventional well completion and shale resource plays; frac design; frac fluids and proppants; and frac stages and progressions.	1
A1725	Well Stimulation Methods	In Well Stimulation Methods, we will cover well productivity using mechanical stimulation methods that alter the wellbore, such as under-reaming, cavitation, hydraulic fracturing, and frac packing. You will also learn about mechanical stimulation methods that work by reducing the viscosity of the oil, such as cyclic steam stimulation; and continuous steam injection methods, such as steam flooding and steam assisted gravity drainage. Finally, we will review chemical stimulation methods, including acid fracturing and matrix acidizing.	1

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A1081	AC Motors for Operators
A1620	Electrical Fundamentals
A1186	Electrical System Basics and Diagrams
A1540c	Oil Field Electricity: Conservation and Classification
A1540b	Oil Field Electricity: Electrified Equipment
A1540a	Oil Field Electricity: Fundamentals
A1541	Oil Field Electricity: Offshore Oil Field Electricity
A1185	Understanding Electricity
A1585	Glycol Dehydration
A1207	Cleaning Activities
A1122	Corrosion Control
A1198	Leak Detection and Repair
A1210	Lubrication Concepts
A1205	Flange Piping
A1202	Pipe Fitting Basics
A1204	Small Threaded Pipe
A1203	Tubing
A1580	Oil Field Corrosion
A1400b	Oil and Gas Reservoirs: Barriers and Traps
A1400a	Oil and Gas Reservoirs: Fundamentals
A1201	Working with Hand Tools
A1208	Working with Power Tools
A1133	Safe Tank Cleaning: Cleaning the Tank
A1132	Safe Tank Cleaning: Gas-Freeing
A1134	Safe Tank Cleaning: Hazardous Materials
A1131	Safe Tank Cleaning: Preparing for Cleaning
A1565	Vapor Recovery Systems
A2065	Instrumentation: Analyzers and Inferenceals
A2063	Instrumentation: Measuring Liquid Level
A2062	Instrumentation: Measuring Pressure
A2061	Instrumentation: Measuring Temperature
A2067	Instrumentation: Process and Instrumentation Drawings
A2066	Instrumentation: Regulatory Control
A2060	Instrumentation: Fundamentals of Control
A2064	Instrumentation: Measuring Flow
A1535	Lease Automatic Custody Transfer (LACT)
A1570c	Lease Instrumentation: Control Equipment
A1570b	Lease Instrumentation: Final Control Devices
A1570a	Lease Instrumentation: Sensing and Measuring Equipment
A1196	Tank Gauging
A1130	Basic Mathematics
A1181	Hydrocarbon Chemistry 101
A1051	Introduction To Compression
A1044	Mechanics of Fluids: Fluids in Motion
A1041a	Mechanics of Fluids: Introduction to Process Fluids

