PetroSkills®

2022

DOWNSTREAM

e-Learning Course Catalog

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ePilot™

This course listing is arranged by Category, Subject and Title in the Table of Contents on the following pages. Each course belongs to a library denoted by a code and color on each listing (table at right). A listing of courses in each library is in the back of the catalog. For more information on libraries and courses, please contact your PetroSkills representative.

Library	Code
Core Competency	CC
EHS – US Mandates	EHS
EI&A Mechanical	EIAM
Industry Overview	INO
Midstream Operations	MSO
Process Safety Management	PSM
Refinery Operations	REF
EHS – UK/EU Mandates	UKEU

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EHS – US Mandates

Course #	Course Title	Description	Hrs	Lib
EMERGENCY PLANNING AND RESPONSE				
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
ENVIRONMENTAL				
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	EHS
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	EHS
HAZARD COMMUNICATION				
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	EHS
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 recordkeeping requirements.	0.75	EHS

Category: EH&S

Course #	Course Title	Description	Hrs	Lib
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	EHS
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	EHS
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	EHS
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.	2	EHS
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	EHS
A5029	Hydrogen Sulfide (H2S	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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS

Category: EH&S

Course #	Course Title	Description	Hrs	Lib
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
HAZMAT TRANSPORTATION				
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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 intermodal 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	EHS
INDUSTRIAL HYGIENE				
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	EHS
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	EHS

Category: EH&S

Course #	Course Title	Description	Hrs	Lib
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
A5024	Occupational Exposure to Bloodborne Pathogens	This program is designed to help you meet the training requirements of OSHA 29 CFR 1910.1030. Topics covered include the symptoms of bloodborne diseases, transmission of bloodborne pathogens, the exposure control plan, recognizing potential exposure situations and personal protective equipment.	2	EHS
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	EHS
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	EHS
POWERED INDUSTRIAL EQUIPMENT				
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	EHS
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	EHS
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	EHS
QUALITY ASSURANCE AND CONTROL				
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	EHS
RCRA/HAZARDOUS WASTE MANAGEMENT				
A50164	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	EHS
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	EHS
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	EHS

Category: EH&S

Course #	Course Title	Description	Hrs	Lib
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	EHS
SAFE WORK PRACTICES				
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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 reenergizing electrical equipment.	1.5	EHS
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	EHS
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	EHS
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	EHS
A5092	First Aid Procedures	This program is designed to help you respond safely and properly to events that require first aid treatment.	2	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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 firewatches to prevent incidences of fire or explosion.	1	EHS

Category: EH&S

Course #	Course Title	Description	Hrs	Lib
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	EHS
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	EHS
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	EHS
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	EHS
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.	2	EHS
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	EHS
A5031a	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	EHS
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	EHS
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	EHS
A5054	Oxygen-Fuel Gas Welding and Cutting	Oxygen Fuel Gas Welding and Cutting is designed to help you meet the requirements of 29 CFR 1910.253. You will learn how to use oxygen-fuel equipment safely, how to protect yourself, and startup and shutdown procedures.	2	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	EHS
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	1	EHS

Course #	Course Title	Description	Hrs	Lib
		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.		
A5058a	Working on Scaffolds	Working on Scaffolds covers the safe use of scaffolds and the hazards associated when working on a scaffold.	1.5	EHS
SECURITY				
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	EHS
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	EHS
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	EHS
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	EHS

EHS – UK/EU Mandates

Course #	Course Title	Description	Hrs	Lib
EMERGENCY PLANNING & RESPONSE				
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
ENVIRONMENTAL				
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	UKEU
HAZARD COMMUNICATION				
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	UKEU
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	UKEU
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	UKEU
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	UKEU
UK-HSE-5029	Hydrogen Sulphide (H2S) - 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	UKEU
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	UKEU

Category: UK & EU HSE

Course #	Course Title	Description	Hrs	Lib
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
UK-HSE-5039	Occupational Exposure to Hexavalent Chromium - UK	Occupational Exposure to Hexavalent Chromium is designed to help you meet the training requirements of 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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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.	1.5	UKEU

Course #	Course Title	Description	Hrs	Lib
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	UKEU
INDUSTRIAL HYGIENE				
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
UK-HSE-5024	Occupational Exposure to Bloodborne 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 bloodborne diseases, transmission of bloodborne pathogens, the exposure control plan, recognizing potential exposure situations and personal protective equipment.	2	UKEU
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	UKEU
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	UKEU
POWERED INDUSTRIAL EQUIPMENT				
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	UKEU

Category: UK & EU HSE

Course #	Course Title	Description	Hrs	Lib
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	UKEU
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	UKEU
PROCESS SAFETY				
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	UKEU
SAFE WORK PRACTICES				
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	UKEU
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	UKEU
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	UKEU
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 reenergizing electrical equipment.	1.5	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU

Category: UK & EU HSE

Course #	Course Title	Description	Hrs	Lib
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU
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	UKEU

Category: UK & EU HSE

Course #	Course Title	Description	Hrs	Lib
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	UKEU
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	UKEU
SECURITY				
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	UKEU

Electricity and Electrical Equipment

Course #	Course Title	Description	Hrs	Lib
DRAWINGS AND DIAGRAMS				
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	CC
ELECTRICAL AND COMMUNICATION CABLES				
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	EIAM
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	EIAM
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	EIAM
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	EIAM
ELECTRICAL FUNDAMENTALS				
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	EIAM
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	EIAM
A1620	Electrical Fundamentals	The first section of Electrical Fundamentals describes units of electrical measurement, states Ohm's law and shows some of its uses, and describes and shows differences between series and parallel circuits. This section also shows some of the effects of resistance in series and parallel circuits, the use of resistance as voltage dividers, and ways to produce and make use of voltage drop. Next, the program describes how a magnetic field is produced and how magnetic fields are used in motors, measuring devices, and as resistors in electrical circuits and devices. You will also learn about the effects produced by alternating current, which describes alternating current, voltage and current phases, self-inductance, inductive reactance, the use of capacitors in AC circuits, and the use of induction coils as transformers. The program concludes with basic electronics, which briefly describes diodes and transistors and shows how they are used to rectify current and amplify electrical signals. This section also introduces simple transistor circuits and describes the use of capacitors in such circuits.	4	CC
PS-MSO-ESB-101	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	MSO
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 overcurrent, 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	MSO
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	EIAM

Course #	Course Title	Description	Hrs	Lib
A1185	Understanding Electricity	In Understanding Electricity, you will learn how to safely work with electricity. You will learn 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. The Electric Power Distribution System section describes how electric power is distributed from a generating plant to a lease. Finally, you will learn about measuring electric usage, including units of measurement and how to read a meter.	4	CC
MOTORS				
A1081	AC Motors for Operators	Designed for Operations Personnel, AC Motors describes how a motor changes the energy of electric current into mechanical power. This program describes how electric current produces magnetism and magnetism induces electric current. You will learn how motors are designed so that the attracting and repelling of magnetic fields sets up rotation of the shaft. Also covered is the starting and running characteristics of AC motors, and the speeds and horsepower of AC motors. The section on motor control describes starting and stopping mechanisms for AC motors, protective devices that may be found on motor controllers, and safety devices. You will learn proper procedures for starting, running, and stopping the motor. Finally, the program describes lubrication and maintenance procedures, and types of motor enclosures.	5	CC
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	EIAM
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	EIAM
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	EIAM
PS-MSO-MCC-101	Motor Control Centers (MCCs)	In Motor Control Centers (MCCs), 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	MSO
PS-EIA-MSA-101	Motor Signature Analysis (MCE)	In Motor Signature Analysis (MCE), you will learn about MCE functionality and detectable faults; test data analysis information, such as resistance-to-ground, setting warning levels, DC assets, RTG readings interpretation, capacitance-to-ground, phase-to-phase resistance and inductance, test lead check, resistive and inductive imbalance, average inductance, polarization index test, PI and DA data interpretation, rotor position an aliasing, data interpretation, and DC bar-to-bar test; and MCE troubleshooting.	3	EIAM
PS-MNT-VFD-101	Variable Speed and Frequency Drives (VFD/VSD)	In Variable Speed and Frequency Drives, 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	EIAM
OIL FIELD ELECTRICAL EQUIPMENT				
A1540c	Oil Field Electricity: Conservation and Classification	Oilfield Electricity is a series of four learning programs that introduce electrified lease equipment, some of the problems associated with its operation, and some of the ways used to reduce electrical consumption on a lease. Conservation and Classification discusses 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	CC
A1540b	Oil Field Electricity: Electrified Equipment	Oilfield Electricity is a series of four learning programs that introduce electrified lease equipment, some of the problems associated with its operation, and some of the ways used to reduce electrical consumption on a lease. Electrified Equipment looks 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	CC

Course #	Course Title	Description	Hrs	Lib
A1540a	Oil Field Electricity: Fundamentals	Oilfield Electricity is a series of four learning programs that introduce electrified lease equipment, some of the problems associated with its operation, and some of the ways used to reduce electrical consumption on a lease. In Fundamentals, you will learn how to safely work with electricity. You will learn about basic electrical terms, the effect of electrical current on the human body, and why electricity is a potential hazard to lease personnel. 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. A section called Electric Power Distribution System describes how electrical power is distributed from a generating plant to a lease. Also, the kind of distribution equipment found on a lease is reviewed. Finally, you will learn about measuring electrical usage, including units of measurement and how to read a meter.	4	CC
A1541	Oil Field Electricity: Offshore Oil Field Electricity	Oilfield Electricity is a series of four learning programs that introduce electrified lease equipment, some of the problems associated with its operation, and some of the ways used to reduce electrical consumption on a lease. Offshore Oilfield Electricity covers the basics of area classifications, power system components and controls on an offshore platform, and safe operation of electrical equipment. The 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	CC
POWER SYSTEMS				
PS-EIA-BAT-101	Batteries	In Batteries, 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	EIAM
PS-EIA-CPB-101	Capacitor Banks	In Capacitor Banks, you will learn 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	EIAM
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	EIAM
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	EIAM
PS-EIA-UPS-101	Uninterruptible Power Supply	In Uninterruptible Power Supply, you will learn about emergency and standby 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	EIAM
SWITCHGEAR				
PS-EIA-ARC-101	Arc Flash Causes and Mitigation	In Arc Flash, you will learn 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	EIAM
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	EIAM
PS-MSO-ELC-101	Electrical Load Centers and Panelboards	In Electrical Load Centers and Panelboards, 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	MSO
PS-EIA-GHS-101	Gas Insulated Substations (GIS) and Sulfur Hexafluoride (SF6)	In Gas Insulated Substations (GIS) and Sulfur Hexafluoride (SF6), you will learn about GIS, sulfur hexafluoride (SF6) properties, testing metrics, proper handling of faulted and non-faulted SF6; leak detection methods, and recordkeeping.	2.5	EIAM
PS-EIA-GIS-101	High Voltage Gas Insulated Switchgear (GIS)	In High Voltage Gas Insulated Switchgear (GIS), you will learn 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	EIAM

Course #	Course Title	Description	Hrs	Lib
PS-EIA-HSS-101	High Voltage Substation Switchgear	In High Voltage Substation Switchgear, 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	EIAM
PS-EIA-LAR-101	Lightning Arrester	In Lightning Arresters, you will learn about lightning surges and strikes; lightning protection and arresters, including classes and types of lightning arresters; grounding and installation guidelines; basic safety precautions; and lightning arrester troubleshooting.	3	EIAM
PS-EIA-LVS-101	Low Voltage Substation Switchgear	In Low Voltage Substation Switchgear, 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	EIAM
PS-EIA-LVI-101	LV Intelligent Switchgear	In LV Intelligent Switchgear, 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	EIAM
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	EIAM
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	EIAM
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	EIAM

