

GPiLEARN



 **GPStrategies**[®]
Your workforce transformation partner™

Part of Learning Technologies Group plc *ltg*



Leading technical companies worldwide use GPiLEARN+™ to optimize their workforce performance

Do your employees have the knowledge, skills, and abilities required to operate, maintain, and troubleshoot equipment safely and efficiently?

GP Strategies has been helping companies solve workforce qualification and regulatory compliance challenges for over 50 years. Drawing upon our deep experience in learning delivery, we can fully implement GPiLEARN+, with its robust technical and safety training content on your existing Learning Management System (LMS) or on our GPiLEARN+ LMS in just a few weeks, delivering ultra-fast time to value with immediate results.

With GPiLEARN+'s industry-leading online training solution, we help you implement blended learning solutions that make a lasting impact on your Mechanical, Electrical, and Instrumentation & Controls Technicians, Operators, Engineers, and other skilled workers. From managing health, safety, and environmental programs to complex position-based qualifications, GPiLEARN+ provides the solutions you need to maintain a safe and effective workforce.

Face today's industry challenges with confidence

Today's technical workforce continues evolving as manufacturing, aerospace, shipbuilding, pharmaceuticals, power generation, and other production environments seek to hire, train, and develop employees in technical roles. Mechanical, Electrical, and Instrumentation & Controls technicians are in high demand. GP Strategies recognizes this and provides sound, foundational, and advanced training for companies and their employees.

Content that engages learners

GPiLEARN+ online courseware features a range of topics that cover areas of corporate compliance, worker safety, and technical expertise. With the training following industry-recognized trends, our lessons capture more complex or advanced concepts and include iterative knowledge checks to reinforce learning. In addition, microlearning courses are available to provide quick bursts of general instruction on a variety of key subjects.

Regulatory compliance is paramount for technical organizations. With over 25 critical OSHA topic areas covered, such as fall protection and electrical safety, this content series allows your company to meet regulatory compliance training requirements in a flexible and cost-effective manner, while also driving a culture of safety within your organization.

Do you have system operators who need to maintain their certification? GP Strategies is an Approved Provider of Continuing Education for the North American Electric Reliability Corporation (NERC) Continuing Education Program. GP Strategies offers innovative training to help keep operators certified through our NERC-approved lessons.



GPiLEARN+ online training - Meeting today's changing delivery methods

GPiLEARN+ online training is designed to help technical companies develop a traditional or multiskilled workforce, improve knowledge, and reduce accidents in a cost-effective manner.

GPiLEARN+ provides technical and regulatory compliance topics in many different types of modalities, including traditional eLearning, microlearning, vignettes, interactive 3D models, and much more. Our eLearning includes animations, interactive exercises, narration, and knowledge checks to keep the audience engaged throughout the learning process.

Our content is developed following proven instructional design principles with input from industry-leading subject matter experts. All content is SCORM and AICC compliant, allowing an effective means to track training while providing the flexibility to resume lessons through bookmarking if an employee gets called away during training.

The GPiLEARN+ content shown in this catalog can be accessed through the GPiLEARN+ Learning Management System (LMS), or it can be integrated into your company's existing LMS through our content server approach, if desired.



The GPiLEARN+ LMS offers your team the ability to:

- Manage and track the training progress of employees using configurable reports and customized dashboards.
- Have an LMS and course content that are fully hosted (no need to store files or purchase and maintain an LMS, therefore lowering your operating costs and accelerating your launch date).
- Access regulatory compliance content that is continuously monitored by our experts and updated by our team with the latest regulatory changes.
- Customize your GPiLEARN+ branded site with your company branding, custom exam settings, and notifications.
- Access training 24/7/365.
- Access collaborative tools such as Learning Centers and Channels.
- Assign and track your various learning events (site-specific content, exams, classroom courses, hands-on training scenarios, manager assessments) at no additional cost.
- Easily develop and assign structured, job-specific curricula to your workforce.
- Effectively manage learner accounts.
- Have users self-enroll in lessons or access the required training assigned to them.
- Upload unlimited third-party content at no additional cost.
- Customize certification settings for courses that need to be taken on a recurring basis.
- Assign prerequisite training.

The GPiLEARN+ content server approach includes:

- Content is hosted on the GP server and integrated into your platform.
- Access support team members Monday through Friday, 8 a.m.- 8 p.m. ET.
- Access regulatory compliance content that is continuously monitored by our experts and updated by our team with the latest regulatory changes.
- Leverage your existing corporate infrastructure.
- Launch packages in either SCORM or AICC.
- Automatic content updates.
- Seamless approach for learners.

GPiLEARN+ world-class Support:

- Access to support team members Monday through Friday, 8 a.m.-8 p.m. ET
- Live monthly webinars and training classes
- Job aids, best-practice documents, manuals, communication plans, and other supporting documentation
- Automated ticketing system to capture and track your questions along with a support widget on the LMS to easily contact our support team

Our Content Partners

GPiLEARN+™ has key relationships with content partners to enhance your companies training program and lesson plans. Contact us to discuss how to include these into your training program.



GPiLEARN+™ partnership with SafetySkills has taken our platform to new heights. SafetySkills allows our product to provide access to over 250 safety and human resources courses. SafetySkills' content supports your industry regulatory compliance requirements and helps your organization promote a safe and secure work environment. Our SafetySkills content supports the growing domestic and international GPiLEARN+™ customer base by including many of these courses come prepackaged with translated language selections for your employee demographic, such as Latin America and Canada."

GPiLEARN+™ partnership with Technical Training Professionals (TTP) allows for exciting, industry-leading visuals as part of the GPiLEARN+™ training solution. TTP, who specialize in 3D animated high-end visual presentation of industrial power technologies, have been offering state-of-the-art training materials for the utility and manufacturing industries since 2003. Through this new partnership, GPiLEARN+™ can flexibly deploy TTP's content to end users through the GPiLEARN+ LMS platform.



GPiLEARN+™ partnership with Skillsoft supports the GPiLEARN+™ LMS platform with course offerings that include Human resources and legal compliance; Environmental health and safety; Business skills; Technology, developer, productivity, and collaboration tools.

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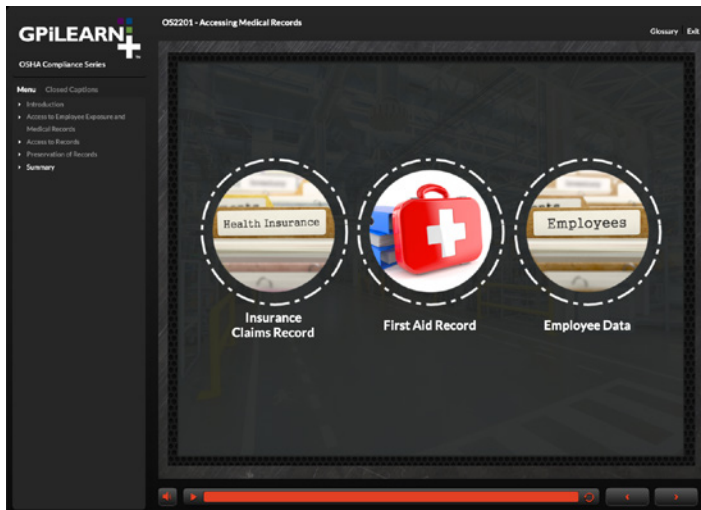
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Safety is a key concern with your workforce. Ensuring your team has the right knowledge to protect themselves and others is most important in industry today. Our safety courses are based on OSHA standards and provide industry-standard knowledge supporting your workforce.

Health

Automated External Defibrillator (AED)	OS0301	
Basic CPR (American Heart Association)	OS0401	
Basic First Aid	OS0501	
Accessing Medical Records	OS2201	
American Red Cross CPR	OS2301	
Basic First Aid	PF0102	
Basic First Aid	BFA-1.2	SS ES
Basic First Aid	CAL-9.2	SS
Basic First Aid - Canada	BFA-1.2can	SS
CPR Refresher	CPR-1.2	SS
Hands-Only CPR	CPR-2.2	SS
Industrial Hygiene	IND-1.2	SS
OSHA Reporting & Recordkeeping	OSH-3.2	SS
Basic First Aid for Oil and Gas Personnel	SNP-205.2	SS
Access to Medical Records	SNP-206.2	SS



OS2201 - Accessing Medical Records

Covers the different types of medical records, record retention and record transfer requirements, employer's responsibilities for preserving and accessing employee records, and explains the process for requesting records from an employer.

Confined Space

Confined Space Fundamentals	OS0701	
Working in Confined Spaces	OS0702	
Atmospheric Testing in Confined Spaces	OS0703	
Confined Space Awareness	CFS-1.2	SS ES
Confined Space Awareness - Canada	CFS-1.2can	SS
Confined Space Entry Supervisor	CFS-2.2	SS
Confined Space: Assigned Duties and Responsibilities	SNP-14.2	SS
Confined Space: Emergency Procedures	SNP-15.2	SS
Confined Space: Hazard Controls	SNP-16.2	SS
Confined Space: Hazards in Confined Spaces	SNP-17.2	SS
Confined Space: Types of Confined Spaces	SNP-18.2	SS
Confined Space Entry Supervisor - Supervisor Responsibilities (Microlearning)	SNP-307.2	SS
Confined Space and Engulfment Awareness for Oil and Gas Operations	OGS-10.2	SS
Carbon Monoxide Awareness	OGS-11.2	SS
Carbon Monoxide: Properties and Sources (Microlearning)	OGS-15.2	SS
Carbon Monoxide: Exposure Symptoms and Treatment (Microlearning)	OGS-16.2	SS
Carbon Monoxide: Controls to Prevent Exposure (Microlearning)	OGS-2.2	SS

Fall Protection

Fall Protection	OS1101	
Fall Protection: PFAS	OS1102	
Fall Protection	FAL-1.2	SS
Fall Protection - Canada	FAL-1.2can	SS
Active Fall Protection Systems	FAL-2.2	SS
Working From Heights - Canada	FAL-2.2can	SS
Fall Protection Awareness	CAL-1.0	SS
Ladder Safety	CAL-3.2	SS
Ladder Safety	LDR-1.2	SS
Ladder Safety - Canada	LDR-1.2can	SS

Ladder Safety: Types and General Safe Practices	SNP-40.2	SS	Electrical Safety California: Electricity and its Dangers (Microlearning)	SNP-211.2	SS
Ladder Safety: Safe Use	SNP-41.2	SS	Electrical Safety California: Control and Prevent Electrical Hazards (Microlearning)	SNP-215.2	SS
Ladder Safety: Inspection, Set-up, and Location	SNP-42.2	SS	Electrical Safety Above 601 Volts: Basics and Roles (Microlearning)	SNP-227.2	SS
Slips/Trips/Falls: Elevated Surfaces	SNP-43.2	SS	Electrical Safety Above 601 Volts: High Voltage Hazards (Microlearning)	SNP-228.2	SS
Slips/Trips/Falls: Holes and Openings	SNP-44.2	SS	Electrical Safety Above 601 Volts: Safe Work Practices (Microlearning)	SNP-229.2	SS
Slips/Trips/Falls: Walking and Working Surfaces	SNP-45.2	SS	Electrical Safety / NFPA 70E for Qualified Workers in the Oil and Gas Industry	OGS-24.2	SS
Slips/Trips/Falls	STF-1.2	SS ES			
Slips/Trips/Falls - Canada	STF-1.0can	SS			