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Core Competency	
A1043	Mechanics of Fluids: Static Pressure and Head
A1041b	Mechanics of Fluids: Units of Fluid Measurement
A1042	Mechanics of Fluids: Behavior of Gases
A1023	Nature of Heat: Fuels and Combustion
A1180	Process Plant Chemistry
A1021	Nature of Heat: Heat and Temperature
A1022A	Nature of Heat: Heat Exchange Equipment
A1022	Nature of Heat: Heat Transfer
A1610a	Fundamentals of Fluids for Production Operations: Fluid Behavior
A1610b	Fundamentals of Fluids for Production Operations: Gases and Static Pressure
A1050	Air Compressors
A1053a	Centrifugal Compressors: Introduction
A1053b	Centrifugal Compressors: Construction and Operation
A1071b	Centrifugal Pumps: Equipment and Operation
A1071a	Centrifugal Pumps: Introduction
A1083b	Combustion Gas Turbines: Equipment and Operation
A1083a	Combustion Gas Turbines: Introduction
A1085b	Couplings, Gear Trains, and V-Belts: Gear Trains and V-Belt Drives
A1085a	Couplings, Gear Trains, and V-Belts: Machine Connections and Couplings
A1084a	Internal Combustion Engines: Introduction
A1084b	Internal Combustion Engines: Operating Techniques
A1070	Introduction to Dynamic Pumps
A1052b	Positive Displacement Compressors: Construction and Operation
A1052a	Positive Displacement Compressors: Introduction
A1072b	Positive Displacement Pumps: Equipment and Operation
A1072a	Positive Displacement Pumps: Introduction
A1086a	Steam Engines and Pumps: Introduction
A1086b	Steam Engines and Pumps: Operation and Maintenance
A1082b	Steam Turbines: Equipment and Operation
A1082a	Steam Turbines: Introduction
A1100	Cost Reduction for Operators
A1200	Operator Responsibilities
A1137	Performing Skills Assessment
A1090	Process Control Tests
A1191	Statistical Process Control
A1112	Fire Fighting: Extinguishing Agents
A1113b	Fire Fighting: Foams
A1111	Fire Fighting: Fuels and Combustion
A1197	Job Hazard Analysis and Stop Work Authority
A1113	Fire Fighting: Portable Fire Extinguishers
A1114b	Fire Fighting: Strategies
A1114a	Fire Fighting: Tactics
A1190	Safe Laboratory Operations
A1170	Safe Handling of Light Ends
A1545a	Electrical Centrifugal Subsurface Pumps: Equipment

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Core Competency	
A1545b	Electrical Centrifugal Subsurface Pumps: Ammeter Recording and Charts
A1481	Emulsions
A1413c	Flowing Wells: Chokes
A1411	Flowing Wells: Introduction to Pressure and Flow
A1414	Flowing Wells: Operating Flowing Wells
A1413b	Flowing Wells: Packers and Valves
A1413a	Flowing Wells: The Wellhead, Wellbore, and Christmas Tree
A1412	Flowing Wells: Pressure and Flow in Producing Wells
A1560b	Gas Lift: Equipment
A1560a	Gas Lift: Fundamentals
A1560c	Gas Lift: Operating Techniques
A1465	Gas Measurement: Electronic Flow Measurement
A1462a	Gas Measurement: Equipment and Calculations
A1461	Gas Measurement: Fundamentals
A1462c	Gas Measurement: Orifice Flow Calculations
A1462b	Gas Measurement: Orifice Meters
A1466	Gas Measurement: Witnessing
A1555a	Heater Treaters: Fundamentals
A1555b	Heater Treaters: Types and Operation
A1550a	Hydraulic Subsurface Pumping Systems: Downhole Pumps and Engines
A1550c	Hydraulic Subsurface Pumping Systems: Installation and Testing
A1550d	Hydraulic Subsurface Pumping Systems: Pump Performance
A1550b	Hydraulic Subsurface Pumping Systems: Surface and Tubing Equipment
A1630	Oil and Gas Production Overview
A1452	Oil Well Performance and Surveillance: Equipment
A1451a	Oil Well Performance and Surveillance: Fundamentals
A1451b	Oil Well Performance and Surveillance: Testing
A1634	Process Component Safety Analysis and System Testing
A1600	Production Facility Gas Processing
A1631	Production Safety Equipment and Support Systems
A1633	Production Safety Systems Regulations and Device Identification
A1639	Reducing Marine Trash and Debris
A1635	Safety Device Operation
A1638	SEMS Standard and Requirements
A1636	Testing and Setting Safety Devices
A1575c	Water Treatment and Disposal: Facilities and Testing
A1575a	Water Treatment and Disposal: Fundamentals
A1575b	Water Treatment and Disposal: Processes and Equipment
A1632	Well Control and Production Safety Regulations
A1421a	Well Pumping: Introduction to Sucker-Rod Systems
A1423b	Well Pumping: Operating Sucker-Rods
A1422	Well Pumping: Sucker-Rod Pump Performance
A1423a	Well Pumping: Sucker-Rod Surface Equipment
A1421b	Well Pumping: Sucker-Rod Systems
A1096	Catalytic Reforming