General Knowledge and Skills

Course	Course Title	Description	Hrs	Lib
BEST PRACTICES				
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	CC
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. Within a process facility, it is imperative that tasks be completed in a safe manner. Safety procedures specify how employees must complete each task within a process facility. 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	CC
A1200	Process Operator Responsibilities	In Process Operator Responsibilities, 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	CC
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	EIAM
DRAWINGS AND DIAGRAMS				
PS-MNT-ENG-101	Engineering Drawings and Symbols	In Engineering Drawings and Symbols, you will learn about the different types of engineering drawings, different drawing formats used in creating engineering drawings, the different areas of the drawing, the types of symbols used.	0.5	EIAM
GENERAL OPERATIONS KNOWLEDGE				
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	EIAM
PS-MSO-HAC-101	Fundamentals of Hazardous Area Classifications	In Fundamentals of Hazardous Area Classifications, you will learn about the fundamentals of Hazardous Areas and equipment protection classifications including explosive limits, flashpoint, auto-ignition temperature, ignition energy, and vapor density of material properties; the three different zones of hazardous areas and source of release classification.	0.5	MSO
PS-EIA-HAP-101	Hazardous Area and Protection Classifications	In Hazardous Area and Protection Classifications, you will learn about hazardous areas, the combustion triangle, determining area classifications; IEC and NA protection classifications; and IP and NEMA equipment protection codes.	2	EIAM
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	MSO
HAND TOOLS AND EQUIPMENT				
PS-EIA-TTF-101	Electrician's Tools and Test Equipment	In Electrician's Tools and Test Equipment, you will learn about 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	EIAM
PS-MNT-HTM-101	Hand and Power Tools for Technicians	In Hand and Power Technicians, you will learn about hand tools, cutting tools and power tools; and how to select, use and maintain them safely and efficiently.	3.5	EIAM
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	EIAM
A1201	Working with Hand Tools	This program covers the basic hand tools that are normally found in an operator's tool box. You will learn to identify each tool and how to use it properly.	2	CC

Category: General Knowledge and Skills

Course	Course Title	Description	Hrs	Lib
A1208	Working with Power Tools	Maintenance activities usually involve the use of some tools. Each of these tools is designed to perform a specific job. You must be able to select and operate the correct power tool for a particular job. In this program, 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	CC
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	EIAM
QUALITY ASSURANCE AND CONTROL				
A1090	Process Control Tests	Process Control Tests is designed to provide operators with knowledge about 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. You will also learn some of the more common physical tests, how they are run, what the results mean and how you can use these results as an operating tool. Also covered are some of the more common impurities found in petroleum products, how these impurities affect product quality, and how products are tested for the presence of these impurities. Finally, you will learn about the structure of hydrocarbons, how product composition affects product quality, and some of the tests used to determine product composition.	5	CC
A1191	Statistical Process Control	In Statistical Process Control, you will learn about the operator's role in gathering and analyzing process information and taking corrective action when process problems occur.	3	CC

General Maintenance Skills and Knowledge

Course #	Course Title	Description	Hrs	Lib
BEARINGS, SEALS AND FASTENERS				
PS-MNT-BEA-101	Bearings	In Bearings, you will learn about industrial applications, bearing classifications and specifications, common bearing configurations; installing, removing, and maintaining bearings, and problem troubleshooting.	2.5	EIAM
PS-MNT-FAS-101	Fasteners	In Fasteners, 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	EIAM
PS-MNT-SDG-101	Gaskets and Packing	In Gaskets and Packing, you will learn about non-metallic, semi-metallic, and metallic gaskets; flange types and standards, tensile strength surface finish, and load sealability; packing types and materials; and gasket installation, inspection, storage, handling, and troubleshooting.	2.5	EIAM
PS-MNT-SDG-101	Sealing Devices (Gaskets)	In Sealing Devices (Gaskets), you will learn about non-metallic, semi-metallic, and metallic gaskets; flange types and standards, tensile strength surface finish, and load sealability; and gasket installation, inspection, storage, handling, and troubleshooting.	2.5	EIAM
CLEANING ACTIVITIES				
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	CC
CORROSION CONTROL				
PS-MNT-CPS-101	Cathodic Protection Systems	In Cathodic Protection Systems, 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	EIAM
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	CC
PS-MNT-COR-101	Corrosion in Metal	In Introduction to Corrosion, you will learn 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	EIAM
A1580	Oil Field Corrosion	Millions of dollars are lost each year to corrosion in the oilfield. Millions more are spent attempting to control it. 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 the operation of the lease can be more profitable.	4	CC
COUPLINGS AND GEARS				
PS-MNT-DRC-101	Drive Couplings	In Couplings, you will learn about drive couplings, including classification, rigid and flexible couplings; online and offline drive coupling maintenance, belt tensioning, coupling removal and installation, and troubleshooting.	3.5	EIAM
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	EIAM
DRAWINGS AND DIAGRAMS				
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	EIAM
FILTERS				
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	EIAM

Category: General Maintenance Skills and Knowledge

Course #	Course Title	Description	Hrs	Lib
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	EIAM
GENERAL MAINTENANCE CONCEPTS				
PS-MNT-BLD-101	Blinding and De-blinding	In Blinding and Deblinding, you will learn about slip blinds, spectacle blinds, and blind flanges, blind and flange sizes, and blind installation and removal.	1	EIAM
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	EIAM
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	EIAM
PS-MNT-FDT-101	Fault Diagnosis, Troubleshooting and Machine Inspections	In Fault Diagnosis, Troubleshooting and Machine Inspections, you will learn 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	EIAM
PS-MNT-CPM-101	Fundamentals of Condition and Predictive Monitoring	In Fundamentals of Condition and Predictive Monitoring, you will learn about the many different ways of monitoring the mechanical condition of equipment including vibration analysis, oil and wear debris analysis, ultrasonics, and infrared thermography.	1	EIAM
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	EIAM
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	EIAM
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	EIAM
PS-MNT-PMP-101	Preventative Maintenance Plans	In Preventative Maintenance Plans, you will learn about the basic steps involved with the development of a preventive maintenance plan as well as the benefits of such a plan including: benefits, purpose, the Development process and principles of the program.	0.5	EIAM
LEAK DETECTION				
A1198	Leak Detection and Repair	In this program, you will learn about controlling hazardous emissions through leak detection and repair.	1	CC
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	EIAM
LUBRICATION				
A1210	Lubrication Concepts	To ensure proper operation, all machines must be lubricated. Metal parts must be separated from one another when in operation, or rapid wear and deterioration will result. This separation can be provided with oil lubricant. In this program, you will learn about the different lubricants and their qualities so that you can choose the proper lubricant for the equipment you operate.	1	CC
PS-MNT-LCA-101	Lubrication Systems, Classifications and Applications	To ensure proper operation, all machines must be lubricated. In Lubrication Systems, Classifications and Applications, 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	EIAM
MACHINE ALIGNMENT				
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	EIAM

Category: General Maintenance Skills and Knowledge

Course #	Course Title	Description	Hrs	Lib
PIPES, HOSES AND FITTINGS				
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	CC
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	EIAM
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	CC
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	EIAM
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	EIAM
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	EIAM
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	CC
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	CC
STRUCTURAL SAFETY				
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	EIAM

Hydrocarbon Storage and Loading

Course #	Course Title	Description	Hrs	Lib
RAILROAD TRANSPORTATION				
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	MSO
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	MSO
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	MSO
SAFE TANK CLEANING				
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	CC
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	CC
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	CC
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	CC
STORAGE TANKS				
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	MSO
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	EIAM
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	EIAM

Category: Hydrocarbon Storage and Loading

Course #	Course Title	Description	Hrs	Lib
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.	1.5	EIAM
PS-MSO-TSO-101	Tank Isolation	In Tank Isolation, 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	MSO
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	EIAM
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	MSO
PS-MSO-UST-101	Underground Storage Tank Inspection and Monitoring	In Underground Storage Tank Inspection and Monitoring, you will 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	MSO
A1565	Vapor Recovery Systems	For years, the vapors escaping from oil storage tanks through hatches, vents and flare systems were given little attention. Specialists have since learned that if the vapors existed in sufficient quantities, the recovery of the vapors was economically feasible. The recovered vapors represented a valuable source of energy that previously had been "lost." This program 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	CC
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	MSO
TRUCK TRANSPORTATION				
PS-MSO-ITI-101	ISO Truck Tank Construction and Inspection	In ISO Truck Tank Construction and Inspection, 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	MSO
PS-MSO-NTO-101	Natural Gas Liquids (NGL) Truck Offloading	In Natural Gas Liquids (NGL) Truck Offloading, you will learn 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	MSO
PS-MSO-PPT-101	Pentane (C5)+ Truck Loading	In Pentane (C5)+ Truck Loading, 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	MSO
PS-MSO-PBT-101	Propane and Butane Truck Loading	In Propane and Butane Truck Loading, 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	MSO
PS-MSO-TSM-101	Testing Composition of Offloading Truck NGLs	In Testing Composition of Offloading Truck NGLs, 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	MSO
UNDERGROUND STORAGE				
PS-MSO-SCS-101	Salt Caverns and Underground Storage	In Salt Caverns and Underground Storage, you will learn about salt cavern formation, operation, capacity, overfilling and flow rate restrictions, brine systems, and underground tube storage.	1	MSO

Instrumentation and Control

Course #	Course Title	Description	Hrs	Lib
ANALYZERS AND INFERENTIALS				
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	EIAM
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	EIAM
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	EIAM
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	EIAM
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	EIAM
PS-EIA-GDA-101	Gas Density Analyzers	In Density Analyzers, 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	EIAM
A2065	Instrumentation: Analyzers and Inferentials	Instrumentation is a series of learning programs designed to provide operators with a general sense of how instrumentation plays its role in the efficient operation of a refinery. Process analysis is continuously performed to determine the quality of raw materials, intermediates, and finished products. In Analyzers and Inferentials, you will learn about working with analyzers and analytical instruments, key tools in instrumentation process control.	2	CC
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	MSO
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	EIAM
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.	1	EIAM
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	EIAM
PS-MSO-HST-201	Operating Hydrogen Sulfide (H2S) Tube Samplers	In Operating Hydrogen Sulfide (H2S) Samplers, you will learn about detector tube operation, detector tubes, piston and bellows-type detectors, and common operating instructions.	1	MSO
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	EIAM
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	EIAM
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	EIAM
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	MSO
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	EIAM