Electrical Safety

Introduction to Electrical Safety	OS0901		Portable Fire Extinguishers	OS1801	
Electrical Safety Standards	OS0902		Fire Protection	PF0103	
Electrical Tools and Equipment Safety	OS0903		Fire Safety	CAL-11.2	SS
Arc Flash Protection	OS0904		Fire Safety	FRS-1.2	SS ES
Electrical Safety - PPE	OS0905		Fire Safety - Canada	FRS-1.2can	SS
Protective Grounding and Fuses	OS0906		Portable Fire Extinguishers	FRS-2.2	SS
Batteries and DC Systems	OS0907		Portable Fire Extinguishers - Canada	FRS-2.2can	SS
Arc Flash Awareness	OS2501		Fire Protection for Oil and Gas Employees	OGS-3.2	SS
Electrical Safety/NFPA 70E	CAL-4.2	SS	Fire Safety: Alarms	SNP-24.2	SS
Electrical Safety/NFPA 70E	ELT-1.2	SS ES	Fire Safety: Evacuation and Procedures	SNP-25.2	SS
Electrical Safety/NFPA 70E - Canada	ELT-1.2can	SS	Fire Safety: Fire Suppression	SNP-26.2	SS
Electrical Safety - Grounding Awareness	ELT-2.2	SS	Fire Safety: Portable Fire Extinguishers	SNP-39.2	SS
Electrical Safety above 601 Volts	ELT-3.2	SS	Lithium Battery Safety	BAT-1.2	SS
Electrical Safety/NFPA 70E - Arc Flash	ELT-4.2	SS ES	Flammable and Combustible Liquids	FLL-1.2	SS
Electrical Safety/NFPA 70E - Arc Flash - Canada	ELT-4.2can	SS	Portable Fire Extinguisher Techniques on Oil and Gas Sites	OGS-31.2	SS
Electrical Safety - Arc Flash - Cal/OSHA	CAL-13.2	SS	Fire Protection for Oil and Gas Employees	OGS-36.2	SS
Electrical Safety: Arc Flash Characteristics (Microlearning)	SNP-109.2	SS			
Electrical Safety: Arc Flash Hazards (Microlearning)	SNP-110.2	SS			
Electrical Safety: Arc Flash Roles and Responsibilities (Microlearning)	SNP-111.2	SS			
Electrical Safety: Arc Flash Controls (Microlearning)	SNP-112.2	SS			
Electrical Safety: Work with Arc Flash Hazards (Microlearning)	SNP-113.2	SS			
Electrical Safety: Arc-Rated Clothing (Microlearning)	SNP-114.2	SS			

Fire Safety

Hot Work

Hot Work/Arc Welding	HTW-1.2	SS
Hot Work/Arc Welding - Canada	HTW-1.2can	SS
Hot Work/Arc Welding: Types and Hazards of Hot Work (Microlearning)	SNP-191.2	SS
Hot Work/Arc Welding: Hot Work Hazards (Microlearning)	SNP-192.2	SS
Hot Work/Arc Welding: Additional Hazards of Hot Work (Microlearning)	SNP-193.2	SS
Hot Work/Arc Welding: Employee Responsibilities for Hot Work (Microlearning)	SNP-194.2	SS

Hot Work/Arc Welding: Hot Work Hazard Controls (Microlearning)

SNP-195.2 **SS**

Ergonomics/Workplace

Ergonomics General Awareness

OS1001

Industrial Ergonomics

OS1002

Office Ergonomics

OS1003

Industrial Ergonomics

ERG-1.2 **SS** **ES**

Industrial Ergonomics - Canada

ERG-1.2can **SS**

Industrial Ergonomics

CAL-6.2 **SS**

Office Ergonomics

ERG-2.2 **SS**

Office Ergonomics - Canada

ERG-2.2can **SS**

Back Injury Prevention

JSA-2.2 **SS** **ES**

Back Injury Prevention - Canada

JSA-2.0can **SS**

Materials Handling

MAT-1.2 **SS**

Materials Handling - Canada

MAT-1.2can **SS**

Warehouse Safety: Proper Lifting Techniques (Microlearning)

SNP-196.2 **SS**

Warehouse Safety: Material Handling (Microlearning)

SNP-197.2 **SS**

Warehouse Safety: Mechanical Material Handling Equipment (Microlearning)

SNP-198.2 **SS**

Indoor Air Quality

IAQ-1.2 **SS**

Housekeeping Awareness

SNP-27.2 **SS**

Warehouse Safety

WHS-1.2 **SS**

Warehouse Safety - Canada

WHS-1.2can **SS**

Back Injury Prevention for Oil and Gas Workers

OGS-27.2 **SS**

Laboratory Safety

Laboratory Safety

LAB-1.2 **SS**

Pipetting Safety

LAB-10.2 **SS**

Glass Handling and Breakage for Laboratories

LAB-11.2 **SS**

Scalpel and Needle Safety in Laboratories

LAB-12.2 **SS**

Biosafety Level 2

LAB-13.2 **SS**

Biosafety Level 3

LAB-14.2 **SS**

Chemical Hygiene Plan

LAB-2.2 **SS**

Bottom-Up Gowning Procedures for Laboratory and Research Facilities (Microlearning)

LAB-6.2 **SS**

Chemical Storage in Laboratories and Research Facilities

LAB-7.2 **SS**

Reactives in Laboratory and Research Facilities

LAB-8.2 **SS**

Autoclave Safety (Microlearning)

LAB-9.2 **SS**

Chemical Hygiene Plan: Purpose and Components (Microlearning)

SNP-225.2 **SS**

Chemical Hygiene Plan: Roles and Responsibilities (Microlearning)

SNP-226.2 **SS**

Chemical Safety - Chemical Hazards (Microlearning)

SNP-279.2 **SS**

Working With Animals in Research

UNV-11.2 **SS**

Working With Lasers in Research and Education

UNV-12.2 **SS**

Laboratory Safety - Chemical Hazards

UNV-15.2 **SS**

Laboratory Chemical Waste Management (RCRA)

UNV-16.2 **SS**

Laboratory Safety - Physical Hazards

UNV-19.2 **SS**

Laboratory Safety - Biological Hazards

UNV-4.2 **SS**

Laboratory Safety in Research and Education

UNV-8.2 **SS**

Hazard Communication

GHS Hazard Communications

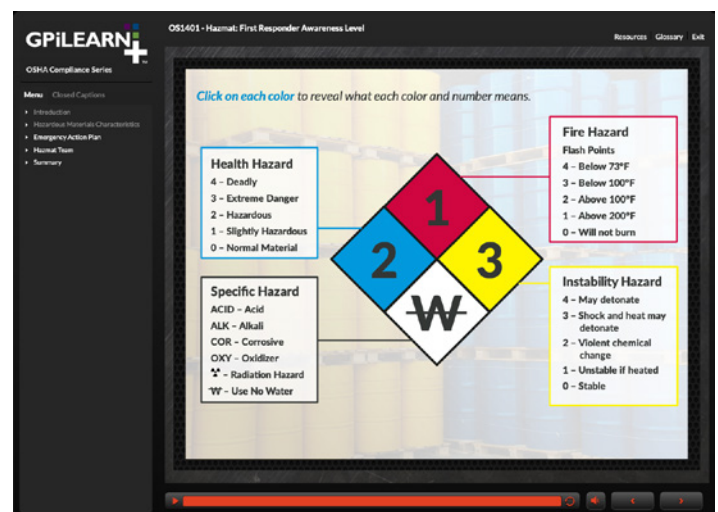
OS1301

Hazmat: First Responder Awareness Level

OS1401

Hazmat: First Responder Operations Level

OS1402



OS1401 - Hazmat: First Responder Awareness Level

Reviews the purpose of a Hazmat Response Team, demonstrates First Responder Awareness Level Responsibilities, identifies Hazardous Material Labeling, and describes an Emergency Action Plan.

Hazard Recognition	OS4001	ES	Introduction to Respirators	OS2001	
Hazard Communication: Chemical Hazards and Hazard Controls	SNP-28.2	SS	Air Purifying Respirators	OS2002	
Hazard Communication: Labels	SNP-29.2	SS	Atmosphere Supplying Respirators	OS2003	
Hazard Communication: Medical Recordkeeping	SNP-30.2	SS	Plant Hazards and Protective Gear	PF0101	
Hazard Communication: Purpose and Requirements of a HAZCOM Program	SNP-31.2	SS	Hearing Conservation	HRC-1.2	SS ES
Hazard Communication: Safety Data Sheet Awareness	SNP-32.2	SS	Hearing Conservation - Canada	HRC-1.2can	SS
Hazard Communication: SDS Sections Globally Harmonized System (GHS)	SNP-33.2	SS	Personal Protective Equipment	PPE-1.2	SS ES
Hazard Communication	GHS-1.2	SS ES	Personal Protective Equipment - Canada	PPE-1.2can	SS
Safety Data Sheets	HZC-1.2	SS ES	Hand and Pinch Point Safety	PPE-2.2	SS
H2S Safety for Oil and Gas	MSD-1.2	SS ES	Respiratory Protection	RSP-1.2	SS ES
H2S Safety for Oil and Gas - Canada	OGS-1.2	SS	Respiratory Protection - Canada	RSP-1.2can	SS
Hazard Communication for the Oil and Gas Industry	OGS-1.2can	SS	Hearing Conservation: Sound and Noise Basics (Microlearning)	SNP-1.2	SS
Oil Rig Safety - Canada	OGS-7.2	SS	Hearing Conservation: Types of Hearing Protection (Microlearning)	SNP-2.2	SS
Accident Prevention Signs and Tags	OGS-18.2can	SS	Hearing Conservation: Noise Monitoring and Testing (Microlearning)	SNP-3.2	SS
	OGS-45.2	SS	Respiratory Protection: Basic Requirements (Microlearning)	SNP-4.2	SS
			Respiratory Protection: Respiratory Hazards (Microlearning)	SNP-5.2	SS
			Respiratory Protection: Air-Purifying Respirators (Microlearning)	SNP-6.2	SS
			Respiratory Protection: Atmosphere-Supplying Respirators (Microlearning)	SNP-7.2	SS
			Respiratory Protection: Wearing and Maintaining Respirators (Microlearning)	SNP-8.2	SS
			Personal Protective Equipment: Types of Gloves	SNP-34.2	SS
			Personal Protective Equipment: Full Body Protection	SNP-46.2	SS
			Personal Protective Equipment: Eye and Face Protection	SNP-47.2	SS
			Personal Protective Equipment: Head Protection	SNP-48.2	SS
			Personal Protective Equipment: Leg and Foot Protection	SNP-49.2	SS
			Hearing Conservation Oil and Gas: Noise Impacts (Microlearning)	SNP-142.2	SS
			Hearing Conservation Oil and Gas: Hearing Protection (Microlearning)	SNP-143.2	SS
			Hearing Conservation Oil and Gas: Noise Monitoring (Microlearning)	SNP-144.2	SS