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A1014	Practical Distillation: Abnormal Operations
A1011a	Practical Distillation: Behavior of Hydrocarbons
A1012a	Practical Distillation: Fractionating Equipment
A1013	Practical Distillation: Normal Operations
A1012b	Practical Distillation: Operating Procedures
A1011b	Practical Distillation: Principles and Practices
A1012c	Practical Distillation: Concepts and Quality
a1075	Condensers
A1160a	Heat Exchangers: Introduction
A1160b	Heat Exchangers: Operations and Maintenance
A1165	Fired Heaters: Equipment and Design
A1166	Fired Heaters: Operating Techniques
A1032	Furnace Operations: Working With Furnaces
A1031	Introduction to Furnace Operations
A1206	Valve Maintenance
A1145	Steam Boiler Operations
A1470	Oil and Gas Separators
A1140a	Valves: Introduction to Valves
A1140b	Valves: Operating Valves
A1150a	Cooling Towers: Introduction
A1150b	Cooling Towers: Water Conditioning
A1192	Plant Radio Communication
A1102	Wastewater Treatment: Biological Treatment Process
A1101	Wastewater Treatment: Preliminary Treatment
A1103	Wastewater Treatment: Process Control
A1104	Wastewater Treatment: Testing and Troubleshooting
A1660	Introduction to Service Rig Operations
A1665	Wireline and Sonar Well Operations

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a5089b	Accident Control Techniques: Safe Work Practices
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A5081	Arc Flash Safety
A5019	Asbestos
A5036	Assessing Occupational Exposure
A5005	Benzene
A5070	Combustible Dust Hazards
A5003	Confined Space Entry
A5076	DOT Drug and Alcohol Testing
A5025	DOT Hazardous Materials Employee Safety
A5026	DOT Hazardous Materials General Awareness
A5059	DOT Hazardous Materials Transportation Security Awareness
A5065	Driving Safety
A5069	EHS Regulatory Overview
A5021	Electrical Safety for Qualified Employees
A5020	Electrical Safety for Unqualified Employees
A5017	Emergency Action Plans, Alarm Systems, and Fire Prevention Plans
A5094	Environmental Awareness
A5097	Environmental Waste Management
A5057	Excavation and Trenching
A5057a	Excavation and Trenching for Operations Personnel
A5048	Explosive and Flammable Chemicals
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A5013	Eye and Face Protection
A5078	Eye Wash and Safety Showers
A5022	Fall Prevention
a5092	First Aid Procedures
A5023	Forklifts and Powered Industrial Trucks
A5096	Hand and Power Tool Safety
A5075	Hand Safety
A5006	Hazard Communication
A5035a	Hazards of Naturally Occurring Radioactive Materials (NORM)
A5008	Hazwoper: Awareness
A5009	Hazwoper: Operations
A5007	Hazwoper: Overview
A5002	Hearing Protection
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A5032	Helicopter Safety
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A5024	Occupational Exposure to Bloodborne Pathogens
A5052	Occupational Exposure to Carcinogens
A5044	Occupational Exposure to Chlorine
A5072	Occupational Exposure to Formaldehyde
A5039	Occupational Exposure to Hexavalent Chromium
A5041	Occupational Exposure to Hydrochloric Acid
A5053	Occupational Exposure to Lead
A5037a	Occupational Exposure to Respirable Crystalline Silica
A5037	Occupational Exposure to Respirable Crystalline Silica - General Industry
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A5033	Occupational Exposure to Sulfur Dioxide
A5042	Occupational Exposure to Sulfuric Acid
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A5004a	Portable Fire Extinguishers: Non-Emergency Responder
A5074	Process Safety and Fatigue Management
A5074a	Process Safety and Fatigue Management for Supervisors
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UK-HSE-5065	Driving Safety - UK
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UK-HSE-5074a	Process Safety and Fatigue Management for Supervisors - UK
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PS-EIA-GDE-101	Gas Detection
PS-EIA-GHS-101	Gas Insulated Substations (GIS) and Sulfur Hexafluoride (SF6)
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PS-MNT-SDG-101	Gaskets, Seals and Packing
PS-MNT-GEA-101	Gears
PS-EIA-GRD-101	Grounding
PS-MNT-HTM-101	Hand and Power Tools for Technicians
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PS-EIA-OXA-101	Oxygen Analyzer
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PS-EIA-PAN-101	pH Analyzers
PS-EIA-PHA-101	Photometric Analyzers
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PS-MNT-PFI-101	Pipes and Fittings
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PS-MNT-PLT-101	Plant Lighting
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PS-EIA-PCB-101	Power Cables
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PS-EIA-PRE-101	Protective Relays
PS-MNT-STT-104	Purging Storage Tanks