Category: Instrumentation and Control

Course #	Course Title	Description	Hrs	Lib
CONTROL SYSTEMS				
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	MSO
PS-EIA-CTL-101	Control Loops	In Control Loops, 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, feedforward, multivariable and adaptive control; and control loop tuning techniques.	3	EIAM
PS-EIA-CSN-101	Control Systems - SCADA, DCS and ESD	In Control Systems - SCADA, DCS and ESD, you will learn about control systems and basic feedback control; distributed control systems (DCS), including field I/O, process controllers, communications, redundancy, and operations; supervisory control and data acquisition (SCADA) systems, including field I/O, master and remote stations, along with their associated software components; and Emergency Shutdown Systems (ESD).	2	EIAM
A2066	Instrumentation: Regulatory Control	In this program, you will learn about regulatory control, including valves, signal transmission, and basic and advanced control systems.	4	CC
A2060	Instrumentation: Fundamentals of Control	Instrumentation is a series of learning programs designed to provide operators with a general sense of how instrumentation plays its role in the efficient operation of a refinery. 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.	3	CC
PS-MSO-CCO-101	Introduction to Computerized Control Systems	In Introduction to Computerized Control Systems, 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	MSO
PS-EIA-SCA-101	Introduction to Supervisory Control and Date Acquisition (SCADA)	In Introduction to SCADA Systems, you will learn 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.	.75	EIAM
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, Mobus, and Profibus / PROFINET networks.	1.5	EIAM
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	EIAM
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, feedforward control systems, and Proportional-integral-derivative controller (PID).	1	MSO
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	EIAM
PS-EIA-SCA-101	SCADA Operation	In SCADA Operation, you will learn about the SCADA system, function, and components, general operation and changing a setpoint. You will also learn about control room cold and warm start-ups, including cold start-up pre-checks and typical start-up screens. Control room facility shutdown is covered, with switch and display guidelines, and an extraction plant shutdown example. Finally, you will learn about control room emergency shutdown recovery.	1	EIAM
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	EIAM
CUSTODY TRANSFER				
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.	2.5	EIAM

Category: Instrumentation and Control

Course #	Course Title	Description	Hrs	Lib
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	CC
DRAWINGS AND DIAGRAMS				
A2067	Instrumentation: Process and Instrumentation Drawings	A company may have several production processes. Having uniform standards for instrumentation systems used for measurement and control simplifies and helps explain the process. In this program, you will learn standard symbols used in instrumentation systems how to apply them.	2	CC
ELECTRICAL MEASUREMENT				
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	EIAM
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	EIAM
FLOW MEASUREMENT				
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	EIAM
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	EIAM
A2064	Instrumentation: Measuring Flow	Instrumentation is a series of learning programs designed to provide operators with a general sense of how instrumentation plays its role in the efficient operation of a refinery. In Measuring Flow, you will learn about flow rate and measurements, including differential pressure and positive displacement flow meters.	3	CC
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	EIAM
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	EIAM
LEASE INSTRUMENTATION				
A1570c	Lease Instrumentation: Control Equipment	Instrumentation plays a vital role in the operation of a production lease. It helps control the production, separation, treatment and distribution of oil-well fluids with a minimum of hands-on labor. Lease equipment, like oil and gas separators and heater treaters are often equipped with instruments that automatically monitor and control temperatures, pressures, levels, and flows.	4	CC
A1570b	Lease Instrumentation: Final Control Devices	Instrumentation plays a vital role in the operation of a production lease. It helps control the production, separation, treatment and distribution of oil-well fluids with a minimum of hands-on labor. Lease equipment, like oil and gas separators and heater-treaters are often equipped with instruments that automatically monitor and control temperatures, pressures, levels, and flows. Lease Instrumentation is a series of three learning programs that cover how instruments function to keep the equipment on the lease working safely and efficiently. In Final Control Devices, you will learn about valves and plugs, and valve operators.	2	CC
A1570a	Lease Instrumentation: Sensing and Measuring Equipment	Instrumentation plays a vital role in the operation of a production lease. It helps control the production, separation, treatment and distribution of oil-well fluids with a minimum of hands-on labor. Lease equipment, like oil and gas separators and heater treaters are often equipped with instruments that automatically monitor and control temperatures, pressures, levels, and flows. Lease Instrumentation is a series of three learning programs that cover how instruments function to keep the equipment on the lease working safely and efficiently. In Sensing and Measuring Equipment, you will learn about pressure instruments, temperature and level instruments, and flow instruments.	3	CC

Category: Instrumentation and Control

Course #	Course Title	Description	Hrs	Lib
LEVEL MEASUREMENT				
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	EIAM
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	EIAM
A2063	Instrumentation: Measuring Liquid Level	Instrumentation is a series of learning programs designed to provide operators with a general sense of how instrumentation plays its role in the efficient operation of a refinery. 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	CC
PS-EIA-MLL-101	Microwave and Laser Level Measurement	In Microwave and Laser Level Measurement, you will learn about guided wave and non-contacting wave level measurement, laser level measurement, calibration and troubleshooting.	1.5	EIAM
PS-EIA-PLS-101	Point Level Switches	In Point Level Switches, 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	EIAM
PS-EIA-SFG-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	EIAM
PS-EIA-TGS-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	EIAM
PS-EIA-ULM-101	Ultrasonic Level Measurement	In Ultrasonic Level Measurement, you will learn about ultrasonic waves, measurement, installation, non-invasive transducers, calibration, and troubleshooting.	1	EIAM
MEASUREMENT FUNDAMENTALS				
PS-MSO-MEA-104	Introduction to Measurement: Density, Moisture, pH, and Conductivity	In Introduction to Measurement: Density, Moisture, pH, and Conductivity, 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	MSO
PS-MSO-MEA-103	Introduction to Measurement: Level and Flow	Level and flow measurements are used throughout industry to determine the quantity of various solids and liquids and flow rates. The information is used for safety, economic and operational reasons, such as monitoring and controlling the inventory into and out of a process. Level measurement applies to liquid levels in vessels or tanks or dry substances such as wood chips, chemicals or products used in the food or pharmaceutical industry.	3	MSO
PS-MSO-MEA-102	Introduction to Measurement: Temperature and Pressure	In Introduction to Measurement: Pressure and Temperature, 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	MSO
PS-EIA-MCB-101	Measurement and Calibration Basics	In Measurement and Calibration Basics, you will learn 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	EIAM
PRESSURE MEASUREMENT				
A2062	Instrumentation: Measuring Pressure	Instrumentation is a series of learning programs designed to provide operators with a general sense of how instrumentation plays its role in the efficient operation of a refinery. In Measuring Pressure, you will learn about the basics of measuring pressure, including the tools used for sensing pressure and pressure gauges.	3	CC
PS-EIA-PRM-101	Pressure Measurement	In Pressure Measurement, you will learn about types of pressure, pressure and thermodynamics, primary elements, such as bourdon tubes, bellows, diaphragms,	2	EIAM

Category: Instrumentation and Control

Course #	Course Title	Description	Hrs	Lib
		capsules, piezoelectric sensors, and strain gauges; pneumatic instruments, pressure regulators; and device installation, calibration, and troubleshooting.		
TANK GUAGING				
A1196	Tank Gauging	Every oil and gas company must accurately and correctly report inventory. To do this, companies rely on tank gauging to measure all hydrocarbon inventory. Because the volume of inventory is high, the value can be in the billions of dollars. Any errors made in tank gauging mean that investors may not have the proper financial information with which to make decisions. In this program, you will learn about properly and safely gauging tank inventory.	4	CC
TEMPERATURE MEASUREMENT				
A2061	Instrumentation: Measuring Temperature	Instrumentation is a series of learning programs designed to provide operators with a general sense of how instrumentation plays its role in the efficient operation of a refinery. In Measuring Temperature, you will learn about instruments designed to sense temperature, including electrical temperature sensors.	2	CC
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	EIAM

Math and Science Fundamentals

Course #	Course Title	Description	Hrs	Lib
BASICS OF MATHEMATICS				
A1130	Process Plant Mathematics	In Process Plant 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	CC
A1181	Hydrocarbon Chemistry 101	In Hydrocarbon Chemistry 101, you will learn about basic hydrocarbon composition and properties; carbon and hydrocarbon bonding; hydrocarbon structures and types of formulas. You will also learn about alkanes/paraffins, saturation, alkenes/olefins, alkynes/acetylenes, structural (constitutional) isomers and stereoisomers; and saturated and unsaturated ring hydrocarbons. Finally, you will learn about hydrocarbon nomenclature: naming conventions, how isomers and ring hydrocarbons are named, IUPAC naming rules, and nomenclature for other organic compounds.	3	CC
BASICS OF HYDROCARBON CHEMISTRY				
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. This program is designed to provide a background in the chemical nature of the operator's job, work environment, and products of refining.	2	CC
PHYSICS OF FLUID AND FLOW				
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.	4	CC
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	CC
A1044	Mechanics of Fluids: Fluids in Motion	Hydrocarbon processing involves many types of fluids. Mechanics of Fluids is a series of five learning programs covering the principles of fluid handling in refineries and other process industries. The courses in this series include: Introduction to Mechanics of Fluids, Units of Measurement, Behavior of Gases, Statics, and Fluids in Motion. In this final program, 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	CC
A1041a	Mechanics of Fluids: Introduction to Process Fluids	Hydrocarbon processing involves many types of fluids. Mechanics of Fluids is a series of five learning programs covering the principles of fluid handling in refineries and other process industries. In Introduction to Process Fluids, you will learn about types of fluids and their chemical and physical nature, including gas compressibility and liquid incompressibility. You will learn about the nature of phase, how phase change is used, and how it can be controlled. You will also learn about the fluid distillation process, types of fluid systems and emulsions.	4	CC
A1043	Mechanics of Fluids: Static Pressure and Head	Hydrocarbon processing involves many types of fluids. Mechanics of Fluids is a series of five learning programs covering the principles of fluid handling in refineries and other process industries. The courses in this series include: Introduction to Mechanics of Fluids, Units of Measurement, Behavior of Gases, Statics, and Fluids in Motion. In Static Pressure and Head, the fourth program in	5	CC

Course #	Course Title	Description	Hrs	Lib
		the Mechanics of Fluids Series, you will learn about the nature, calculation, and uses of static pressure. Topics include how to calculate pressure from liquid level, and how to calculate 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.		
A1041b	Mechanics of Fluids: Units of Fluid Measurement	Hydrocarbon processing involves many types of fluids. Mechanics of Fluids is a series of five learning programs covering the principles of fluid handling in refineries and other process industries. The courses in this series include: Introduction to Mechanics of Fluids, Units of Measurement, Behavior of Gases, Statics, and Fluids in Motion. In Units of Fluid Measurement, you will learn about pressure measurements, temperature measurements, density and gravity measurements, and viscosity measurements. You'll also learn about the nature of absolute measurement and how to convert measurements from one unit to another.	4	CC
A1042	Mechanics of Fluids: Behavior of Gases	Hydrocarbon processing involves many types of fluids. Mechanics of Fluids is a series of five learning programs covering the principles of fluid handling in refineries and other process industries. The courses in this series include: Introduction to Mechanics of Fluids, Units of Measurement, Behavior of Gases, Statics, and Fluids in Motion. In Behavior of Gases, the third program in the Mechanics of Fluids Series, 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	CC
PHYSICS OF GASES & COMPRESSORS				
A1051	Introduction To Compression	In Introduction to Compression, 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	CC
PHYSICS OF HEAT & TEMPERATURE				
A1023	Nature of Heat: Fuels and Combustion	The economical operation of a modern plant or refinery depends upon the efficient use of heat energy. Nature of Heat is a series of three learning programs covering Heat and Temperature, Heat Transfer, and Fuels and Combustion. Fuels and Combustion, the third program in the series, 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	CC
A1021	Nature of Heat: Heat and Temperature	The economical operation of a modern plant or refinery depends upon the efficient use of heat energy. Nature of Heat is a series of three learning programs including Heat and Temperature, Heat Transfer, and Fuels and Combustion. This program, Heat and Temperature, 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	CC
A1022	Nature of Heat: Heat Transfer	The economical operation of a modern plant or refinery depends upon the efficient use of heat energy. Nature of Heat is a series of three learning programs including Heat and Temperature, Heat Transfer, and Fuels and Combustion. Efficient use of heat energy includes not only efficient combustion, but also the efficient transfer of heat energy from one place to another. In this second program in the series, Heat Transfer, three methods of heat transfer are presented - conduction, convection and radiation. Other topics include heat transfer in furnaces, heat transfer rate, and heat exchangers, including fixed shell-and-tube, U-tube and floating head.	2	CC