Hazardous Material Safety

Arsenic Awareness	OS0101	
Asbestos Safety	OS0201	
Lead Awareness	OS1601	
Combustible Dust	OS2601	
Silica Awareness	OGS-52.2	SS
Lead Awareness	PBA-1.2	SS
Radiation Safety Awareness	RAD-1.2	SS
WHMIS 1988	WMS-1.2can	SS
NORM Awareness in the Oil and Gas Industry	SNP-204.2	SS

PPE

Hearing Conservation - Module 1	OS1501
Hearing Conservation - Module 2	OS1502
PPE General Protection	OS1901
PPE Foot Protection	OS1902
PPE Eye and Face Protection	OS1903
PPE Hand Protection	OS1904
PPE Head Protection	OS1905

Personal Protective Equipment for Oil and Gas Personnel	OGS-5.2	SS
Hearing Conservation for Oil and Gas Workers	SNP-207.2	SS
Respiratory Protection for Oil and Gas Personnel	SNP-208.2	SS

Lockout/Tagout

Lockout/Tagout General Requirements	OS1701	
Lockout/Tagout Worker Safety	OS1702	
Work Authorization Introduction	PF0104	
Lockout/Tagout - Competency Format	LOT-1.2	SS ES
Lockout/Tagout - Canada	LOT-1.2can	SS
Lockout/Tagout for Affected Personnel	LOT-3.2	SS

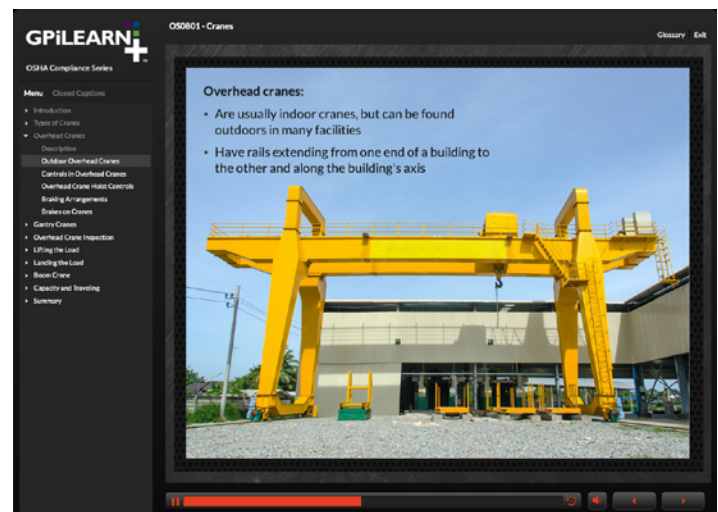
Vehicle Safety

Vehicle Startup Checks and Adjustments	OS2401	
Safety Concerns Within the Vehicle	OS2402	
Defensive Driving Strategies	OS2403	
Hazardous Driving Conditions	OS2404	
Common Driving Distractions	OS2405	
Driver Safety	DRV-1.2	SS
Driver Safety - Canada	DRV-1.2can	SS
Distracted Driving Prevention	DRV-2.2	SS
Distracted Driver - Canada	DRV-2.2can	SS
Road Rage	DRV-3.2	SS
Road Rage - Canada	DRV-3.2can	SS
Hazards of Speeding	DRV-4.2	SS
Hazards of Speeding - Canada	DRV-4.2can	SS
Delivery Driver Safety	DRV-5.2	SS
Delivery Driver Safety - Canada	DRV-5.2can	SS
Hazardous Driving Conditions	DRV-6.2	SS ES
Hazardous Driving Conditions - Canada	DRV-6.2can	SS
ATV and UTV Safety	DRV-11.2	SS
Driver Safety: Safe and Defensive Driving (Microlearning)	SNP-50.2	SS
Driver Safety: Hazardous Driving Conditions (Microlearning)	SNP-51.2	SS
Driver Safety: Preventing Hazardous Driving (Microlearning)	SNP-52.2	SS
Hazardous Driving Conditions: Severe Weather Conditions (Microlearning)	SNP-59.2	SS

Hazardous Driving Conditions: Driving in Severe Weather (Microlearning)	SNP-60.2	SS
Hazardous Driving Conditions: Preparing Your Vehicle (Microlearning)	SNP-61.2	SS
Struck-By and Caught-Between Injuries for Construction	BCS-2.2	SS
Struck-By & Caught-Between Hazards in Manufacturing (Microlearning)	MAN-1.2	SS
Struck By/Caught Between for Well Completion	SNP-302.2	SS
DOT Requirements for Semi-Truck and Box Truck Drivers	SNP-303.2	SS
Commercial Motor Vehicle Inspections	SNP-304.2	SS
Safe Trip Planning for Over-the-Road Drivers	SNP-305.2	SS
Electronic Logging and Hours of Service for Drivers	SNP-306.2	SS
Driving at Night	WZS-1.2	SS

Rigging & Lifting

Safe Usage of Personnel Lifting Devices	MM1005
Proper Use of the "Riggers" Handbook	MM1008
Safe Working Loads for Various Types of Slings and Hardware	MM1009



OS0801 - Cranes

After completing this lesson, you'll be able to describe boom cranes and overhead cranes; explain the general classification of overhead crane inspection; list the safe procedure for lifting, moving, and landing loads; and list the factors on which the capacity and traveling capability of a boom crane depend. You'll also be able to recognize the most common mistakes and sources of error during crane operation.

Types of Rigging and Lifting Equipment	MM1010
Inspecting the Rigging Equipment	MM1011
Planning a Rigging and Lifting Job	MM1012
Proper Use of Rigging and Lifting Equipment	MM1014
Safe Performance of Lifts Using Manually-Operated Lifting Devices	MM1015
Safe Performance of Lifts Using Electric-Powered Lifting Devices	MM1016
Safe Performance of Lifts Using Hydraulic-Powered Lifting Devices	MM1017
Safe Performance of Lifts with Air-Operated Lifting Devices	MM1018
Safe Performance of Lifts with a Mobile Crane	MM1019
Safe Movement of Materials/Equipment with a Mobile Crane	MM1020
Safe Performance of Lifts with a Boom Truck	MM1021
Safe Movement of Materials/Equipment with a Boom Truck	MM1022
Cranes	OS0801
Cranes - Hand Signals	OS0802
Crane Safety	OCS-1.2 SS
Crane Safety - Hand Signals	OCS-2.2 SS
Rigging Safety	OCS-3.2 SS
Rigging Safety for Oil & Gas Operations	OGS-34.2 SS
Scissor Lift Basics (Microlearning)	SNP-90.2 SS
Scissor Lift Hazards and Safe Operations	SNP-91.2 SS
Crane Safety: Types of Cranes (Microlearning)	SNP-354.2 SS
Crane Safety: Required Crane Inspections (Microlearning)	SNP-355.2 SS
Crane Safety: Hand Signals and Employee Roles (Microlearning)	SNP-356.2 SS
Crane Safety: Safe Practices (Microlearning)	SNP-357.2 SS
Crane Safety: Types of Crane Attachments (Microlearning)	SNP-358.2 SS
Rigging Safety	SNP-209.2 SS
Rigging Safety: Employee Roles (Microlearning)	SNP-210.2 SS
Rigging Safety: Tools and Equipment (Microlearning)	SNP-298.2 SS
Rigging Safety: Rigging and Lifting Hazards (Microlearning)	SNP-299.2 SS

Rigging Safety: Rigging Inspections (Microlearning)	SNP-300.2 SS
Rigging Safety: Rigging and Lifting Procedures (Microlearning)	SNP-301.2 SS

Scaffolding

Proper and Safe Usage of Scaffolding	MM1001
Selection Scaffolding Components for Their Correct Usage	MM1002
Scaffolding and Stay Assembly	MM1003
Scaffolding and Stay Disassembly	MM1004
Scaffolding Terminology	MM1024
Types of Scaffolds	MM1025
Introduction to Scaffold	OS2101
Scaffold - Safety Protocols	OS2102
Scaffold Safety	SCF-1.2 SS
Scaffold Safety - Canada	SCF-1.2can SS
Scaffold Safety: Types and Hazards of Scaffolds (Microlearning)	SNP-87.2 SS
Scaffold Regulatory Requirements (Microlearning)	SNP-88.2 SS
Scaffold Safety: Protective Devices and Practices (Microlearning)	SNP-89.2 SS
Mobile Elevated Work Platforms: MEWP Basics (Microlearning)	SNP-103.2 SS
Mobile Elevated Work Platforms: MEWP Operations (Microlearning)	SNP-104.2 SS
Mobile Elevated Work Platforms: MEWP Hazards (Microlearning)	SNP-105.2 SS
Mobile Elevated Work Platform Safety	BSS-3.2 SS

Compressed Gases

Compressed Gas Safety	CGS-1.2 SS
Compressed Gas Safety - CAL/OSHA	CAL-7.2 SS ES
Compressed Gas Safety - CAL/OSHA	CAL-7.2 SS

General

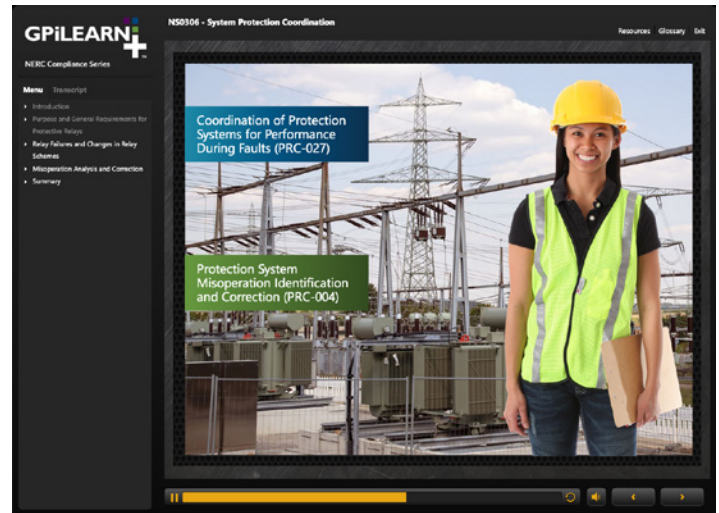
Performing Safety Audits	AUD-1.2 SS
Performing Safety Audits - Canada	AUD-1.2can SS
Behavior Based Safety	BBS-1.2 SS
Construction Safety	BCS-1.2 SS
Construction Safety - Canada	BCS-1.2can SS