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EI&A Mechanical	
PS-MNT-RCS-101	Radio and Communication Systems
PS-MNT-REA-101	Reactors
PS-MNT-RCO-101	Reciprocating Compressors
PS-MNT-RTO-101	Regenerative Thermal Oxidizer
PS-MNT-RAC-101	Reports and Communication
PS-MNT-RFE-101	Rotary Feeder
PS-MNT-RSV-101	Rotary Stem Valves for Technicians
PS-MNT-RED-101	Rotating Equipment Condition Diagnosis
PS-EIA-SIC-101	Safety in Instrumentation and Control Systems
PS-EIA-SCA-102	SCADA Operation
PS-MNT-SSY-101	Security Systems
PS-MNT-THE-101	Shell and Tube Heat Exchangers
PS-EIA-SFG-101	Sight and Float Gauging
PS-EIA-SCS-101	Simple Control System (PLC)
PS-MNT-SSV-101	Sliding Stem Valves for Technicians
PS-MNT-SPP-101	Spark Plugs
PS-MNT-SPV-101	Special Valves
PS-MNT-SBO-101	Steam Boilers
PS-MNT-SCH-101	Steam Condensate Hazards and Removal
PS-MNT-STR-101	Steam Traps
PS-MNT-STC-101	Steam Turbine Controls
PS-MNT-STU-101	Steam Turbines for Technicians
PS-MNT-STT-101	Storage Tanks
PS-MNT-STS-101	Structural Safety
PS-EIA-TGS-101	Tank Gauging System
PS-MNT-STT-103	Tank Roof Inspection
PS-EIA-TPM-101	Temperature Measurement
PS-EIA-PDT-102	Transformer Maintenance
PS-EIA-ULM-101	Ultrasonic Level Measurement
PS-EIA-PHM-101	Understanding pH Measurement
PS-EIA-UPS-101	Uninterruptible Power Supply
PS-MNT-AIR-101	Utility and Instrument Air Systems
PS-MNT-VLA-101	Valve Accessories
PS-MNT-VDC-101	Valve Design and Characteristics
PS-MNT-VLV-101	Valves Inspection, Testing and Repair
PS-MNT-VFD-101	Variable Speed and Frequency Drives (VFD/VSD)
PS-MNT-VSR-101	Vent System and Rundown System
PS-EIA-VMF-101	Volumetric Flow Measurement
PS-MNT-WBS-101	Weigh Bridges, Docks Levelers & Scales
PS-MNT-WDV-101	Weighing Devices
PS-MNT-WTE-101	Workshop Tools and Equipment

GAS PROCESSING LIBRARY

Gas Processing	
A2506	Amine Sweetening Process
A2504	Fractionation in Gas Processing
A2507	Gas Processing Hazards
A2502	Gas Processing Thermodynamics
A2512	H ₂ S Scavenger Solid Bed Adsorption Process
A2501	Hydrocarbon Phase Behavior and Vapor-Liquid Equilibrium
A2500	Introduction to Gas Processing for Operations
A2511	LNG and LPG Loading Carrier
A2513	LNG Cargo Carrier
A2509	LNG Refrigeration and Heat Exchange
A2510	LNG Storage
A2508	Molecular Sieve Dehydration
A2505	Solid Bed Adsorption and TEG Dehydration
A2503	Turboexpander Gas Processing Plant