Petrochemical Process Equipment

Course #	Course Title	Description	Hrs	Lib
EXTRUDER				
PS-MNT-EXE-101	Extruder Equipment	In Extruder Equipment, you will learn about types of extruders, sections, components, and lubrication systems; safety and utilities; extruder operation, and building vacuum system.	1.5	EIAM
PS-MNT-EXE-102	Extruder Equipment Maintenance	In Extruder Equipment Maintenance, 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	EIAM
HYPER COMPRESSOR				
PS-MNT-HYP-101	Hyper Compressor	In Hyper Compressor, you will learn 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	EIAM
PELLET DRYER				
PS-MNT-GPD-101	Gala Pellet Dryer for Technicians	In Gala Pellet Dryers, you will learn about the pellet dryer process, lubrication, cleaning, inspection, and routine and extended maintenance, part replacement, and troubleshooting.	2.5	EIAM
PELLETIZERS				
PS-MNT-PEL-101	Pelletizers	In Pelletizers, 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	EIAM
REACTORS				
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	EIAM
REGENERATIVE THERMAL OXIDIZER				
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	EIAM
ROTARY FEEDERS				
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	EIAM

Petroleum Industry Overview

Course #	Course Title	Description	Hrs	Lib
EXPLORATION AND PRODUCTION				
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	INO
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	INO
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	INO
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	INO
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	INO
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	INO
GAS PROCESSING				
PS-EPT-INO-114	Gas Processing Overview	In Gas Processing Overview, you will learn about saleable 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	INO
INDUSTRY OVERVIEW				
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	INO
MIDSTREAM INDUSTRY SEGMENT				
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	INO
OIL AND GAS RESERVOIRS				
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	INO
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	INO

Category: Petroleum Industry Overview

Course #	Course Title	Description	Hrs	Lib
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	INO
PETROCHEMICALS				
PS-EPT-INO-119	Introduction to Solvents	In Introduction to Solvents, you will learn about basic solvent chemistry, its purpose and selection. Solvent chemistry, including types of bonds, electronegativity, and polar bonds are covered. Polar (protic and aprotic) and non-polar types of solvents are explained, as well as what defines organic and inorganic solvents. Chemical and hydrocarbon solvent properties, are covered, such as viscosity, solubility, relative evaporation rate (RER), density, and surface tension, along with health, safety, and environmental considerations. Finally, 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	INO
PS-EPT-INO-118	Introduction to the Petrochemical Industry	In Introduction to the Petrochemical Industry, you will learn 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	INO
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	INO
PIPELINE SYSTEMS				
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	INO
REFINING				
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	INO
SURFACE PROCESSING				
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	INO

Process Safety

Course	Course Titles	Description	Hrs	Lib
EMERGENCY PLANNING & RESPONSE				
A1112	Fire Fighting: Extinguishing Agents	Fire Fighting is a series of five learning programs which primarily focus on the principles of fighting Class B fires involving oils and gases. In this program, Extinguishing Agents, you will learn 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	CC
A1111	Fire Fighting: Fuels and Combustion	Fire Fighting is a series of five learning programs which primarily focus on the principles of fighting Class B fires involving oils and gases. In this program, Fuels and Combustion, 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	CC
A1113	Fire Fighting: Portable Fire Extinguishers and Foams	Fire Fighting is a series of five learning programs which primarily focus on the principles of fighting Class B fires involving oils and gases. In this program, 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. Finally, 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.	4	CC
A1114b	Fire Fighting: Strategies	Fire Fighting is a series of five learning programs which primarily focus on the principles of fighting Class B fires involving oils and gases. Your ability to prevent a fire or react to a fire emergency may depend on how well you planned ahead for that particular situation. Planning ahead means that you have identified fire problem areas, developed the appropriate action plans, and prepared to fight a fire with the proper firefighting equipment, techniques and tactics. In this program, you will learn pre-fire planning and basic strategy. You will also learn strategies for fighting tank and dike fires. Finally, you will apply what you have learned in exercises that cover all different types of fires.	3	CC
A1114a	Fire Fighting: Tactics	Fire Fighting is a series of five learning programs which primarily focus on the principles of fighting Class B fires involving oils and gases. The way you attack a fire depends on several different factors, including how the fuel is burning and the location of the fire. It is important that you know and can implement the correct attack for any type of fire. In this program, 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	CC
PROCESS SAFETY MANAGEMENT				
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	EHS
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	PSM
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 with in emergency response and preparedness and how these take Process Safety into consideration. We also examine the importance of incident investigation in process safety.	1	PSM

Category: Process Safety

Course	Course Titles	Description	Hrs	Lib
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	PSM
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	PSM
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	PSM
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	PSM
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	PSM
SAFE WORK PRACTICES				
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	CC
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	CC
A1190	Safe Laboratory Operations	Laboratory analysis of incoming raw materials and outgoing products has always been a vital concern in the refining, petrochemical and chemical industries. Due to the nature of the materials being tested and the equipment required to perform the necessary tests, safety in the laboratory is a must. Safe Laboratory Operations approaches laboratory safety from the viewpoint that most laboratory procedures involve common safety considerations - personnel attitude, handling hazardous materials, flammability of samples, sources of ignition, handling compressed gases, hazards associated with glassware, personal protective equipment and mechanical safeguards. The program concludes by providing safety information on a variety of specific tests and test equipment: LPG sampling, flash point test, Reid vapor pressure test, test for viscosity, distillation apparatus and vacuum distillation test equipment.	4	CC

Refinery Operations

Course #	Course Title	Description	Hrs	Lib
CATALYTIC REFORMER				
A1096	Catalytic Reforming	Catalytic reforming is a process that converts a low octane feed into a high octane product called reformate. This is accomplished through a series of chemical reactions which rearrange the structure of hydrocarbon molecules. The reformate product is generally used as a gasoline blending component or as a feedstock for petrochemical operations. This program is a basic course on how catalytic reforming works. You will learn about the equipment in a reformer unit and how it operates. You will also learn how the unit is operated to maximize product yields and quality. Finally, you will learn what your duties are on a catalytic reformer.	5	CC
COKER OPERATIONS				
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	REF
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	REF
PS-REF-COK-103	SYDEC Delayed Coking Process Operations	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	REF
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	REF
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	REF
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	REF
CRUDE DISTILLATION				
A1014	Practical Distillation: Abnormal Operations	In Practical Distillation: Abnormal Operations, you will learn to recognize the symptoms of abnormal fractionating tower operation and learn how to make corrections. This program identifies and analyzes serious abnormalities which affect tower operation, including: flooded trays, high levels, dry trays, trapped water, loss of cooling water, loss of heat, and plugged outlets. The program also discusses the effects of these abnormalities on products, and on temperature, pressure, and flow rates. Abnormal Operating Conditions also outlines the procedures for discovering what is happening in the tower, which corrections are most likely to re-establish normal operation, and how to judge the effects of adjustments. Finally, the program provides practice in solving abnormal operating problems. Using the knowledge from this and the previous programs in this series, you will be able to meet the challenge of abnormal operation and restore the tower to efficient and economical fractionation.	4	CC
A1012a	Practical Distillation: Fractionating Equipment	Practical Distillation: Fractionating Equipment, provides a fundamental knowledge of fractionating equipment, including the tower, temperature and pressure, bubble cap tray and other tray types, packed towers, and auxiliary equipment. To appreciate the precautions taken during normal operations, shutdown, and turnaround, the program provides a working knowledge of foreign deposits and liquid traps, explosive mixtures, and unnecessarily rapid changes. A thorough knowledge of these factors and a deep appreciation of the trouble they can cause will permit you to wisely adapt your actions to situations you will experience, especially as they affect the various stages of shutdown and turnaround.	3	CC
A1013	Practical Distillation: Normal Operations	In Practical Distillation: Normal Operations, you will 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. This program also identifies and analyzes the three key variables in tower operation - pressure, flow rates, and temperature - and illustrates their effects on the material balance, the heat balance, and the quality of the product. The basic tests of product quality are described, as well as the kinds of checks and adjustments the operator performs in controlling normal tower operations. Finally, the program presents operating situations that you are likely to encounter on a distillation unit. You will practice	4	CC

Course #	Course Title	Description	Hrs	Lib
		solving normal operating problems. These practice exercises will help you recognize and respond quickly to actual distillation problems.		
A1012b	Practical Distillation: Operating Procedures	The goal in any distillation process is to produce the maximum amount of "on-spec" products at the lowest possible cost. It is an operator's duty to see that this goal is met. An operator is responsible for collecting data on tower operating conditions and analyzing this data to determine if there is an operating problem. If the operating conditions inside the tower need to be changed, an operator must decide which adjustment to make and then correct the operation. An operator who understands what happens inside a distillation column, and why it happens, is in a much better position to keep the unit running smoothly and efficiently. Operating Procedures covers the basic principles of distillation, the control procedures followed during normal and abnormal operations, extractive and azeotropic distillation processes, shutdown and startup operations, and computer control of distillation columns.	3	CC
A1012c	Practical Distillation: Concepts and Quality	The physical law behind distillation is that heat can be used to separate a mixture of hydrocarbons by their respective boiling points or boiling point ranges. In a distillation column, there must be a balance of heat and material into and out of the tower. These heat and material balance concepts are the same for every column and can be used to predict how a tower will react to any operating change. The concepts of sensible and latent heat, partial pressure, and vapor pressure explain how and why hydrocarbons react as they do during the separation process. In Concepts and Quality, you will learn about the major concepts that are common to all distillation processes, identify operational principles that can be utilized to conserve energy and improve quality, identify how the interaction of process variables can affect product quality, and learn how to identify and correct operating problems.	3	CC
CRUDE UNIT				
PS-REF-CRU-105	Crude Distillation: Consequences of Deviation	In this program in the Crude Distillation series, you will learn to recognize the symptoms of abnormal fractionating tower operation and learn how to make corrections. This program identifies and analyzes serious abnormalities which affect tower operation, including: flooded trays, high levels, dry trays, trapped water, loss of cooling water, loss of heat, and plugged outlets. The program also discusses the effects of these abnormalities on products, and on temperature, pressure, and flow rates. Consequences of Deviation also outlines the procedures for discovering what is happening in the tower, which corrections are most likely to re-establish normal operation, and how to judge the effects of adjustments. Finally, the program provides practice in solving abnormal operating problems. Using the knowledge from this and the previous programs in this series, you will be able to meet the challenge of abnormal operation and restore the tower to efficient and economical fractionation.	2	REF
PS-REF-CRU-103	Crude Distillation: Operating Procedures	Crude oil is made up of a variety of hydrocarbons. In its raw form, however, crude oil is of very little value. To make useful products, the oil must be separated into "cuts," or fractions, that contain similar types of hydrocarbons. This is accomplished by a process called distillation, or fractionation. Distillation uses heat to separate a mixture of hydrocarbons according to their respective boiling points. Crude Distillation is a series oflearning programs covering the principles of distillation. This program, Distillation: Operating Procedures, provides a fundamental knowledge of tower instrumentation and procedures for monitoring tower operations. You will also learn about standard operating practices for shutdown, cleaning, testing, and start-up. Finally, you will practice your skills in different situations. To appreciate the precautions taken during normal operations, shutdown, and turnaround, the program provides a working knowledge of foreign deposits and liquid traps, explosive mixtures, and unnecessarily rapid changes. A thorough knowledge of these factors and a deep appreciation of the trouble they can cause will permit you to wisely adapt your actions to situations you will experience, especially as they affect the various stages of shutdown and turnaround.	3	REF