Office Safety	BOS-1.2	SS	Excavation and Trenching: Hazard Controls (Microlearning)	DOT-4.2	SS
Emergency Action Plans for Office Employees	EAP-1.2	SS ES	Excavation and Trenching: Roles and Responsibilities (Microlearning)	DOT-5.2	SS
Emergency Response	EMR-1.2	SS ES	Excavation Competent Person - Roles and Responsibilities (Microlearning)	DRV-12.2	SS
Emergency Response - Canada	EMR-1.2can	SS ES	Excavation Competent Person - Excavation Hazards (Microlearning)	EXC-2.2	SS
Excavation and Trenching	EXC-1.2	SS	Excavation Competent Person - Preplanning Excavations (Microlearning)	OCS-3.2	SS
Excavation and Trenching - Canada	EXC-1.2can	SS	Excavation Competent Person - Soil Classification (Microlearning)	SNP-131.2	SS
General Safety Orientation	GEN-1.2	SS	Excavation Competent Person - Protective Systems (Microlearning)	SNP-132.2	SS
General Safety Orientation - Canada	GEN-1.2can	SS	Work Zone and Flagger Safety - Work Zone Hazards (Microlearning)	SNP-176.2	SS
Temporary Worker Safety	GEN-2.2	SS	Work Zone and Flagger Safety - Flagging Operations (Microlearning)	SNP-177.2	SS
Working Alone	GEN-3.2	SS	Work Zone and Flagger Safety - Work Zone Protections (Microlearning)	SNP-178.2	SS
Introduction to OSHA	INO-1.2	SS ES	Work Zone and Flagger Safety - Pedestrian Safety (Microlearning)	SNP-202.2	SS
Job Hazard Analysis	JSA-1.2	SS	Work Zone and Flagger Safety	SNP-203.2	SS
Job Hazard Analysis - Canada	JSA-1.2can	SS	Machine Guarding for Oil and Gas Personnel	OGS-33.2	SS
Job Hazard Analysis Canada: JHA Steps (Microlearning)	SNP-268.2can	SS	Contractor Orientation for Oil and Gas	OGS-59.2	SS
Job Hazard Analysis Canada: Correcting and Preventing Hazards (Microlearning)	SNP-269.2can	SS	Occupational Safety and Health Programs	OSH-1.2	SS
Laser Safety	LSR-1.2	SS	Process Safety Management	PSM-1.2	SS
Machine Guarding	MCG-1.2	SS	Emergency Preparedness: Emergency Action Plans	SNP-20.2	SS
Machine Guarding - Canada	MCG-1.2can	SS	Emergency Preparedness: Medical Emergencies	SNP-21.2	SS
Fatigue Management	OGS-30.2	SS	Emergency Preparedness: Emergency Procedures	SNP-22.2	SS
Excavation and Trenching for Upstream Oil and Gas Operations	OGS-54.2	SS	Emergency Preparedness: Reporting Emergencies	SNP-23.2	SS
Occupational Safety and Health Programs in the Oil and Gas Industry	OGS-8.2	SS	Stop Work Authority	SWA-1.2	SS
Wildlife Safety for the Oil and Gas Industry	SIA-1.2	SS	Due Diligence - Canada	OSH-4.2can	SS
Situational Awareness - Business Travel	EYE-1.2	SS			
Eye Wash and Safety Shower Awareness (Microlearning)	GEN-1.2can	SS			
General Safety Orientation - Canada	OGS-43.2	SS			
Excavation and Trenching - Competent Person	OGS-46.2	SS			
Job Hazard Analysis: JHA Steps (Microlearning)	CHM-8.2	SS			
Job Hazard Analysis: Correcting and Preventing Hazards (Microlearning)	CON-2.2	SS			
Excavation and Trenching Requirements (Microlearning)	DOT-2.2	SS			
Excavation and Trenching Hazards (Microlearning)	DOT-3.2	SS			

These courses provide personnel with general awareness and detailed content supporting compliance to Electric Reliability Standards. The North American Electric Reliability Corporation (NERC) assures the effective and efficient reduction of risks to the reliability and security of the grid. GPiLEARN+ is a preferred provider of NERC eLearning training.

NERC Compliance

NERC Compliance Awareness	NS0101
NERC Cyber Security Standards Overview	NS0201
Introduction to Power Systems for Generator Owners and Operators	NS0301
Event Reporting	NS0302
Equipment Ratings Methodology	NS0304
System Reliability	NS0305
System Protection Coordination	NS0306
Generator Operation for Maintaining Network Voltage Schedules	NS0307
Generator Reliability Verification	NS0308
Three-way Communications	NS0309
Protective Relays	NS0310



NS0306 - System Protection Coordination

After completing this lesson, learners will be able to recall the purpose and limitations of Protection Systems on the Bulk Electric System (BES); recall the required notifications for Protection System or equipment failures; recognize how relays affect the reliability of the BES; and identify requirements around a Misoperation caused by a Protection System component. Learners will also be able to recall the notification and investigation requirements of an operation of a BES interrupting device by a Composite Protection System; and recognize when a Corrective Action Plan (CAP) is needed.

Renewables

Renewable energy is a growing part of today’s industrial business sector. Renewable energy is energy transferred from natural resources. Harnessing this energy is critical to helping companies operate more efficiently and become environmentally friendly facilities. These courses provide theory of today’s most common renewable systems.

Wind

Introduction to Wind Farms	WF0101
Yaw System	WF0102
Pitch Control	WF0103
Wind Farm Safety and Environment	WF0104
SCADA Systems	WF0105
Power Converters	WF0106
Zond Wind Farm Technology	WF0201
Mitsubishi MWT-1000A Wind Turbine Generator	WF0301

Solar

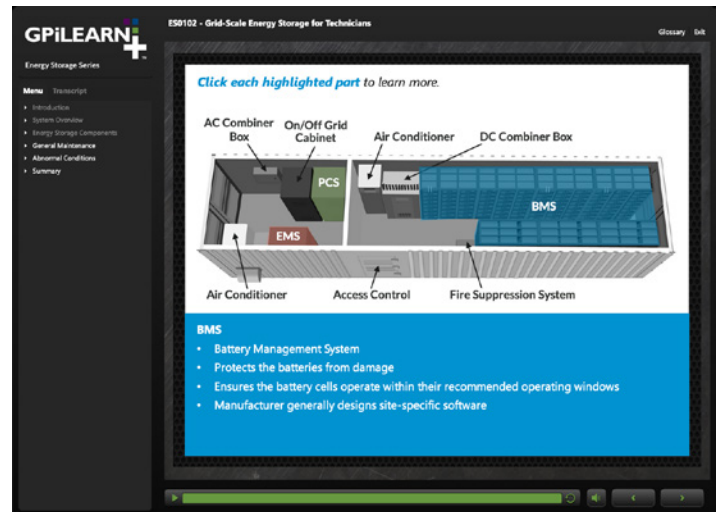
Introduction to Utility-Scale Photovoltaic Systems	SL0101
Inverters and Transformers	SL0102

Hydro

Intro to Hydroelectric Power Generation	HY0101
Construction and Key Features of Dams	HY0102
Design and Operational Consideration	HY0103
Turbine Hydraulic System	HY0201
Hydroelectric Turbines	HY0202
Impulse Turbines	HY0203
Hydroelectric Generators	HY0301
Hydraulic Turbine Governor System	HY0302

Energy Storage

Grid-Scale Energy Storage Foundations	ES0101
Grid-Scale Energy Storage for Technicians	ES0102



ES0102 - Grid-Scale Energy Storage for Technicians

After completing this lesson, you'll be able to identify major components of a battery energy storage system, or BESS system; explain the physical and electrical layouts of an energy storage system; describe various operating control modes; and describe common abnormal conditions.

Substations

Substation Overview (3D Exploratory)	TDX1001
Substations Overview	SS0101
Major Equipment Functions	SS0102
Substation Layouts, Controls and Alarms	SS0103

Mobile Equipment

Industrial machines used to transport, manipulate, and excavate are helpful tools in the construction and industrial industries. Correct operation and preventative maintenance plans help keep these machines running well and safe for operators.

Backhoe

Equipment Pre-Checks on the Backhoe	CY0901
Check, Add, and Identify Proper Lubricants on the Backhoe	CY0902
Equipment Deficiencies Specific to the Backhoe	CY0903
Safety Precautions Associated with the Backhoe	CY0904

Dozers

Check, Add, and Identify Proper Lubricants for All Components	CY0801
Equipment Deficiencies Specific to the Rubber Tired Dozer	CY0802
Proper Start-up and Shutdown Procedures	CY0803
Safety Precautions Associated with the Rubber Tired Dozer	CY0804
Equipment Pre-Checks on Track Type Dozer	CY1301
Check, Add, and Identify Proper Lubricants for all Components	CY1302
Equipment Deficiencies Specific to Track Type Dozer	CY1303
Initiate Work Request on Track Type Dozer	CY1304
Safety Precautions Associated with Track Type Dozer	CY1305

Bobcat

Equipment Pre-Checks on the Bobcat	CY1401
Check, Add, and Identify Lubricants for All Components	CY1402
Equipment Deficiencies Specific to the Bobcat	CY1403
Safety Precautions Associated with the Bobcat	CY1404

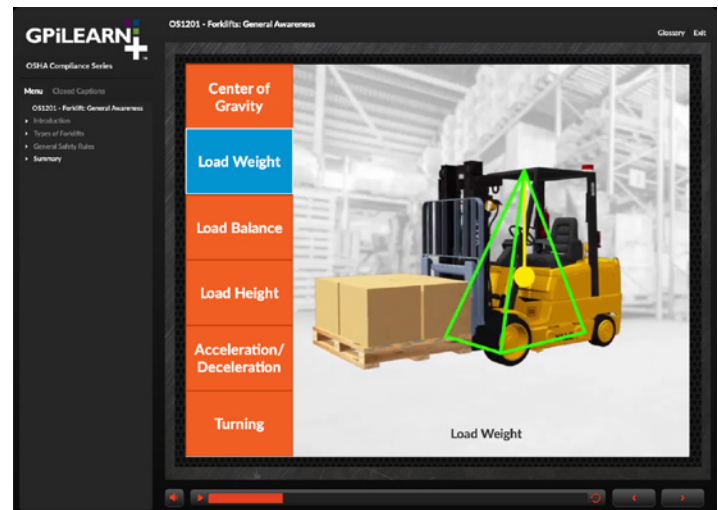
Loaders

Check, Add, and Identify Proper Lubricants for all Components on the Large Rubber Tired Loader	CY1501
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Identify Equipment Deficiencies Specific to the Large Rubber Tired Loader	CY1502
Explain the Proper Start-up and Shutdown Procedures of the Large Rubber Tired Loader	CY1503
Identify the Safety Precautions Associated with the Large Rubber Tired Loader	CY1504

Fork Truck

Forklift: General Awareness	OS1201
Forklifts: Pre-Start Checklist	OS1202
Forklift Operator Training	FLO-1.2 SS ES
Forklift Operator Training - Canada	FLO-1.2can SS
Forklift Operator Training: Safe Operations	FLO-2.2 SS ES
Forklift Operator Training: Safe Traveling and Loading	FLO-3.2 SS ES
Forklift Operator Training: Safe Maintenance	FLO-4.2 SS ES
Forklift Operator Training: Fundamentals	CAL-8.2 SS






OS1201 - Forklift: General Awareness

This lesson illustrates the parts of a forklift and discusses how to properly and safely operate one. It's designed to assist forklift operators and their employers to complete the formal training (classroom) portion of OSHA's required training for operators of powered industrial trucks. We suggest learners take this lesson before OS1202 Forklifts: Pre-Start Checklist.