INDUSTRY OVERVIEW LIBRARY

Industry Overview	
PS-EPT-INO-107	Drilling Operations and Systems
PS-EPT-INO-106	Exploration Rights and Surface/Subsurface Technologies
PS-EPT-INO-115	Fundamentals of Refining
PS-EPT-INO-114	Gas Processing Overview
PS-EPT-INO-110	Hydrocarbon Recovery
PS-EPT-INO-120	Introduction to LNG (Liquefied Natural Gas)
PS-EPT-INO-119	Introduction to Solvents
PS-EPT-INO-118	Introduction to the Petrochemical Industry
PS-EPT-INO-101	Modern Oil and Gas Industry
PS-EPT-INO-112	Overview of the Midstream Industry Segment
PS-EPT-INO-104	Petroleum Geology
PS-EPT-INO-105	Petroleum Reservoirs
PS-EPT-INO-113	Pipelines and Storage Systems
PS-EPT-INO-109	Production Technology: Flowing Wells and Artificial Lift
PS-EPT-INO-103	Reservoir Fluids
PS-EPT-INO-117	Steam Cracking
PS-EPT-INO-111	Surface Processing of Produced Fluids
PS-EPT-INO-102	The E&P Asset Life Cycle
PS-EPT-INO-108	Well Completion and Stimulation

MIDSTREAM OPERATIONS LIBRARY

Midstream Operations	
PS-MSO-APS-101	Atmospheric and Pressure Storage Tanks
PS-MSO-ACA-101	Automated Control Applications
PS-MSO-CIS-201	Chemical Injection Systems
PS-MSO-CFL-101	Coalescing Filters
PS-MSO-CSS-201	Condensate Stabilization System
PS-MSO-DPT-101	Dewpoint Testing/Requirements
PS-MSO-ELC-101	Electrical Load Centers and Panelboards
PS-MSO-ESP-101	Electrical System Protection
PS-MSO-FSF-101	Flare System Fundamentals
PS-MSO-FSH-101	Flare System Hazards and Ignition
PS-MSO-FSP-201	Flare System Purging Startup and Shutdown
PS-MSO-FPH-101	Flowing Pipeline Hydraulics
PS-MSO-FDF-201	Fractional Distillation Process Fundamentals
PS-MSO-HAC-101	Fundamentals of Hazardous Area Classifications
PS-MSO-GCP-201	Gas Compressor Performance
PS-MSO-GDO-101	Glycol Dehydration Equipment and Operation
PS-MSO-GIS-201	Glycol Injection System Operation
PS-MSO-GST-101	Glycol Sampling and Testing
PS-MSO-HMO-101	Heat Medium and Hot Oil Systems
PS-MSO-HMS-101	Heat Medium System Operation
PS-MSO-HPG-201	High Pressure Gas Sampling
PS-MSO-HPL-201	High Pressure Liquid Sampling
PS-MSO-HYD-101	Hydrates
PS-MSO-CCO-101	Introduction to Computerized Control Systems
PS-MSO-GCH-102	Introduction to Gas Chromatography
PS-MSO-MEA-104	Introduction to Measurement: Density, Moisture, pH, and Conductivity
PS-MSO-MEA-103	Introduction to Measurement: Level and Flow
PS-MSO-MEA-102	Introduction to Measurement: Temperature and Pressure
PS-MSO-PIG-101	Introduction to Pigging
PS-MSO-IPH-101	Introduction to Pipeline Hydrocarbons
PS-MSO-IPS-101	Introduction to Pipeline Systems
PS-MSO-ITI-101	ISO Truck Tank Construction and Inspection
PS-MSO-LSS-101	Liquid Storage Systems
PS-MSO-MNF-101	Manifold Systems Overview
PS-MSO-MEA-101	Measurement Basics and Standards
PS-MSO-MOS-101	Mercaptan Odorizing Systems
PS-MSO-MIN-101	Methanol Injection
PS-MSO-MCC-101	Motor Control Centers (MCCs)
PS-MSO-NTO-101	Natural Gas Liquids (NGL) Truck Offloading
PS-MSO-NDE-101	Non-Destructive Examination (NDE)
PS-MSO-HST-201	Operating Hydrogen Sulfide (H ₂ S) Tube Samplers
PS-MSO-PPT-101	Pentane (C ₅)+ Truck Loading
PS-MSO-PIG-102	Pig Launching and Receiving
PS-MSO-BAT-101	Pipeline Batching
PS-MSO-PBS-101	Pipeline Bridge Systems