Category: Refinery Operations

Course #	Course Title	Description	Hrs	Lib
PS-REF-CRU-101	Crude Distillation: Overview	Crude oil is made up of a variety of hydrocarbons. In its raw form, however, crude oil is of very little value. To make useful products, the oil must be separated into "cuts," or fractions, that contain similar types of hydrocarbons. This is accomplished by a process called distillation, or fractionation. Distillation uses heat to separate a mixture of hydrocarbons according to their respective boiling points. Crude Distillation is a series of learning programs covering the principles of distillation. This program, Distillation: Overview, begins by explaining the nature of oil, how it is made up and what happens to its structure when it is cracked or reformed. Next, it discusses the different properties of oil, giving special attention to the properties often referred to or measured in the refining process. The program also explains sensible heat, latent heat, vapor pressure, and partial pressure. These lessons form a review of the basic principles of the distillation process, and are presented as background for future programs in the series that explain the actual practical operation of distillation units. The final section of this program is about the process of distillation and how it works. This unit is designed to logically develop the knowledge of the distillation process from the elementary shell still through to the mechanisms of reflux, reboiling, and sidestream drawing of the sophisticated fractionator. An important lesson describes the temperature profile of the tower in distillation, showing the nature of the flow of liquid and vapors in the tower and the reasons for the flow. The final lesson is a review and summary of the entire distillation process.	3	REF
PS-REF-CRU-102	Crude Distillation: Process Equipment	Crude oil is made up of a variety of hydrocarbons. In its raw form, however, crude oil is of very little value. To make useful products, the oil must be separated into "cuts," or fractions, that contain similar types of hydrocarbons. This is accomplished by a process called distillation, or fractionation. Distillation uses heat to separate a mixture of hydrocarbons according to their respective boiling points. Crude Distillation is a series of learning programs covering the principles of distillation. This program, Distillation: Process Equipment, will provide you with general knowledge of how a distillation column is designed and how the distillation process works. It provides a fundamental knowledge of fractionating equipment, including the tower, temperature and pressure, bubble cap tray and other tray types, packed towers, and auxiliary equipment. Finally, you will be introduced to special distillation applications. 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	REF
PS-REF-CRU-104	Crude Distillation: Process Variables	In any refinery, petrochemical or chemical plant, distillation columns dominate the skyline. While there are many different types of columns and an even larger variety of feeds, the principles that make distillation work are the same in every application. The physical law behind distillation is that heat can be used to separate a mixture of hydrocarbons by their respective boiling points or boiling point ranges. In a distillation column, there must be a balance of heat and material into and out of the tower. These heat and material balance concepts are the same for every column and can be used to predict how a tower will react to any operating change. The concepts of sensible and latent heat, partial pressure, and vapor pressure explain how and why hydrocarbons react as they do during the separation process. In Process Variables, you will learn about the major concepts that are common to all distillation processes, identify how the interaction of process variables can affect product quality, identify factors like reflux and pressure that affect distillation, and describe operational principles that can be utilized to conserve energy and improve quality.	5	REF
PS-REF-CRU-106	Crude Distillation: Troubleshooting Trays and Towers	In this program in the Crude Distillation series, you will learn to recognize the symptoms of abnormal fractionating tower operation and learn how to make corrections. This program identifies and analyzes serious abnormalities which affect tower operation, including: flooded trays, high levels, dry trays, trapped water, loss of cooling water, loss of heat, and plugged outlets. The program also discusses the effects of these abnormalities on products, and on temperature, pressure, and flow rates. Troubleshooting Trays and Towers also outlines the procedures for discovering what is happening in the tower, which corrections are most likely to re-establish normal operation, and how to judge the effects of adjustments. Finally, the program provides practice in solving abnormal operating problems. Using the knowledge from this and the previous programs in this series, you will be able to meet the challenge of abnormal operation and restore the tower to efficient and economical fractionation.	2	REF

Category: Refinery Operations

Course #	Course Title	Description	Hrs	Lib
DISTILLATION				
A1011a	Practical Distillation: Behavior of Hydrocarbons	Practical Distillation: Behavior of Hydrocarbons, 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. The program also explains sensible heat, latent heat, vapor pressure, and partial pressure. These lessons form a review of the basic principles of the distillation process, and are presented as background for future programs in the series that explain the actual practical operation of distillation units. The final section of this program is about the process of distillation and how it works. This unit is designed to logically develop the knowledge of the distillation process from the elementary shell still through to the mechanisms of reflux, reboiling, and sidestream drawing of the sophisticated fractionator. An important lesson describes the temperature profile of the tower in distillation, showing the nature of the flow of liquid and vapors in the tower and the reasons for the flow. The final lesson is a review and summary of the entire distillation process.	2.5	CC
A1011b	Practical Distillation: Principles and Practices	Practical Distillation: Principles and Practices, will provide you with general knowledge of how a distillation column is designed and how the distillation process works. You will learn how heat balance adjustments affect product composition. Finally, 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	CC
FCC				
A1095	Fluid Catalytic Cracking	In terms of barrels per day, fluid catalytic cracking is the largest petroleum conversion process in the world. Nearly every major refinery is equipped with a cat cracking unit which processes gas oils of marginal value into more valuable petrochemical feedstocks, distillate fuels, and high octane gasoline blending components. In this program, you will learn about fluid catalytic cracking. You will learn about the equipment that makes up a cat cracking unit 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	CC
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	REF
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	REF
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	REF
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	REF
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	REF
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	REF
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	REF
GASOLINE BLENDING				
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.	5	REF

Category: Refinery Operations

Course #	Course Title	Description	Hrs	Lib
REFINERY OVERVIEW				
PS-REF-OVR-104	Refinery Process Overview: Catalytic Reforming	In Catalytic Reforming, you will learn about the basics of catalytic reforming, catalytic equipment, and the reforming process.	2	REF
PS-REF-OVR-103	Refinery Process Overview: Fluid Catalytic Cracking	In this program, 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	REF
PS-REF-OVR-106	Refinery Process Overview: Gasoline Blending	In this program, 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.	2	REF
PS-REF-OVR-101	Refinery Process Overview: Introduction	In this program, 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.	2	REF
PS-REF-OVR-107	Refinery Process Overview: Refinery Process Hazards	In this program, 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	REF
PS-REF-OVR-102	Refinery Process Overview: Crude Distillation	In this program, 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.	2	REF
PS-REF-OVR-105	Sulfur Recovery and Tail Gas Processing Overview	In the Sulfur Recovery and Tail Gas Processing Overview program, you will learn about the primary purpose of the sulfur recovery unit, including a process chemistry, and an overview of the tail gas process.	4	REF
SOLVENT DEASPHALTING				
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	REF
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	REF
PS-REF-SDA-102	Solvent Deasphalting Primary Equipment	In Solvent Deasphalting Primary Equipment, you will learn about the main sections within the solvent deasphalting process including extraction, resin recovery, DAO recovery, pitch recovery, and solvent recovery; the different circulation loops used in the SDA process; the purpose and function of the extractor. 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	REF
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	REF
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	REF
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	REF
SULFURIC ACID PLANT				
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	REF
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	REF
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	REF
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	REF

Category: Refinery Operations

Course #	Course Title	Description	Hrs	Lib
TURNAROUND				
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	REF

Rotating & Reciprocating Equipment

Course #	Course Title	Description	Hrs	Lib
AIR COMPRESSORS				
A1050	Air Compressors	In Air Compressors, you will learn 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	CC
CENTRIFUGAL COMPRESSORS				
A1053a	Centrifugal 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 about the construction and operation of compressors. In this program you will learn the construction, principal parts, and operation of reciprocating compressors.	3	CC
A1053b	Centrifugal 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 about the construction and operation of centrifugal compressors.	4	CC
CENTRIFUGAL PUMPS				
A1071b	Centrifugal Pumps: Equipment and Operation	Centrifugal pumps are machines which use centrifugal force to move liquids. In this program, you will learn about the construction of pump parts, including packing boxes, seals, bearings, balancing drums, and couplings. You will learn the relation of alignment and misalignment to vibration, how pumps are lubricated, and how they are cooled in operation. Finally, you will learn the details of pump operation including start-up, normal operation, and shut-down. You will learn what the common problems of centrifugal pump operation are and how to spot and correct them, and how to maintain the pumps for dependable, safe operation.	4	CC
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.	3	CC
COMPRESSOR PERFORMANCE				
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	MSO
CONDITION MONITORING				
PS-MNT-CMO-105	Condition Monitoring - Agitators and Mixers	In Condition Monitoring - Agitators and Mixes, you will learn about agitator and mixer detectable faults and common problems.	0.5	EIAM
PS-MNT-CMO-102	Condition Monitoring - Compressors	In Condition Monitoring - Compressors, you will learn about centrifugal, axial, reciprocating, and screw compressor monitoring.	1	EIAM
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	EIAM
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	EIAM
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	EIAM

Category: Rotating & Reciprocating Equipment

Course #	Course Title	Description	Hrs	Lib
COUPLINGS AND GEARS				
A1085b	Couplings, Gear Trains, and V-Belts: Gear Trains and V-Belt Drives	This program covers two different ways prime movers or drivers are connected to driven equipment, the special advantages and problems of each of the different ways, and the adjustment and preventive maintenance of different types of coupling equipment. Also covered are the physical principles of power transmission, and the relationship of speed and torque as different forms of power. You will learn about simple and compound gear trains, and how gear trains may be used as speed changers or torque increasers. You will learn about spur, helical, double-helical, bevel, and worm gears, and the uses of each. You will learn about gear lubrication and about handling the shock loads that your equipment applies to gears. Finally, you will learn about the construction and uses of the different types of single and multiple V-belt drives, the use of V-belt drives as speed changes, the adjustment and replacement of V-belts, and the control of slippage.	4	CC
A1085a	Couplings, Gear Trains, and V-Belts: Machine Connections and Couplings	This program covers one way drivers are connected to driven equipment. You will learn about the special advantages and problems associated with couplings, and their adjustment and preventive maintenance requirements. In this program, you will learn about the causes and control of misalignment, end float, surges in torque, and the different basic types of rigid and flexible couplings.	3	CC
DYNAMIC COMPRESSORS				
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	EIAM
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	EIAM
DYNAMIC PUMPS				
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	EIAM
A1070	Introduction to Dynamic Pumps	In Introduction to Dynamic Pumps, you will about fluid flow, dynamic pump classifications and properties of the two dynamic pump types - axial and centrifugal.	1	CC
FANS AND BLOWERS				
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	EIAM
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	EIAM
GAS TURBINES				
A1083b	Combustion Gas Turbines: Equipment and Operation	In Combustion Gas Turbines: Systems and Operation, you will learn about the functions of casing seals, bearings and lubrication in a combustion gas turbine. The program also covers the control and operation of combustion gas turbines, including start-up, operating, and shutdown procedures, and the control of 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. Through this understanding of turbine principles, construction, and control, you will be better able to secure efficient and safe turbine operation.	4	CC
A1083a	Combustion Gas Turbines: Introduction	In Combustion Gas Turbines 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	CC