From basic electrical theory to equipment details, these courses detail electrical devices and understanding electrical schematics, motor, and transformer theory.

Prints and Drawings

Classifications of Prints and Drawings	EL0101
Schematic Diagrams	EL0102 
Connection Diagrams	EL0103
Logic Diagrams	EL0104
Single-Line Diagrams	EL0105
Elementary Diagrams	EL0106
Electrical-Electronic Print and Drawing Reading	EL0107
Symbols/Components on Prints and Drawings	EL0108
Tracing of Flow paths of Plant Piping and Instrumentation Diagrams	EL0109
Location and Usage of Plant Print Indexes	EL0110
Electrical Codes and Standards	
Safety Codes and Standards	EL0201 
Safety Hazards Associated with Electrical Equipment	EL0202 

Single- and Three-Phase Circuits

Calculation of Electrical Values of Single-Phase A.C. Circuits	EL0301
Drawing Single-Phase A.C. Circuits	EL0302
Calculation of Electrical Values of Three-Phase A.C. Circuits	EL0303
Drawing Three-Phase A.C. Circuits	EL0304
Building Single-Phase A.C. Circuits	EL0305
Building Three-Phase A.C. Circuits	EL0306

Transformers

Transformer (3D Exploratory)	TDX0701
Transformer Characteristics	EL0401
Essential Parts of a Simple Transformer	EL0402
Relationship Between Primary and Secondary Voltages and Transformer Turns Ratio	EL0403
Potential Transformer	EL0404

Current Transformer	EL0405
Power Transformer	EL0406
Transformer Cooling System Characteristics	EL0407
Types of Transformer Cooling Systems and Their Components	EL0408
Transformer Cooling System Operations	EL0409
Transformer Troubleshooting Techniques	EL0410
Causes of Transformer Failure	EL0411
Removal of Transformers from Service	EL0412
Safety Hazards Related to Transformers	EL0413
Isolation of Plant Main and Auxiliary Transformers	EL0414
Grounding of Plant Main and Auxiliary Transformers	EL0415
Return of Transformers to Service	EL0416

Freeze Protection

Types of Heat Trace	EL0501
Self-Limiting Cables	EL0503
Constant Wattage Heating Cable	EL0504
Series Resistance Heating Cables	EL0505
Matching of Types to Applications	EL0506
Methods of Repair of Freeze Protection Equipment	EL0507
Heat Transfer Cement	EL0508
Heat Transfer Tape	EL0509
Matching of Freeze Protection Equipment Repair to Situation	EL0510
Plant Antifreeze Panel Locations	EL0511
Testing of Plant Antifreeze Panels	EL0512
Methods of Replacing Freeze Protection Equipment	EL0513

Battery Chargers

Battery Charger Operation	EL0601
Principle of Rectification	EL0602

Procedure for Placing the Battery Charger in Service	EL0603
Procedure for Removing the Battery Charger from Service	EL0604

Electrical Control Devices

Introduction to Control Devices	EL0801
AC vs DC Controllers	EL0802
Faults and Troubleshooting	EL0803

Low- and Medium-Voltage Circuit Breakers

Matching of Overload with Selected Type of Load	EL0901
Determination of the Actual Current of a Circuit	EL0902
Procedure to Place All Plant Breakers in Test Position and Test	EL0903
Removal of Arc Chutes on Breakers	EL0904
Procedure to Check Contacts on Breakers	EL0905

Inverters

Inverter Operation	EL1001
Components of an Inverter	EL1002
Procedure for Placing an Inverter in Service	EL1003
Procedure for Removing an Inverter From Service	EL1004

Locating Electrical System Grounds

Use of Direct Current (D.C.) Ground Detection Switches	EL1101
Operation of D.C. Breakers	EL1102
Identification of Unwanted Circuit Grounds	EL1103
Elimination of Unwanted Circuit Grounds	EL1104
Equipment Grounding Concepts	EL1105
Testing of Proper Equipment Grounds	EL1106
D.C. Ground Detection	EL1107

Limiterque Valves

Method of Setting Limit Switches	EL1201
Method of Setting Torque Switches	EL1202

Method of Repairing Limit Switches	EL1203
Method of Repairing Torque Switches	EL1204
Method of Replacing Limit Switches	EL1205
Method of Replacing Torque Switches	EL1206
Stroking a Limitorque Valve Assembly	EL1207
Procedure to Pull an Actuator Off a Valve	EL1209

Generators

Generator Operating Characteristics	EL1301
Types of Generator Construction	EL1302
Generator Applications	EL1303
AC and DC Generators	EL1304
Generator Troubleshooting	EL1305
Generator Disassembly and Cleaning	EL1306
Generator Reassembly	EL1307

Motors

Introduction to Motors	EL1401
AC Motors	EL1402
DC Motors	EL1403
Motor Troubleshooting	EL1404
Motor Assembly and Cleaning	EL1405

Variable Frequency Drives

Introduction to Variable Frequency Drives	EL1501
Variable Frequency Drive Maintenance and Troubleshooting	EL1502

Vibration Analysis

Vibration Analysis Introduction	EL1601
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Instrumentation and Controls Technician

Analysis, Design, Measurement, and Control of industrial processes are covered by these courses, which challenge the learner to understand the theory and concepts of many topics including variable-frequency drives, test equipment, and advanced Programmable Logic Controllers (PLCs) to support the installation, application, and maintenance to keep processes running.

I&C Control Instruments

Pneumatic Actuators	ACT001
Criteria for Control Instruments	AI01
Characteristics of Control Instruments	AI02
Controller and Control Action	AI03
Calibration of Control Instruments	AI04 ES

I&C Measurement Devices

Support Instruments	AI05
Pressure Measurement	AM01
Pressure Measuring Instruments	AM02
Liquid Level Measurement	AM03
Flow Measurement	AM04
Temperature Measurements	AM05
Analyzers for Process Control	AM06

I&C Testing

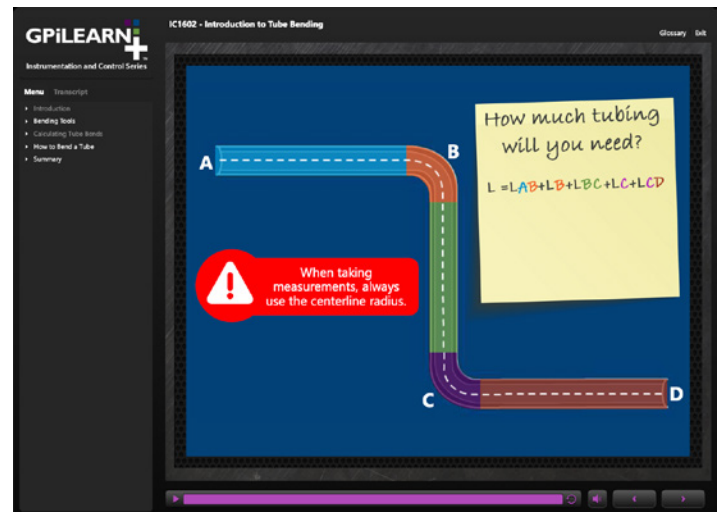
Instrumentation and Control	AT01
Multimeters	AT02
Oscilloscopes	AT03
Portable Power Supply	AT04
Temperature Measurement	AT05
Voltage Testers	AT06
Deadweight Testers	AT07
Calibrating Other Instruments	AT08
Manometers	AT09
Pneumatic Calibrators	AT10
Mechanical and Pneumatic Testing and Calibrating	AT11

Tubing and Fittings

Introduction to Tubing	IC1601
Introduction to Tube Bending	IC1602
Introduction to Tubing Fittings	IC1603
Flare Fittings	IC1604
Tubing Supports	IC1605

I&C Process Control


Advanced Process Control Fundamentals	IC1801
Advanced Closed Open Loop Fundamentals	IC1802
Advanced Proportional Control	IC1803
Advanced Proportional-and-Integral Control	IC1804
Advanced Proportional-and-Derivative Control	IC1805
Advanced Proportional-and-Integral-and-Derivative Control	IC1806
Advanced Open Transient Tuning	IC1807
Advanced Ziegler-Nichols Tuning	IC1808
Advanced Frequency Response Tuning	IC1809
Advanced Controller Methods	IC1810
Advanced Final Control Actuators	IC1811
Advanced Final Control Elements	IC1812




IC1601 - Introduction to Tubing

After completing this lesson, you'll be able to explain the difference between piping and tubing, identify the proper tubing material to use, and calculate tube sizes.

Direct Current

Electron Theory	IE0101
Use of Ohm's and Kirchoff's Laws Relating to Direct Current (DC)	IE0102
DC Circuit Troubleshooting	IE0103
Evaluation of DC Circuit Performance	IE0104 
Determination of Circuit Outputs from Specified Inputs	IE0105
DC Circuit Repair	IE0106
Construction of DC Circuits	IE0107

Alternating Current

Alternating Current (A.C.) Theory	IE0201
Use of Ohm's and Kirchoff's Laws	IE0202
A.C. Circuit Troubleshooting	IE0203
Evaluation of an AC Circuit's Performance	IE0204 
Determination of A.C. Circuit Outputs from Specified Inputs	IE0205
A.C. Circuit Repair	IE0206
Construction of AC Circuits	IE0207

Semi-Conductors

Electrical Characteristics of Diodes	IE0301
Electrical Characteristics of SCRs and TRIACs	IE0302
Semiconductor Circuit Troubleshooting	IE0303
Identification of Defective Semiconductors	IE0304
Semiconductor Circuit Repair	IE0305
Construction of Semiconductor Circuits	IE0306

Electronic Circuits

Explain the Theory of Power Supply Circuits	IE0401
Theory of Operational Amplifier Circuits	IE0402
Defective Components Found in Power Supplies	IE0403
Defective Operational Amplifier Circuits	IE0404
Electronic Circuit Troubleshooting	IE0405
Evaluation of the Performance of a Power Supply Circuit	IE0406
Evaluation of the Performance of an Operational Amplifier Circuit	IE0407
Electronic Circuit Repair	IE0408

Determination of Feedback Circuits to Achieve Desired Operational Amplifier Gain	IE0409
Construction of Electronic Circuits	IE0410

Digital Electronics

Constructing Digital Circuits	IE0501
Digital Numbering Systems	IE0502
BCD and ASCII Codes	IE0503
Positive and Negative Logic	IE0504
Troubleshooting Digital Circuits	IE0505
Appropriate Digital Circuit Outputs from Specified Inputs	IE0506
Repairing Digital Circuits	IE0507