MIDSTREAM OPERATIONS LIBRARY

Midstream Operations	
PS-MSO-COM-101	Pipeline Commissioning
PS-MSO-CRS-101	Pipeline Crossings
PS-MSO-PFC-101	Pipeline Flow Characteristics and Static Pipeline Hydraulics
PS-MSO-PHM-101	Pipeline Hydrocarbon Measurement and Testing
PS-MSO-PIG-104	Pipeline In-Line Inspection Tools
PS-MSO-IES-101	Pipeline Input/Feed and Export Systems
PS-MSO-ISO-101	Pipeline Isolation
PS-MSO-PRG-101	Pipeline Purging with Nitrogen
PS-MSO-PCS-101	Process Control Strategies
PS-MSO-PWT-101	Produced Water Treatment
PS-MSO-PBT-101	Propane and Butane Truck Loading
PS-MSO-PRU-201	Propane Refrigeration Units and Low Temperature Separators (LTS)
PS-MSO-PKD-201	Pumping Out Flare Knockout Drums
PS-MSO-RCI-201	Rail Car Inspection
PS-MSO-RLO-101	Rail Car Loading and Offloading
PS-MSO-RCS-201	Rail Car Sampling and Composition Testing
A5082	Railroad Safety
PS-MSO-REC-201	Recycle Compressor Operation
PS-MSO-REF-101	Reflux in Fractionation Operations
PS-MSO-RSS-101	Remote Pipeline Startup and Shutdown
PS-MSO-PIG-103	Roto-Launch Automatic Multiple Pig Launcher
PS-MSO-SGC-201	Sales Gas Compressor Operation
PS-MSO-SGC-202	Sales Gas Compressor Types, Use and Limitations
PS-MSO-SGF-201	Sales Gas Filters
PS-MSO-SCS-101	Salt Caverns and Underground Storage
PS-MSO-SCC-101	Screw Compressor Components and Auxiliary Equipment
PS-MSO-SLD-101	Solid Desiccants
PS-MSO-TSO-101	Tank Isolation
PS-MSO-TVS-101	Tank Venting Systems
PS-MSO-TSM-101	Testing Composition of Offloading Truck NGLs
PS-MSO-TCC-201	Tower Fouling and Corrosion Cleaning
PS-MSO-TUM-101	Turbidity Measurement
PS-MSO-CTS-101	Two Phase and Three Phase Separators
PS-MSO-UST-101	Underground Storage Tank Inspection and Monitoring
PS-MSO-WRT-101	Water Removal from a Storage Tank Bottom
PS-MSO-WSS-101	Water Softening Systems

PROCESS SAFETY MANAGEMENT LIBRARY

Process Safety Management	
PS-PSM-PSO-107	Process Safety in Operations: Audits and Key Performance Indicators
PS-PSM-PSO-106	Process Safety in Operations: Emergency Response and Incident Investigation
PS-PSM-PSO-102	Process Safety in Operations: Hazards
PS-PSM-PSO-101	Process Safety in Operations: Introduction
PS-PSM-PSO-105	Process Safety in Operations: Management of Change
PS-PSM-PSO-104	Process Safety in Operations: Projects, Construction and Operations
PS-PSM-PSO-103	Process Safety in Operations: Risk Management