Category: Rotating & Reciprocating Equipment

Course #	Course Title	Description	Hrs	Lib
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	EIAM
INTERNAL COMBUSTION ENGINES				
A1084a	Internal Combustion Engines: Introduction	Internal combustion engines are engines which burn fuel in a cylinder to produce power. Presented in this program are the principles of the internal combustion engine, and its general operation and parts. You will learn how the combustion cycle differs in 2-cycle and 4-cycle engines. You will also learn some of the more common cylinder arrangements. Also covered are the details of the construction of an internal combustion engine, including the camshaft, carburetor, 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	CC
A1084b	Internal Combustion Engines: Operating Techniques	Internal combustion engines are engines which burn fuel in a cylinder to produce power. In this program, you will learn the details of the auxiliary systems of IC engines and how they operate, including the cooling system, lubrication system, air cleaners, superchargers and exhaust systems. You will also learn the operation and maintenance of the engine, how to read an instrument panel and interpret gauge readings, typical engine start-up and shut-down procedures, and preventive maintenance procedures for daily, weekly and monthly checks.	3	CC
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	EIAM
MIXERS AND BLENDERS				
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.	1	EIAM
POSITIVE DISPLACEMENT COMPRESSORS				
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	CC
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	CC
POSITIVE DISPLACEMENT PUMPS				
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	EIAM
A1072b	Positive Displacement Pumps: Equipment and Operation	Positive displacement pumps are reciprocating and rotary pumps that move liquid by the positive displacement of liquid volume. In this program, you will learn about 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. Finally, you will learn startup and shutdown procedures, how to recognize and solve common pumping problems; and proper operating maintenance.	4	CC

Category: Rotating & Reciprocating Equipment

Course #	Course Title	Description	Hrs	Lib
A1072a	Positive Displacement Pumps: Introduction	Positive displacement pumps are reciprocating and rotary pumps that move liquid by the positive displacement of liquid volume. In this program, you will learn the operating principles and performance characteristics of positive displacement pumps, what determines their capacity, pressure, horsepower and efficiency, and how NPSH is calculated. You will also 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.	4	CC
RECIPROCATING COMPRESSORS				
PS-MNT-RCO-101	Reciprocating Compressors	In Reciprocating Compressors, you will learn 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	EIAM
SCREW COMPRESSORS				
PS-MSO-SCC-101	Screw Compressor Components and Auxiliary Equipment	In Screw Compressor Components and Auxiliary Equipment, you will learn 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	MSO
STEAM ENGINES AND PUMPS				
A1086a	Steam Engines and Pumps: Introduction	In Introduction to Steam Engines and Pumps, you will learn about steam engine and pump basics, steam engine and pump valves, constructing steam engines and pumps, and steam engine control.	4	CC
A1086b	Steam Engines and Pumps: Operation and Maintenance	In Steam Engines and Pumps: Operation and Maintenance, you will learn about steam engine control systems, steam engine lubrication, operation and maintenance, and steam pumps.	4	CC
STEAM TURBINES				
A1082b	Steam Turbines: Equipment and Operation	Steam turbines may differ from one another in size, appearance, and construction, but all steam turbines are similar in operation and work on similar principles. In this program, you will learn about the construction of the turbine, including rotor and casing, diaphragms, seals, and packing boxes, and labyrinth and carbon ring packing. You will also learn about the construction of the bearings and bearing combinations used in turbines, of single- and multi-valve governors, and of the oil circulation system. And finally, you will learn turbine operation and operating problems; the effects of pressure, heat, and steam condensation; uneven heating and cooling; leakage of steam; vibration; lubrication and lubrication problems; speed adjustment, instrumentation, and the visual inspections that must be conducted before startup. With this understanding of turbine principles, construction and control, you will be able to ensure the efficiency and safety of turbine operations.	4	CC
A1082a	Steam Turbines: Introduction	Steam turbines may differ from one another in size, appearance, and construction, but all steam turbines are similar in operation and work on similar principles. In this program, 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.	3	CC

Stationary Equipment

Course #	Course Title	Description	Hrs	Lib
BOILERS				
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	CC
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	EIAM
COLUMNS AND PROCESS VESSELS				
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	EIAM
CONDENSERS				
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	CC
FIRED HEATERS				
A1165	Fired Heaters: Equipment and Design	The major source of energy consumption in a refinery, chemical, or petrochemical plant is fuel for fired heaters. Fired heaters are used in many process operations such as distillation, reforming, olefins manufacturing and hydrocracking. Almost every unit in a plant or refinery is equipped with some type of fired heater. With the rising cost of fuel, efficient operation of these furnaces can save hundreds of thousands of dollars for a company each year. In this program, you will learn about basic furnace operating principles of fired heaters and details of equipment construction and function.	3	CC
A1166	Fired Heaters: Operating Techniques	The major source of energy consumption in a refinery, chemical, or petrochemical plant is fuel for fired heaters. Fired heaters are used in many process operations such as distillation, reforming, olefins manufacturing and hydrocracking. Almost every unit in a plant or refinery is equipped with some type of fired heater. With the rising cost of fuel, efficient operation of these furnaces can save hundreds of thousands of dollars for a company each year. In this program, 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, and emergency shutdown.	4	CC
FURNACE				
A1032	Furnace Operations: Working With Furnaces	Few aspects of operation are more sensitive or more potentially hazardous than furnace startup and shutdown. This program leads you through these two important procedures to a complete understanding of the rigorous order of successive steps required and the way to accomplish each step prudently. Finally, you will be presented with several situations that can be brought under control by an astute application of the general principles of furnace operation. Each situation is adapted from an actual incident from the history of petroleum refining. You will examine real symptoms, consider their significance and choose a course of action that results in proper and economical firing of the furnace.	4	CC
A1031	Introduction to Furnace Operations	This program 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. Also discussed are the three elements of combustion - fuel, air, and a source of ignition - and the way these elements are combined under controlled conditions in the furnace. Providing air for combustion in sufficient quantity for maximum release of heat is the normal day-to-day task of the operator. This program discusses the operation and use of air control equipment and the indicators and analyzers that make strict regulation of the air supply possible. Proper control of air minimizes the consumption of fuel and extends the life of furnace equipment. Operators who develop the ability to regulate air supply within narrow limits contribute to the economy of heat production and extended life of the equipment.	4	CC

Category: Stationary Equipment

Course #	Course Title	Description	Hrs	Lib
HEAT EXCHANGERS				
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	EIAM
A1160a	Heat Exchangers: Introduction	In this program, 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	CC
A1160b	Heat Exchangers: Operations and Maintenance	In this program, 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	CC
A1022a	Nature of Heat: Heat Exchange Equipment	The economical operation of a modern plant or refinery depends upon the efficient use of heat energy. Nature of Heat is a series of learning programs including Heat and Temperature, Heat Transfer, and Fuels and Combustion. Efficient use of heat energy includes not only efficient combustion, but also the efficient transfer of heat energy from one place to another. In this program in the series, different types of heat exchangers, including fixed shell-and-tube, U-tube and floating head are examined.	1	CC
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	EIAM
OIL AND GAS SEPARATORS				
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, such as baffles and mist extractors. You will learn how the backpressure regulator and the liquid level controller operate to maintain optimum separation conditions. You will also learn to recognize such basic separators as vertical, horizontal, spherical, double-tube, baffling, and metering separators. And, you will be introduced to the related processes of liquid stabilization, stage separation, low temperature separation, gas dehydration, and crude oil dehydration.	3	CC
SEPARATORS				
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	MSO
STEAM TURBINES				
PS-MNT-STC-101	Steam Turbine Controls	In Steam Turbine Controls, you will learn 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	EIAM
PS-MNT-STU-101	Steam Turbines for Technicians	In Steam Turbines for Technicians, 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	EIAM
VALVES				
PS-MNT-ACT-101	Actuators	In Actuators, 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	EIAM
PS-MNT-RSV-101	Rotary Stem Valves for Technicians	In Rotary Stem Valves, 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	EIAM
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	EIAM
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	EIAM
PS-MNT-VLA-101	Valve Accessories	In Valve Accessories, you will learn 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 valve accessories.	2	EIAM

Category: Stationary Equipment

Course #	Course Title	Description	Hrs	Lib
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	EIAM
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	EIAM
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	CC
A1140a	Valves: Introduction to Valves	Valves are used to control the flow of liquids and gases. In this program, you will learn about the construction and operation of the most widely used valves, such as gate, globe, plug, and check valves.	4	CC
A1140b	Valves: Operating Valves	Valves are used to control the flow of liquids and gases. In this program, 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	CC

Utility, Safety and Facility Systems

Course #	Course Title	Description	Hrs	Lib
BOILERS				
PS-MNT-BOI-101	Introduction to Auxiliary Boiler Systems	In Introduction to Auxiliary Boiler Systems, you will learn about the purpose of an auxiliary boiler system, the different classifications, common boiler accessary equipment, heat recovery equipment, the burner management system, and the operating limits on the typical auxiliary package boiler.	1	EIAM
CHILLERS				
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	EIAM
COMPRESSED AIR SYSTEMS				
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	EIAM
PS-MNT-PNE-101	Pneumatic Systems	In Pneumatic Systems, you will learn about pneumatic system components, common pneumatic valves; working safely with pneumatic systems; schematics and troubleshooting; and removing and installing components.	2	EIAM
PS-MNT-AIR-101	Utility and Instrument Air Systems	In Utility and Instrument Air Systems, you will learn about compressed air systems, components, piping configuration, methods of moisture removal, and the hazards and risks associated with them.	1.5	EIAM
COOLING TOWERS				
PS-MNT-CTW-101	Cooling Towers for Technicians	In Cooling Towers for Technicians, 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 cooling tower troubleshooting.	5	EIAM
A1150a	Cooling Towers: Introduction	A great deal of process water is used daily within industry to cool process products and equipment. To conserve this potentially scarce resource and to minimize the costs of industrial cooling, much of the water is recycled and used again. This recycling operation is accomplished by utilizing a recirculating water cooling system. The system is composed of two major parts - a heat exchanger that transfers heat from a hot liquid to the cooling water and a cooling tower, which cools the water so that it can be reused. In this program, you will learn about various types of cooling towers and their construction, how they cool to save water and the factors that affect cooling tower performance.	5	CC
A1150b	Cooling Towers: Water Conditioning	Billions of gallons/liters of water are used daily by industry to cool process products and equipment. To conserve this potentially scarce resource and to minimize the costs of industrial cooling, much of the water is recycled and used again. This recycling operation is accomplished by utilizing a recirculating water cooling system. The system is composed of two major parts - a heat exchanger that transfers heat from a hot liquid to the cooling water and a cooling tower, which cools the water so that it can be reused. Because cooling water is recirculated throughout the cooling system, it must be treated to remove or neutralize impurities that would otherwise damage the heat transfer equipment. In this program, you will learn about water conditioning and its effect on the efficiency and upkeep of cooling tower units.	5	CC
ELEVATOR SYSTEMS				
PS-MNT-IDE-101	Industrial Elevators	In Industrial Elevators, you will learn about industrial elevator components, safety codes, classifications, differences between freight and passenger elevators; elevator safety, drop and load tests, maintenance; and problem troubleshooting.	2	EIAM
FIRE AND GAS SYSTEMS				
PS-EIA-FDE-101	Fire Detection	In Fire Detection, you will learn about fire detection systems, including heat, smoke, and flame detectors; hydrocarbon emissions, UV/IR sensors and how to calibrate and troubleshoot these systems.	2	EIAM