Instrumentation Measurement Applications

Identification of types of Pressure Devices	IE0601
Pressure Device Troubleshooting	IE0602
Principles of Level Devices	IE0603
Level Device Troubleshooting	IE0604
Principles of Flow Devices	IE0605
Flow Device Troubleshooting	IE0606
Principles of Temperature Devices	IE0607
Temperature Measuring Device Troubleshooting	IE0608
Use of Analyzers	IE0609

Microprocessors

Introduction to Microprocessor Registers	IE0701
Introduction to Troubleshooting Microprocessors	IE0702
Introduction to Microprocessors and Memory	IE0703
Introduction to Microprocessor Interfacing	IE0706
Introduction to Programming Microprocessors	IE0707
Introduction to Understanding Microprocessors	IE0708

Programmable Logic Controllers

Identify the Major Components of Programmable Logic Controllers	IE0801	ES
Understand the Concepts of Programmable Logic Controllers	IE0802	
PLC Status Indicator Lights	IE0803	
Troubleshoot PLC's	IE0804	
Interpreting and Drafting Ladder Logic with Bit Instructions in PLC Systems	IE0805	

Soldering

Soldering Techniques	IE0901	
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Control Instrumentation

Purpose of Square Root Extractors	IE1001	
Operation of Chart Recorders	IE1002	
Functions of Electronic Analog Controllers	IE1003	
Functions of Electronic Pressure Transmitters	IE1004	
Electronic Control Instrument Troubleshooting	IE1005	
Span and Range	IE1006	
Span and Zero Adjustments	IE1007	
Calibration of Electronic Control Instruments	IE1008	
Function of a Pneumatic Volume Booster	IE1009	
Operation of a Pressure Regulator	IE1010	
Operation of Pressure Switches	IE1011	
Pneumatic Control Instrument Troubleshooting	IE1012	
Calibration of Pneumatic Control Instruments	IE1013	
Functions of Temperature Transmitters	IE1014	
Identification of Filled Thermal Systems and Temperature Switches	IE1015	
Calibrate Temperature Control Instruments	IE1016	
Operating Characteristics of Valve Positioners	IE1017	
Calibration of Pneumatic Valve Positioners	IE1018	
Operating Characteristics of I/P and P/I Transducers	IE1019	
Calibration of Transducers	IE1020	

Characteristics of Special Flow Measurement Instruments	IE1021	
Solenoid Valves	IE1022	

Final Control

Principles of Control Loops	IE1101	
Identification of Instruments Used in Measuring Level	IE1102	
Identification of Instruments Used in Flow Control Loops	IE1103	
Identification of Instruments Used in Pressure Control Loops	IE1104	
Construction of a Pressure, Temperature, Flow, or Level Control Loop	IE1105	
Proportional, Integral, and Derivative Control Action	IE1106	
Tuning a Typical Control Loop	IE1107	
Identification of Instruments used in Temperature Control Loops	IE1110	
Operation of Cascade and Ratio Control Loops	IE1113	
Construction of Special Control Loops	IE1114	
Electronic Control Valves	IE1115	
Electronic Control Valve Troubleshooting and Repair	IE1116	
Feedforward Control	IE1117	
Three Element Level Control	IE1118	

Process Control Instrumentation

Use of Multimeters	IE1201	ES
Use of Oscilloscopes	IE1202	
Power Supplies and Signal Generators	IE1203	
Temperature Calibrators and Digital Thermometers	IE1204	
Electrical/Electronic Test Equipment	IE1205	
Explain the Use of Deadweight Testers	IE1206	
Explain the Use of Variators, Aspirator Bulbs, and Hand Pumps	IE1207	
Manometers	IE1208	
Pneumatic Calibrators	IE1209	
Mechanical Test Instruments	IE1210	

Field Devices

Major Components of an Oil/Gas Ignitor	IE1301
Oil/Gas Ignitor Troubleshooting and Repair	IE1302
Major Components of Warm-up Guns	IE1303
Instrumentation Devices on Warm-up Gun Troubleshooting and Repair	IE1304
Major Instrument Components on a Pulverizer	IE1305
Instrumentation Devices on Pulverizer Troubleshooting and Repair	IE1306
Major Instrumentation Components of a Coal Feeder	IE1307
Coal Feeder Instrument Troubleshooting and Repair	IE1308
Pulverizer Inerting System Troubleshooting and Repair	IE1309
Major Components of Flame Scanning System	IE1310
Flame Scanner Troubleshooting and Repair	IE1311
Auxiliary Air Damper Control Troubleshooting and Repair	IE1312
Insert/Retract Mechanism Troubleshooting and Repair	IE1313
Impeller Drive Troubleshooting and Repair	IE1314
Oil and Gas Valve Control Troubleshooting and Repair	IE1315
Major Components of Oil Guns	IE1316
Instrumentation Devices on Oil Gun Troubleshooting and Repair	IE1317

Continuous Emission Monitoring (CEM) Systems

Basic Operation of the Continuous Emission Monitoring System	IE1401
Collect CEMS Data Readings	IE1402
Carbon Dioxide Analyzer Calibration	IE1403
Nitrogen Oxide Analyzer Calibration	IE1404
Sulfur Dioxide Analyzer Calibration	IE1405
Opacity Monitor Calibration	IE1406
Stack Flowmeter Calibration	IE1407
Calibration Gas Bottle Change and Input of New Data in EWS	IE1408

Weekly, Monthly, Quarterly, Semi-Annual, and Annual Preventative Maintenance Procedures	IE1409
Parts of the Certified Loop	IE1410
Operation of Probe and Sample System	IE1411
CEM Probe and Sample System Troubleshooting	IE1412
Operation of the Megawatts Transmitters	IE1413
Operation of the Fuel Flow Transmitters	IE1414

Bailey Pneumatic Meters and Controls

Procedure for Taking a Meter Out of and Returning It to Service	IE1501
Ledoux Bell Meter Disassembly, Cleanup, and Calibration	IE1502
Standatrol Inlet and Exhaust Valve Disassembly, Inspection, and Setup	IE1503
Uses and Operation of the Bailey Standatrol	IE1504
Operation of the Bailey Pneumatic Drives and Positioners	IE1505

Fire Protection Instrumentation

Understanding the Instrumentation Used in the Fire Protection System	IE1701
Troubleshoot and Repair Fire Protection Instruments	IE1702



Plant Instrumentation and Control

Power Plant Controls	PF1701	ES
Understanding Control Loops	PF1702	ES
Field Devices	PF1703	ES

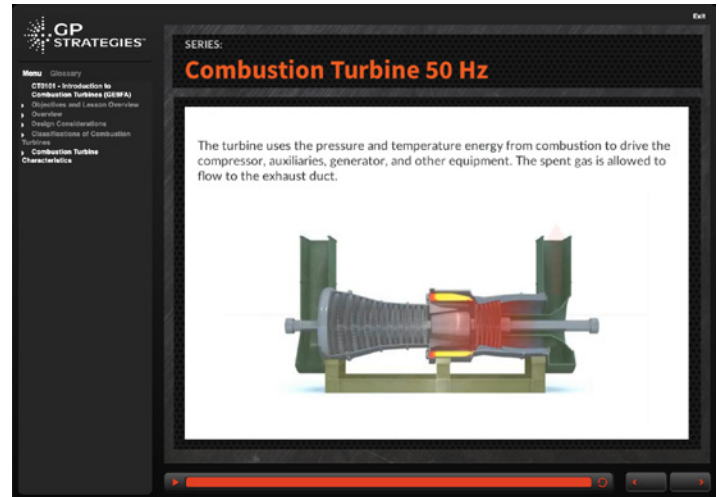
Gas Turbine/Combined Cycle

A main component of modern power generation. Gas Turbine and Combined Cycle power plants are key to providing balance in operating a successful modern energy grid. These topics provide the fundamentals of gas turbine operation, HRSG, and combined cycle facilities. Different types of gas turbine models are also covered.

Combined Cycle

Combined Cycle Fundamental Theory and Operation	CC11	GE Frame 7F Gas Turbine Performance and Reliability	CC26G
Cycle Parameters and Their Impact on Plant Performance	CC12	Siemens 501F Combustion Turbine Performance and Reliability	CC26S
Benefits of the Combined Cycle	CC13	Siemens 501F TXP Control System	CC27S
Fuels for Combined Cycle Power Plants	CC14	HRSG Overview, Principles, and Flow paths	CC31
GE Frame 7F Gas Turbine Generator Introduction	CC21G	HRSG Major Components	CC32
Siemens 501F Combustion Turbine	CC21S	HRSG Water Chemistry Control and SRC and Non-SRC NOx Control Overview	CC33
GE Frame 7F Gas Turbine Main Components - Part 1	CC22GA	Steam Turbine Principles, Components, and Support Systems	CC41
GE Frame 7F Gas Turbine Main Components - Part 2	CC22GB	Steam Turbine Generator	CC42
Siemens 501F Combustion Turbine Main Components - Part 1	CC22SA	Turbine Starting and Loading Instructions - Part 1	CC43A
Siemens 501F Combustion Turbine Main Components - Part 2	CC22SB	Turbine Starting and Loading Instructions - Part 2	CC43B
GE Frame 7F Gas Turbine Generator	CC23G	Gas Turbine Controls	CC51
Siemens 501F Combustion Turbine Generator	CC23S	Heat Recovery Steam Generator Controls	CC52
GE Frame 7F Gas Turbine Support Systems - Part 1	CC24GA	Steam Turbine Controls	CC53
GE Frame 7F Gas Turbine Support Systems - Part 2	CC24GB	Generator Controls	CC54
Siemens 501F Combustion Turbine Support Systems - Part 1	CC24SA	GE Mark V/VI Control Systems	CC55
Siemens 501F Combustion Turbine Support Systems - Part 2	CC24SB	Startup Considerations	CC61
GE Frame 7F Gas Turbine Operations and Maintenance Considerations - Part 1	CC25GA	Operating Modes	CC62
GE Frame 7F Gas Turbine Operations and Maintenance Considerations - Part 2	CC25GB	Abnormal Plant Operations	CC63
Siemens 501F Combustion Turbine Operations and Maintenance Considerations - Part 1	CC25SA	Shutdown of Combined Cycle Plants	CC64
Siemens 501F Combustion Turbine Operations and Maintenance Considerations - Part 2	CC25SB	Layup	CC65
		HRSG Steam Drums	PF1101 
		HRSG Flowpaths and Components	PF1102 
		HRSG Auxiliary Systems	PF1103 
		Combined Cycle (TTP)	
		Gas Turbine Fundamentals - Overview	0101S_B1_Ch1 
		Gas Turbine Fundamentals - Simple Cycle	0301S_B1_Ch1 
		Gas Turbine Fundamentals - Air Path	0301S_B1_Ch2 
		Gas Turbine Fundamentals - Hot Gas Path	0301S_B1_Ch3 
		Gas Turbine Fundamentals - Turbine Section	0301S_B1_Ch4 