REFINERY OPERATIONS LIBRARY

Refinery Operations	
PS-REF-CRU-105	Crude Distillation: Consequences of Deviation
PS-REF-CRU-103	Crude Distillation: Operating Procedures
PS-REF-CRU-101	Crude Distillation: Overview
PS-REF-CRU-102	Crude Distillation: Process Equipment
PS-REF-CRU-104	Crude Distillation: Process Variables
PS-REF-CRU-106	Crude Distillation: Troubleshooting Trays and Towers
PS-REF-FCC-106	Fluid Catalytic Cracking Abnormal Operations
PS-REF-FCC-104	Fluid Catalytic Cracking Auxiliary Equipment
PS-REF-FCC-105	Fluid Catalytic Cracking Consequences of Deviation
PS-REF-FCC-103	Fluid Catalytic Cracking Key Process Variables
PS-REF-FCC-102	Fluid Catalytic Cracking Primary Equipment
PS-REF-FCC-107	Fluid Catalytic Cracking Process Hazards
PS-REF-FCC-101	Fluid Catalytic Cracking Process Overview
PS-REF-GAS-101	Gasoline Blending Operations
PS-REF-SDA-101	Introduction to Solvent Deasphalting
PS-REF-OVR-104	Refinery Process Overview: Catalytic Reforming
PS-REF-OVR-103	Refinery Process Overview: Fluid Catalytic Cracking
PS-REF-OVR-106	Refinery Process Overview: Gasoline Blending
PS-REF-OVR-101	Refinery Process Overview: Introduction
PS-REF-OVR-107	Refinery Process Overview: Refinery Process Hazards
PS-REF-OVR-102	Refinery Process Overview: Crude Distillation
PS-REF-SDA-105	Solvent Deasphalting Analytical Methods and Sample Frequency
PS-REF-SDA-102	Solvent Deasphalting Primary Equipment
PS-REF-SDA-104	Solvent Deasphalting Process Operations
PS-REF-SDA-103	Solvent Deasphalting Process Variables
PS-REF-SDA-106	Solvent Deasphalting Unit Hazards
PS-REF-OVR-105	Sulfur Recovery and Tail Gas Processing Overview
PS-REF-SAP-103	Sulfuric Acid Plant: Auxiliary Equipment
PS-REF-SAP-101	Sulfuric Acid Plant: Introduction and Process Overview
PS-REF-SAP-102	Sulfuric Acid Plant: Primary Equipment
PS-REF-SAP-104	Sulfuric Acid Plant: Process Safety
PS-REF-COK-104	SYDEC Delayed Coking Process Auxiliary Equipment
PS-REF-COK-105	SYDEC Delayed Coking Process Consequences of Deviation
PS-REF-COK-103	SYDEC Delayed Coking Process Operations
PS-REF-COK-101	SYDEC Delayed Coking Process Overview
PS-REF-COK-102	SYDEC Delayed Coking Process Primary Equipment
PS-REF-COK-106	SYDEC Delayed Coking Process: Process Hazards
PS-REF-TUR-101	Turnaround Operations

TECHNICAL EXPLORATION LIBRARY

Technical Exploration	
A1701	Drilling Fundamentals: Part 1
A1702	Drilling Fundamentals: Part 2
A1705	Well Completion Fundamentals
A1710	Coring and Core Preservation
A1711	Basic Core Analysis
A1712	Special Core Analysis
A1715	Porosity
A1716	Plate Tectonics
A1725	Well Stimulation Methods
A1730	Introduction to Hydraulic Fracturing
A1735	Wellhead Components
A1740	Introduction to Artificial Lift
A1760	Offshore Systems
A1765	Subsea Systems