Category: Utility, Safety and Facility Systems

Course #	Course Title	Description	Hrs	Lib
PS-MNT-FPS-101	Fire Protection Systems	In Fire Protection Systems, 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	EIAM
PS-EIA-FSD-101	Flame Scanning Devices	In Principles of Flame Scanning Devices, 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	EIAM
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	EIAM
FLARE SYSTEMS				
PS-MSO-FSF-101	Flare System Fundamentals	In Flare System Fundamentals, you will learn 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	MSO
PS-MSO-FSH-101	Flare System Hazards and Ignition	In Flare System Hazards and Ignition, you will learn 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	MSO
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	MSO
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	MSO
GENERATOR AND EMERGENCY POWER SYSTEMS				
PS-MNT-DEG-101	Diesel Engine Generators	In Diesel Engine Generator, 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	EIAM
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	EIAM
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	EIAM
HEAT TRACING				
PS-MNT-EHT-101	Electrical Heat Tracing	In Electrical Heat Tracing, 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	EIAM
HVAC SYSTEM				
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	EIAM
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	EIAM
HYDRAULIC SYSTEMS				
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	EIAM

Course #	Course Title	Description	Hrs	Lib
LIQUID NITROGEN SYSTEMS				
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	EIAM
PLANT COMMUNICATION SYSTEMS				
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	CC
PS-MNT-RCS-101	Radio and Communication Systems	In Radio and Communication Systems, 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	5	EIAM
PLANT LIGHTING				
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	EIAM
POWERED INDUSTRIAL EQUIPMENT				
PS-MNT-FOM-101	Forklifts	In Forklifts, 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	EIAM
PRESSURE SAFETY DEVICES				
PS-MNT-PRS-101	Pressure Relief Safety Devices	In Pressure Relief Safety Devices, you will learn 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.	0.5	EIAM
SECURITY SYSTEMS				
PS-MNT-SSY-101	Security Systems	In Security Systems, you will learn 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	EIAM
STEAM LINES				
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	EIAM
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	EIAM
VENT AND RUNDOWN SYSTEM				
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	EIAM
WAREHOUSING				
PS-MNT-BAM-101	Laydown Yards and Area Management	In Laydown Yards and Area Management, you will learn about identifying and establishing laydown yards, controls and security, and preventive maintenance; scrap yard management, engineering controls, site layout, and contamination control; lubricant storage and spill prevention and recovery; maintenance related buildings, managing resources, and compliance and auditing.	3.5	EIAM
WATER TREATMENT				
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	EIAM

Category: Utility, Safety and Facility Systems

Course #	Course Title	Description	Hrs	Lib
PS-MNT-ROS-101	Fundamentals of Reverse Osmosis Systems	In Fundamentals of Reverse Osmosis systems, you will learn about the reverse osmosis process, the differences between natural and reverse osmosis, pre-treatment options and system maintenance.	1	EIAM
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	EIAM
A1102	Wastewater Treatment: Biological Treatment Process	Following preliminary treatment, the different wastewater streams are mixed together to a more or less uniform consistency for further treatment by a process called biological oxidation, also known as the activated sludge process. This process uses microorganisms to digest and break down the organic chemicals in the wastewater, producing treated effluent and sludge. This program examines the equipment used in the activated sludge process and its operation. You will also learn about sludge treatment and disposal methods and examine the various methods of effluent polishing, which further remove suspended solids and hard-to-treat organics before the treated wastewater is discharged as effluent into the environment.	3	CC
A1101	Wastewater Treatment: Preliminary Treatment	Wastewater treatment is an increasingly important aspect of refinery and chemical plant operations. An efficient wastewater plant is not only important from the standpoint of environmental conservation, but also represents an opportunity to recover and recycle some resources that might otherwise be lost, thereby contributing to the economic success of the overall process operation. In this program, you will learn about important sources of contamination within a typical refinery, and contaminants that various process operations may generate. You will also learn about the various preliminary, or physical, treatment processes that the different wastewater streams must undergo before they are suitable for further processing. The program 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	CC
A1103	Wastewater Treatment: Process Control	The effectiveness of the biological oxidation process is affected by a number of control factors. These factors can be divided into two basic categories, environmental and process-related. The environmental control factors include the organic loading, pH, availability of nutrients, temperature, and presence of toxic substances, and determine the environment in which the biox process takes place. The process-related control factors are adjusted by the operator to achieve the best effluent quality, and include the influent rate, the return activated sludge rate, and the waste activated sludge rate. This program examines the effect each variable has on the process, and the relationship between them. You will also learn strategies that you can use to monitor and optimize the process operation. The program includes some simple calculations that you can perform to determine the operating target levels.	3	CC
A1104	Wastewater Treatment: Testing and Troubleshooting	Testing is an important responsibility of the wastewater treatment operator. The biological oxidation (activated sludge) process is very sensitive to changes in its operation, so it is critical that you know what tests to run, how to run them, and how to use the test results to keep the process operating effectively. This program covers important tests that a treatment plant operator commonly uses on a daily basis to monitor the operation of the unit. You will learn the 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 program also covers the 30-minute sludge-settling test and calculation of the sludge volume index. Because the 30-minute settleability test is a quick, easy test that can be performed without laboratory analysis, the program includes some of the troubleshooting steps you might take, based on some typical results of the 30-minute settleability test.	2	CC
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	EIAM
WEIGHING EQUIPMENT				
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	EIAM

Category: Utility, Safety and Facility Systems

Course #	Course Title	Description	Hrs	Lib
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	EIAM

Library Course Lists

Core Competency	
A1081	AC Motors for Operators
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
A1075	Condensers
A1085b	Couplings, Gear Trains, and V-Belts: Gear Trains and V-Belt Drives
A1085a	Couplings, Gear Trains, and V-Belts: Machine Connections and Couplings
A1620	Electrical Fundamentals
A1186	Electrical System Basics and Diagrams
A1160a	Heat Exchangers: Introduction
A1160b	Heat Exchangers: Operations and Maintenance
A1181	Hydrocarbon Chemistry 101
A2065	Instrumentation: Analyzers and Inferentials
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
A1084a	Internal Combustion Engines: Introduction
A1084b	Internal Combustion Engines: Operating Techniques
A1051	Introduction To Compression
A1070	Introduction to Dynamic Pumps
A1197	Job Hazard Analysis and Stop Work Authority
A1198	Leak Detection and Repair
A1210	Lubrication Concepts
A1044	Mechanics of Fluids: Fluids in Motion
A1041a	Mechanics of Fluids: Introduction to Process Fluids
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
A1021	Nature of Heat: Heat and Temperature
A1022a	Nature of Heat: Heat Exchange Equipment
A1022	Nature of Heat: Heat Transfer
A1192	Plant Radio Communication
A1052b	Positive Displacement Compressors: Construction and Operation
A1052a	Positive Displacement Compressors: Introduction
A1072b	Positive Displacement Pumps: Equipment and Operation
A1072a	Positive Displacement Pumps: Introduction
A1130	Process Plant Mathematics
A1170	Safe Handling of Light Ends

Core Competency	
A1145	Steam Boiler Operations
A1086a	Steam Engines and Pumps: Introduction
A1086b	Steam Engines and Pumps: Operation and Maintenance
A1082b	Steam Turbines: Equipment and Operation
A1082a	Steam Turbines: Introduction
A1196	Tank Gauging
A1185	Understanding Electricity
A1140a	Valves: Introduction to Valves
A1140b	Valves: Operating Valves
A1201	Working with Hand Tools
A1208	Working with Power Tools

Downstream Core Competency	
A1096	Catalytic Reforming
A1207	Cleaning Activities
A1150a	Cooling Towers: Introduction
A1150b	Cooling Towers: Water Conditioning
A1122	Corrosion Control
A1100	Cost Reduction for Operators
A1112	Fire Fighting: Extinguishing Agents
A1111	Fire Fighting: Fuels and Combustion
A1113	Fire Fighting: Portable Fire Extinguishers and Foams
A1114b	Fire Fighting: Strategies
A1114a	Fire Fighting: Tactics
A1165	Fired Heaters: Equipment and Design
A1166	Fired Heaters: Operating Techniques
A1205	Flange Piping
A1095	Fluid Catalytic Cracking
A1032	Furnace Operations: Working With Furnaces
A1031	Introduction to Furnace Operations
A1137	Performing Skills Assessment
A1202	Pipe Fitting Basics
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
A1090	Process Control Tests
A1200	Process Operator Responsibilities
A1180	Process Plant Chemistry
A1190	Safe Laboratory Operations
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
A1204	Small Threaded Pipe
A1191	Statistical Process Control
A1203	Tubing
A1206	Valve Maintenance
A1102	Wastewater Treatment: Biological Treatment Process
A1101	Wastewater Treatment: Preliminary Treatment
A1103	Wastewater Treatment: Process Control
A1104	Wastewater Treatment: Testing and Troubleshooting

EHS – US Mandates	
A5010	Access to Medical Records
A5089a	Accident Control Techniques: Introduction
A5089b	Accident Control Techniques: Safe Work Practices
A5071	American Chemistry Council: Responsible Care
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
A5057	Excavation and Trenching
A5057a	Excavation and Trenching for Operations Personnel
A5048	Explosive and Flammable Chemicals
A5066	Export Compliance and Global Trade Guidelines
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
A5055	Heat Stress Safety
A5032	Helicopter Safety
A5030	Hot Work
A5029	Hydrogen Sulfide (H2S)
A5038	Incident Reporting and Investigation
A5031b	Industrial Ergonomics
A5093	Industrial Hygiene
A5073	Introduction to Hazmat Transportation Regulations
A5050	Introduction to Process Safety Management (PSM)
A5011	Ionizing Radiation
A5045	Irritants, Corrosives, and Sensitizers
A5060	Jet Fuel Quality Control
A5015	Laboratory Safety
A5068	Ladder Safety

EHS – US Mandates	
A5068a	Ladder Safety for Construction
A5067	Line Breaking
A5012	Lockout/Tagout
A5079	Manual Handling and Lifting Techniques
A5035	Naturally Occurring Radioactive Materials (NORM)
A5049	Nitrogen Safe Use and Handling
A5040	Occupational Exposure to 1,3-Butadiene
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
A5043	Occupational Exposure to Sodium Hydroxide (Caustic Soda)
A5033	Occupational Exposure to Sulfur Dioxide
A5042	Occupational Exposure to Sulfuric Acid
A5031a	Office Ergonomics
A5091	Office Fire Safety
A5090	Office Safety
A5080	Offshore Water Safety
A5054	Oxygen-Fuel Gas Welding and Cutting
A5014	Personal Protective Equipment
A5004	Portable Fire Extinguishers
A5004a	Portable Fire Extinguishers: Non-Emergency Responder
A5074	Process Safety and Fatigue Management
A5074a	Process Safety and Fatigue Management for Supervisors
A50164	RCRA Emergency Response
A50161	RCRA Generators
A50162	RCRA Transporters
A50163	RCRA Treatment, Storage, and Disposal Facilities
A5001	Respiratory Protection
A5056	Rigging, Slings and Crane Lifts
A5058	Scaffolding
A5063	Security Training: All Personnel
A5061	Security Training: Facility Security Officer Overview
A5062	Security Training: Security Personnel
A5018	Specifications for Accident Prevention Signs and Tags
A5028	Spill Prevention, Control, and Countermeasures
A5027	Storage and Handling of Anhydrous Ammonia
A5046	Toxic Chemicals
A5034	Toxic Substances Control Act (TSCA)
A5047	Unstable and Reactive Chemicals
A5051	Vehicle-Mounted Elevated Work Platforms and Aerial Lifts
A5077	Walking/Working Surfaces
A5095	Warehouse Safety
A5058a	Working on Scaffolds
A5064	Workplace Violence