Gas Turbine Fundamentals - Auxiliary Equipment	0301S_B1_Ch5	\$
HRSG Fundamentals - Overview	0401S_B1_Ch1	\$
HRSG Fundamentals - Steam	0401S_B1_Ch2	\$
HRSG Fundamentals - Feedwater	0401S_B1_Ch3	\$
HRSG Fundamentals - Level Control	0401S_B1_Ch4	\$
HRSG Fundamentals - Emission Reduction	0401S_B1_Ch5	\$
HRSG Fundamentals - Equipment	0401S_B1_Ch6	\$
HRSG Fundamentals - Operation	0401S_B1_Ch7	\$
Steam Turbine Fundamentals - Design	0501S_B1_Ch1	\$
Steam Turbine Fundamentals - Components	0501S_B1_Ch2	\$
Steam Turbine Fundamentals - Operation	0501S_B1_Ch3	\$
Steam Turbine Fundamentals - Condensate	0501S_B1_Ch4	\$
Generator Fundamentals - Overview	0601S_B1_Ch1	\$
Generator Fundamentals - Design	0601S_B1_Ch2	\$
Generator Fundamentals - Auxiliary Systems	0601S_B1_Ch3	\$
Generator Fundamentals - Energizing	0601S_B1_Ch4	\$
Generator Fundamentals - MW and MVAR	0601S_B1_Ch5	\$
Generator Fundamentals - Load Control	0601S_B1_Ch6	\$
Generator Fundamentals - Fault Protection	0601S_B1_Ch7	\$
Plant Operation Fundamentals - Overview	0701S_B1_Ch1	\$
Plant Operation Fundamentals - Water Balance	0701S_B1_Ch2	\$
Plant Operation Fundamentals - Water Treatment	0701S_B1_Ch3	\$
Plant Operation Fundamentals - Electrical	0701S_B1_Ch4	\$
Plant Operation Fundamentals - Heat Rate	0701S_B1_Ch5	\$
Plant Operation Fundamentals - Output	0701S_B1_Ch6	\$
Plant Operation Fundamentals - CEMS	0701S_B1_Ch7	\$



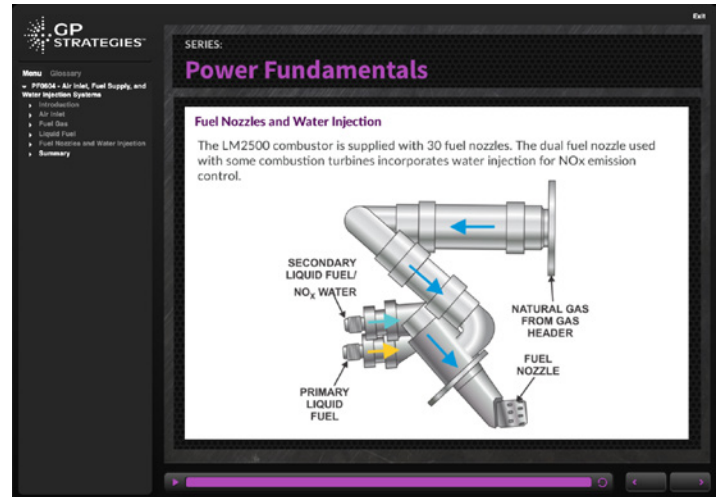
CT0101 - Introduction to Gas Turbines (GE 9FA)

Students will be able to: identify the major sections of a combustion turbine and their functions; identify operating characteristics of combustion turbines; identify the characteristics of aeroderivative and heavy-duty industrial combustion turbines.

Combustion Turbine

Introduction to Gas Turbines (GE 9FA)	CT0101
GE Frame 9FA Gas Turbine Main Components - Part 1	CT0102
GE Frame 9FA Gas Turbine Main Components - Part 2	CT0103
GE Frame 9FA Gas Turbine Generator	CT0104
GE Frame 9FA Gas Turbine Support Systems - Part 1	CT0105
GE Frame 9FA Gas Turbine Support Systems - Part 2	CT0106
GE Frame 9FA Gas Turbine Operations and Maintenance Considerations - Part 1	CT0107
GE Frame 9FA Gas Turbine Operations and Maintenance Considerations - Part 2	CT0108
GE Frame 9FA Gas Turbine Performance and Reliability	CT0109
Introduction to Combustion Turbines (SGT5-4000F / V94.3)	CT0201
Combustion Turbine Generator Starting and Air System	CT0202
Lube, Shaft, and Control Oil System and the Turning Gear	CT0203
Fuel Systems	CT0204
Combustion Turbine Control	CT0205

Introduction to Combustion Turbines (SGT5-2000E / V94.2)	CT0301
Combustion Turbine Generator Starting and Air Systems	CT0302
Lube, Shaft, and Control Oil System and the Turning Gear	CT0303
Fuel Systems	CT0304
Combustion Turbine Control	CT0305
Combustion Turbines (LM2500)	PF0601 ES
Major Components of the LM2500 Gas Turbine	PF0602 ES
Gas Turbine and Control Oil Systems	PF0603 ES
Air Inlet, Fuel Supply, and Water Injection Systems	PF0604 ES
Combustion Turbine (Frame 6)	PF0701 ES
Starting Systems and Auxiliary Air Systems	PF0702 ES
Lube, Hydraulic & Control Oil Systems	PF0703 ES
Combustion Components and Fuel Systems	PF0704 ES
Generator Operations	PF0705 ES
Combustion Turbine (Frame 7EA)	PF0801 ES
Starting System and Auxiliary Air Systems	PF0802 ES
Lube, Hydraulic, and Control Oil Systems	PF0803 ES
Combustion Components and Fuel Systems	PF0804 ES
Generator Support Systems	PF0805 ES
Combustion Turbine V84 (4000F)	PF0901 ES
Combustion Turbine Generator Starting and Air System	PF0902 ES
Lube, Shaft, and Control Oil System and Turning Gear	PF0903 ES
Fuel System	PF0904 ES
Combustion Turbine Control	PF0905
LM6000 Combustion Turbine Overview	PF2201
LM6000 Main Components	PF2202
LM6000 Combustion Turbine Generator	PF2203
LM6000 Support Systems (Part 1)	PF2204
LM6000 Support Systems (Part 2)	PF2205
LM6000 Operations and Maintenance (Part 1)	PF2206
LM6000 Operations and Maintenance (Part 2)	PF2207
LM6000 Performance and Reliability	PF2208
LM6000 Control System	PF2209



PF0604 - Air Inlet, Fuel Supply, and Water Injection Systems
 At the completion of this lesson, the student will be able to describe the LM2500 air inlet system, the LM2500 fuel supply system, and the LM2500 water injection system.

Mechanical Maintenance Technician

These courses provide theory of components such as pumps, valves, conveyors, and other piping systems. Maintenance technicians keep facility components operating smoothly. Basic theories to overhaul scenarios are covered providing maintenance technicians focused situations building on their skills.

Valve Maintenance

Air-Operated Control Valve (3D Exploratory)	TDX0201
Valve Theory	MM1301
Valve Types and Characteristics	MM1302
Sealing Mediums Used in Valves	MM1306
Valve Disassembly	MM1307
Valve Inspections	MM1308
Replacement of Defective Parts that are Critical in Valves	MM1309
Valve Part and Component Repair	MM1310
Valve Reassembly	MM1311
Globe Valve Overhaul	MM1312
Gate Valve Overhaul	MM1313
Safety Valve Overhaul	MM1314
Relief Valve Overhaul	MM1315
Ball Valve Overhaul	MM1316
Plug Valve Overhaul	MM1317
Diaphragm Valve Overhaul	MM1318
Butterfly Valve Overhaul	MM1319
Check Valve Overhaul	MM1320
Control Valve Overhaul	MM1321
Replacement of Defective Parts	MM1324

Conveyor Belts

Types of Conveyors	MM1201
Plant Conveyor Usage	MM1202
Conveyor Adjustments	MM1203
Conveyor Adjustment Techniques	MM1204
Conveyor Fastening/Connecting Methods	MM1205
Conveyor Fastening and Connecting Techniques	MM1206
Conveyor Misalignment Safeguards	MM1207
Drive Belts Used in the Plant	MM1208
Use of Drive Belts (V-Belts, Gear Belts, Flat Belts)	MM1209
Sheaves Used in the Plant	MM1210

Use of Sheaves in the Plant	MM1211
Drive Belt Adjustments	MM1212
Drive Belt Replacement	MM1213
Feeder Belt Replacement	MM1214
Conveyor Component Replacement	MM1216
Conveyor Component Repair	MM1217

Air Compressors


Compressor Theory and Classifications	MM1601
Operating Characteristics of Selected Compressors	MM1602
Positive Displacement Compressor Components	MM1603
Positive Displacement Screw Compressor "Wet" or "Dry" Type	MM1604
Matching Characteristics of Compressors to Applications	MM1605
Air Compressor Intercoolers	MM1606
Air Compressor Aftercoolers	MM1607
Compressors with Dryers	MM1608
Air Compressor Sealing Mediums	MM1609
Air Compressor Disassembly	MM1610
Air Compressor Inspections	MM1611
Replacement of Defective Parts on Air Compressors	MM1612
Air Compressor Reassembly	MM1613
Single Stage Piston Air Compressor Overhaul	MM1614
Multi-Stage Piston Air Compressor Overhaul	MM1615
Screw Type Air Compressor Overhaul	MM1616
Shaft and Impeller Repair	MM1617
Positive Displacement Reciprocating Compressor Components	MM1618

Hydraulics

Incompressibility of Fluids	MM1701
Basic Components Common to Fluid Power Systems	MM1702 

Fluid Power System Diagramming	MM1703
Purpose of Actuators	MM1704
Basic Operations of an Actuator	MM1705
Fluid Power System Control Valves	MM1706
Valve Operation in Fluid Power Systems	MM1707
Functions of Valves in Fluid Power Systems	MM1708
Purpose of Accumulators	MM1709
Types of Accumulators	MM1710
Identification of Fluid Power Pumps	MM1711
Operating Principles of Fluid Power Pumps	MM1712
Fluid Power Pump Applications	MM1713
Fluid Power Pump System Routine Maintenance	MM1714
Identification of Fluid Power Motors	MM1715
Operating Principles of Fluid Power Motors	MM1716
Fluid Power Motor Applications	MM1717
Fluid Power Motor Routine Maintenance	MM1718
Identification of Fluids and Additives Used in Hydraulic Systems	MM1719
Fluid Characteristics	MM1720
Fluid Applications	MM1721
Fluid Power System Reservoirs	MM1722
Purpose of Filters	MM1723
Hydraulic System Heat Exchangers	MM1724
Fluid Power System Vendors Manuals	MM1725
Identification of Fluid Power Component Malfunctions	MM1726
Fluid Power System Problems and Possible Remedies	MM1727
Location of Various Components of a Fluid Power System	MM1729
Types of Repairs Made to Selected Fluid Power Components	MM1730
Replacement of Parts and Fluid Power Components	MM1731
Fluid Power Component Replacement	MM1732
Stacker Reclaimer Hydraulic System	MM1733
Rotary Car Dumper Hydraulic System	MM1734
Bowl Mill Hydraulic System	MM1735
Fluid Power System Routine Maintenance Activities	MM1736