EHS – UK/EU Mandates	
UK-HSE-5010	Access to Medical Records - UK
UK-HSE-5019	Asbestos - UK
UK-HSE-5036	Assessing Occupational Exposure - UK
UK-HSE-5005	Benzene - UK
UK-HSE-5003	Confined Space Entry - UK
UK-HSE-5065	Driving Safety - UK
UK-HSE-5021	Electrical Safety for Qualified Employees - UK
UK-HSE-5020	Electrical Safety for Unqualified Employees - UK
UK-HSE-5094	Environmental Awareness - UK
UK-HSE-5057	Excavation and Trenching - UK
UK-HSE-5048	Explosive and Flammable Chemicals - UK
UK-HSE-5013	Eye and Face Protection - UK
UK-HSE-5078	Eye Wash and Safety Showers - UK
UK-HSE-5022	Fall Prevention - UK
UK-HSE-5092	First Aid Procedures - UK
UK-HSE-5023	Forklifts and Powered Industrial Trucks - UK
UK-HSE-5075	Hand Safety - UK
UK-HSE-5009	Hazardous Waste Spill Response, Containment and Decontamination - UK
UK-HSE-5002	Hearing Protection - UK
UK-HSE-5055	Heat Stress Safety - UK
UK-HSE-5032	Helicopter Safety - UK
UK-HSE-5030	Hot Work - UK
UK-HSE-5029	Hydrogen Sulphide (H2S) - UK
UK-HSE-5038	Incident Reporting and Investigation - UK
UK-HSE-5031b	Industrial Ergonomics - UK
UK-HSE-5093	Industrial Hygiene - UK
UK-HSE-5011	Ionising Radiation - UK
UK-HSE-5045	Irritants, Corrosives, and Sensitizers - UK
UK-HSE-5015	Laboratory Safety - UK
UK-HSE-5068	Ladder Safety - UK
UK-HSE-5067	Line Breaking - UK
UK-HSE-5012	Lockout/Tagout - UK
UK-HSE-5079	Manual Handling and Lifting Techniques - UK
UK-HSE-5035	Naturally Occurring Radioactive Materials (NORM) - UK
UK-HSE-5049	Nitrogen Safe Use and Handling - UK
UK-HSE-5040	Occupational Exposure to 1,3-Butadiene - UK
UK-HSE-5024	Occupational Exposure to Bloodborne Pathogens - UK
UK-HSE-5052	Occupational Exposure to Carcinogens - UK
UK-HSE-5044	Occupational Exposure to Chlorine - UK
UK-HSE-5072	Occupational Exposure to Formaldehyde - UK
UK-HSE-5039	Occupational Exposure to Hexavalent Chromium - UK
UK-HSE-5041	Occupational Exposure to Hydrochloric Acid - UK
UK-HSE-5053	Occupational Exposure to Lead - UK
UK-HSE-5043	Occupational Exposure to Sodium Hydroxide (Caustic Soda) - UK
UK-HSE-5033	Occupational Exposure to Sulphur Dioxide - UK
UK-HSE-5042	Occupational Exposure to Sulphuric Acid - UK
UK-HSE-5031a	Office Ergonomics - UK
UK-HSE-5091	Office Fire Safety - UK
UK-HSE-5090	Office Safety - UK
UK-HSE-5080	Offshore Water Safety - UK
UK-HSE-5007	Overview of Hazardous Waste Operations and Emergency Response - UK
UK-HSE-5054	Oxygen-Fuel Gas Welding and Cutting - UK
UK-HSE-5014	Personal Protective Equipment - UK

EHS – UK/EU Mandates	
UK-HSE-5004	Portable Fire Extinguishers - UK
UK-HSE-5004a	Portable Fire Extinguishers: Non-Emergency Responder - UK
UK-HSE-5074	Process Safety and Fatigue Management - UK
UK-HSE-5074a	Process Safety and Fatigue Management for Supervisors - UK
UK-HSE-5001	Respiratory Protection - UK
UK-HSE-5056	Rigging, Slings and Crane Lifts - UK
UK-HSE-5018	Specifications for Accident Prevention Signs and Tags - UK
UK-HSE-5028	Spill Prevention, Control, and Countermeasures - UK
UK-HSE-5027	Storage and Handling of Anhydrous Ammonia - UK
UK-HSE-5046	Toxic Chemicals - UK
UK-HSE-5047	Unstable and Reactive Chemicals - UK
UK-HSE-5051	Vehicle-Mounted Elevated Work Platforms and Aerial Lifts - UK
UK-HSE-5077	Walking/Working Surfaces - UK
UK-HSE-5095	Warehouse Safety - UK
UK-HSE-5064	Workplace Violence - UK

EI&A Mechanical Maintenance	
PS-MNT-ACT-101	Actuators
PS-MNT-APC-101	Ambient and Process Chillers
PS-EIA-ASC-101	Analyzer Sampling and Conditioning System
PS-EIA-ANS-101	Analyzer Shelters
PS-EIA-ARC-101	Arc Flash Causes and Mitigation
PS-EIA-BED-101	Basic Electronics
PS-EIA-BAT-101	Batteries
PS-MNT-BEA-101	Bearings
PS-MNT-BLD-101	Blinding and De-blinding
PS-EIA-CDB-101	Cable Duct Banks and Trays
PS-EIA-CPB-101	Capacitor Banks
PS-MNT-CPS-101	Cathodic Protection Systems
PS-EIA-CHA-101	Chlorine Analyzers
PS-EIA-CBR-101	Circuit Breakers
PS-MNT-CPV-101	Columns and Process Vessels
PS-MNT-AIR-102	Compressed Air Dryers
PS-MNT-CMO-105	Condition Monitoring - Agitators and Mixers
PS-MNT-CMB-101	Condition Monitoring - Balancing
PS-MNT-CMO-102	Condition Monitoring - Compressors
PS-MNT-CMO-101	Condition Monitoring - Electrical Motors
PS-MNT-CMG-101	Condition Monitoring - General
PS-MNT-CMO-103	Condition Monitoring - Pumps
PS-MNT-CMO-104	Condition Monitoring - Turbines, Fans and Blowers
PS-EIA-CDA-101	Conductivity Analyzers
PS-EIA-CTL-101	Control Loops
PS-EIA-CSN-101	Control Systems - SCADA, DCS and ESD
PS-MNT-CTW-101	Cooling Towers for Technicians
PS-MNT-COR-101	Corrosion in Metal
PS-EIA-CSM-101	Custody Meters
PS-MNT-DEG-101	Diesel Engine Generators
PS-EIA-DPR-101	Differential Pressure Flow Measurement
PS-EIA-DOA-101	Dissolved Oxygen Analyzers
PS-MNT-DRC-101	Drive Couplings
PS-MNT-DCF-101	Dust and Coalescer Filters
PS-MNT-DYC-102	Dynamic Compressor Systems, Seals and Routine Tasks
PS-MNT-DYC-101	Dynamic Compressors: Introduction and Operation
PS-MNT-DYP-101	Dynamic Pumps
PS-EIA-EFA-101	EI&A Field Awareness
PS-EIA-CAB-101	Electrical Cables
PS-EIA-EDO-101	Electrical Documentation
PS-MNT-EHT-101	Electrical Heat Tracing
PS-EIA-ELM-101	Electrical Level Measurement
PS-EIA-EMO-101	Electrical Motor Properties, Troubleshooting and Maintenance
PS-EIA-TTF-101	Electrician's Tools and Test Equipment
PS-MNT-EMB-101	Emergency Backup
PS-EIA-EPS-101	Emergency Power Systems
PS-MNT-ENG-101	Engineering Drawings and Symbols
PS-MNT-EXE-101	Extruder Equipment
PS-MNT-EXE-102	Extruder Equipment Maintenance
PS-MNT-FBL-101	Fans and Blowers

EI&A Mechanical Maintenance	
PS-MNT-FBL-102	Fans and Blowers Maintenance
PS-MNT-FAS-101	Fasteners
PS-MNT-FDT-101	Fault Diagnosis, Troubleshooting and Machine Inspections
PS-EIA-FOC-101	Fiber Optic Cable
PS-MNT-FTS-101	Filters and Strainers
PS-EIA-FDE-101	Fire Detection
PS-MNT-FPS-101	Fire Protection Systems
PS-EIA-FSD-101	Flame Scanning Devices
PS-EIA-FGR-101	Flow Gauging (Rotameter)
PS-MNT-FOM-101	Forklifts
PS-MNT-CPM-101	Fundamentals of Condition and Predictive Monitoring
PS-MNT-DWT-101	Fundamentals of Demineralized Water Treatment Systems
PS-MNT-ROS-101	Fundamentals of Reverse Osmosis Systems
PS-MNT-VIB-101	Fundamentals of Vibration Measurement
PS-EIA-ICA-101	Fundamentals Principles of Instrument Calibration
PS-MNT-GPD-101	Gala Pellet Dryer for Technicians
PS-EIA-GCH-101	Gas Chromatography
PS-EIA-GDA-101	Gas Density Analyzers
PS-EIA-GDE-101	Gas Detection
PS-EIA-GHS-101	Gas Insulated Substations (GIS) and Sulfur Hexafluoride (SF6)
PS-MNT-GTU-101	Gas Turbines for Technicians
PS-MNT-SDG-101	Gaskets and Packing
PS-MNT-GEA-101	Gears
PS-EIA-GRD-101	Grounding
PS-MNT-HTM-101	Hand and Power Tools for Technicians
PS-EIA-HAP-101	Hazardous Area and Protection Classifications
PS-MNT-HEX-101	Heat Exchangers for Technicians
PS-EIA-GIS-101	High Voltage Gas Insulated Switchgear (GIS)
PS-EIA-HSS-101	High Voltage Substation Switchgear
PS-MNT-HVC-101	HVAC Fundamentals
PS-MNT-HYD-101	Hydraulic Systems
PS-EIA-HHL-101	Hydrostatic Head Level Measurement
PS-EIA-HHL-102	Hydrostatic Head Level Measurement - Device Troubleshooting and Calibration
PS-MNT-HYP-101	Hyper Compressor
PS-MNT-IDE-101	Industrial Elevators
PS-MNT-ITP-101	Insulation and Thermal Protection
PS-EIA-EMO-102	Introduction to AC/DC Electrical Motors for Technicians
PS-MNT-BOI-101	Introduction to Auxiliary Boiler Systems
PS-EIA-SCA-101	Introduction to Supervisory Control and Date Acquisition (SCADA)
PS-MNT-BAM-101	Laydown Yards and Area Management
PS-MNT-LDR-101	Leak Detection in Refrigeration Lines
PS-EIA-LAR-101	Lightning Arrester
PS-MNT-LNN-101	Liquid Nitrogen Storage Systems
PS-EIA-LVS-101	Low Voltage Substation Switchgear
PS-MNT-LCA-101	Lubrication Systems, Classifications and Applications
PS-EIA-LVI-101	LV Intelligent Switchgear
PS-MNT-MAL-101	Machine Alignment
PS-MNT-HVC-102	Maintaining HVAC Systems
PS-MNT-STT-102	Maintaining Storage Tanks
PS-MNT-MFD-101	Maintenance Fundamentals
PS-MNT-MND-101	Manuals and Drawings

EI&A Mechanical Maintenance	
PS-EIA-MFM-101	Mass Flow Measurement
PS-EIA-MCB-101	Measurement and Calibration Basics
PS-MNT-MEA-101	Measuring Tools
PS-MNT-MHS-101	Mechanical Hoses
PS-EIA-MVS-101	Medium Voltage Substation Switchgear
PS-EIA-MVV-101	Medium Voltage Vacuum Contactors
PS-EIA-MFA-101	Melting Flow Rate Analyzers
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