Pump Maintenance

Centrifugal Pump (3D Exploratory)	TDX0101
Introduction to Centrifugal Pumps	MM0101
Centrifugal Pump Components	MM0102
Principles of Centrifugal Pump Operations	MM0103
Centrifugal Pump Disassembly, Inspection & Reassembly	MM0104
Horizontal Centrifugal Pump Overhaul	MM0105
Vertical Centrifugal Pump Overhaul	MM0106
Positive Displacement Pumps	MM1401 
Positive Displacement Pump Applications	MM1404
Positive Displacement Pump Disassembly	MM1405
Positive Displacement Pump Reassembly	MM1406
Visual Inspection on Positive Displacement Pumps	MM1407
Defective Part Replacement	MM1408
Overhaul a Positive Displacement Pump	MM1409
Piston Pump Overhaul	MM1412
Diaphragm Pump Overhaul	MM1413
Lobe Pump Overhaul	MM1414
Vane Pump Overhaul	MM1415
Liquid Ring Pump Overhaul	MM1416
Shaft and Pumping Element Repair	MM1417

Heat Exchanger

Principles of Heat Exchanger Operation	MM0801
Heat Exchanger Types and Characteristics	MM0802
Heat Exchanger Testing	MM0803
Heat Exchanger Inspections	MM0804
Heat Exchanger Repairs	MM0805
Heat Exchanger Tube Cleaning	MM0806
Removal and Replacement of Heat Exchangers	MM0807
Gauge Glass Repair	MM0808

Precision Measurement

Introduction to Measuring	MM1101
Getting Correct Measurements	MM1102
Calipers	MM1103
Outside Measurement	MM1104

Inside Measurement	MM1105
Depth Measurement	MM1106
Thread Measurement	MM1107
Thickness Measurement	MM1108
Dial Indicator	MM1109
Infrequent Measurements	MM1110
Optical Measurement Device	MM1111

Gaskets & O-Rings

Gasket Creation	MM0701
O-Ring Creation	MM0702
O-Ring Selection	MM0703
Removal of Sealing Mediums	MM0704
Installation of Sealing Mediums	MM0705

Piping


Piping and Instrumentation Drawing Symbols	MM0601
Interpreting Piping and Instrumentation Drawings	MM0602
Types of Piping	MM0603
Piping Applications	MM0604
Fittings	MM0605
Pipe Hangers and Support Systems	MM0606
Pipe Hanger and Support System Operation	MM0607
Pipe Joining Methods	MM0608
Fitting Applications	MM0609
Pipe Joining Applications	MM0610
Pipe Joining Methods Explained	MM0611
Use of Pipe Fittings	MM0612
Erecting Piping Runs	MM0613
Piping Symbols	MM0614

Lubrication

Introduction to Bearing and Loads	MM0201
Bearing Types	MM0202
Bearing Operating Characteristics	MM0203
Sliding Surface Bearings	MM0204
Principles of Rolling Contact Bearings	MM0205
Identification and Use of Seals	MM0206

Removal of Bearings	MM0207
Installing Different Bearings	MM0208
Bearing Inspection and Disassembly	MM0209
Bearing Troubleshooting and Repair	MM0210
Types and Uses of Lubricants	MM0211
Lubrication Characteristics and Systems	MM0212
Fundamentals of Lubrication	MM2201 
Lubrication Sampling Fundamentals	MM2202
Maintenance, Purification, and Filtration of Oil and Grease Lubricated Systems	MM2203
Failure Mode Indicators	MM2204
Lubricant Testing and Analysis	MM2205

Alignment

Measurement of Coupling Hubs for Outside Diameter (O.D.) Offset and Face Angular Misalignment	MM0901
Procedure for Shimming to Compensate for Angular Face and Offset (O.D.) Misalignment	MM0902
Alignment with Straight Edge and Taper Gauge	MM0903
Indicator Bar Sag Prevention Techniques	MM0904
Dial Indicator Setup and Graph Paper Plotting	MM0905
Determination of Misalignment Conditions	MM0906
Alignments to within 0.002 Inch Tolerance	MM0907
Rim and Face Formulas	MM0908
Setup of Alignment Equipment to Instruction Booklet Specifications	MM0909
Calculation of the Formula to Determine Repositioning	MM0910
Alignment for Vertical and Horizontal Misalignment	MM0911
Reverse Alignment	MM0912
Shaft Alignment	MM2301 
Identifying and Correcting Soft Foot	MM2302
Shaft Alignment Using Laser Based Systems	MM2303
Laser Alignment Safety and System Operating Information	MM2304
Laser Alignment Troubleshooting	MM2305
The Function of Couplings and Major Coupling Types	MM2306

Maintenance Shop Equipment

Maintenance technicians require the necessary tools for creating work pieces or maintaining mechanical components to ensure devices work properly.

Layout/Bench Work

Rough Layout of a Workpiece	MM1801
Precision Layout of a Workpiece	MM1802
Sawing Stock with a Hand Hacksaw	MM1803
Straight and Draw Filing of Metal	MM1804
Sizing Holes with Hand Reams	MM1805
Tapping Threads by Hand	MM1806
Hand Methods of Deburring Parts	MM1807
Hand Methods of Removing Broken Studs	MM1808
Cutting Threads by Hand Using a Threading Die and Tap	MM1809
Broaching a Keyway Using an Arbor Press	MM1810
Operate a Powered Keyway Cutter	MM1811
Cutting Threads by Machine Using a Threading Die	MM1812

Pedestal Grinder

Grinding Wheel Dressing and Truing	MM0301
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Surface Grinder

Grinding of Parts Parallel and to Size	MM0401
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Band Saw

Saw to Layout Lines on a Band Saw	MM0501
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Welding

How Cutting Tip Size is Selected to Obtain a Neutral Flame	MM2101
Proper Setup for Oxy-Acetylene Cutting Equipment	MM2102
Safe Usage of Oxy-Acetylene Cutting Equipment	MM2103
Oxy-Acetylene Cutting	MM2104
Proper Flame Settings in Relation to Welding Tip Size and Material Thickness	MM2105
Setting Proper Oxy-Acetylene Flame for Fusion Welding	MM2106
Matching Proper Filler Metals to Base Metals	MM2107

Matching of Filler Metal Requirements to Base Metals for Fusion Welding	MM2108
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Oxy-Acetylene Fusion Welding on Carbon Steel	MM2109
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Flame Setting for Oxy-Acetylene Brazing for Various Silver Alloy Fillers	MM2110
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Reducing/Carburizing of the Flame for Brazing Various Metal Alloys	MM2111
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Matching of Proper Filler Metals to Base Metals to Achieve Strength and Integrity	MM2112
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Matching of Filler Metals for Brazing to Various Types of Base Metals	MM2113
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Oxy-Acetylene Brazing on Various Metal Alloys	MM2114
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Proper Flame Setting for Braze Welding Various Thickness of Carbon Steel and Cast Irons	MM2115
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Braze Welding Various Joint Configurations	MM2116
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Proper Braze Welding of Various Bead Configurations	MM2117
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Braze Welding on Various Base Metal Types	MM2118
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Matching of Braze Welding Filler Metals with Various Base Metals	MM2119
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Oxy-Acetylene Braze Welding on Carbon Steel and Cast Iron Base Metals	MM2120
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Shielded Metal Arc Welding on Carbon Steel Plate to A.W.S.-BU-2A Prequalified Joint Weld Procedures	MM2121
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Shielded Metal Arc Welding on Carbon Steel Pipe	MM2122
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Shielded Metal Arc Welding on Carbon Steel Pipe with Gas Tungsten Arc Welding Root	MM2123
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SMAW on Carbon Steel Tube, Gas Tungsten Arc Welding for Root with Carbon Steel Filler	MM2124
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Gas Tungsten Arc Welding on Carbon Steel Tube with Stainless Steel Filler	MM2125
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Electric Arc Welding Process for Welding in Various Positions	MM2126
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Electric Arc Welding Filler Metal Selection Based on Positions	MM2127
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Matching of Electric Arc Welding Filler Metals to Their Application Positions	MM2128	
Selection of Electric Arc Filler Metals Based on Application and Positions	MM2129	
Welding Positions and Their Orientations	MM2130	
Usage of Polarities (DC) and Current Flow in Electric Arc Welding with Covered Electrodes	MM2131	
Setup of Electric Arc Welding Equipment for SMA Welding in Both Polarities on Steel Plate	MM2132	
Welding Positions and Their Orientations for Pipe Welding	MM2133	
Setup of Pipe Coupons for SMA Welding in the 2G, 5G, and 6G Fixed Pipe Positions	MM2134	
Fit-Up Procedures for Chill Rings on Selected Size Pipes	MM2135	
Fit-Up Procedures for Chill Rings on Various Pipe Sizes	MM2136	
Differences between Mild Carbon Steel Filler Metals and Stainless Steel Filler Metals	MM2137	
Differences in Weldability between Carbon Steel and Stainless Steel	MM2138	
Explain the Setup of GTAW Equipment for Straight Polarity Welding with Argon Shielding Gas	MM2139	
Demonstrate Setup of GTAW Equipment for Straight Polarity Welding with Argon Shielding Gas	MM2140	
Joint Fit-Up Procedure for Welding Proper Size GTAW Root Pass on Pipe	MM2141	
Proper Joint Fit-Up Procedure for Welding GTAW Root Pass on Pipe	MM2142	
Argon Backing Gas Purge Systems for Root Protection Against "Sugaring" Pipe	MM2143	
Electric Arc Welding Process for Welding in the Flat Position	MM2144	
Electric Arc Welding Filler Metal Selection Based on the Flat Position	MM2145	
Matching of Electric Arc Welding Filler Metal Application to the Flat Position	MM2146	
Hot Work/Arc Welding	CAL-2.2	SS
Hot Work/Arc Welding for Oil and Gas Operations	OGS-6.2	SS

Milling Machine

Vertical Milling Operations Control Familiarity	MM2001
Install and Remove a Collet and End Mill	MM2002
Align Spindle Perpendicular to the Table	MM2003
Mount and Align a Vise on the Mill Table	MM2004
Square a Workpiece Clamped to the Mill Table	MM2005
Square a Workpiece Held in a Vise on Vertical Mill	MM2006
Locating, Drilling, and Reaming Holes by Coordinated Method	MM2007
Locate and Bore Holes by Coordinated Method	MM2008
Step Drill Holes Accurately to Size	MM2009
Mill a Slot or Pocket	MM2010
Countersinking, Counterboring, and Spotfacing	MM2011
Mill a Square on a Workpiece	MM2012
Mill a Hexagon on a Workpiece	MM2013
Machine a Flat Surface Using a Flying Cutter	MM2014
Mill Multi-Level Surfaces	MM2015
Mill a Fillet With Ball End Mill	MM2016

Lathes

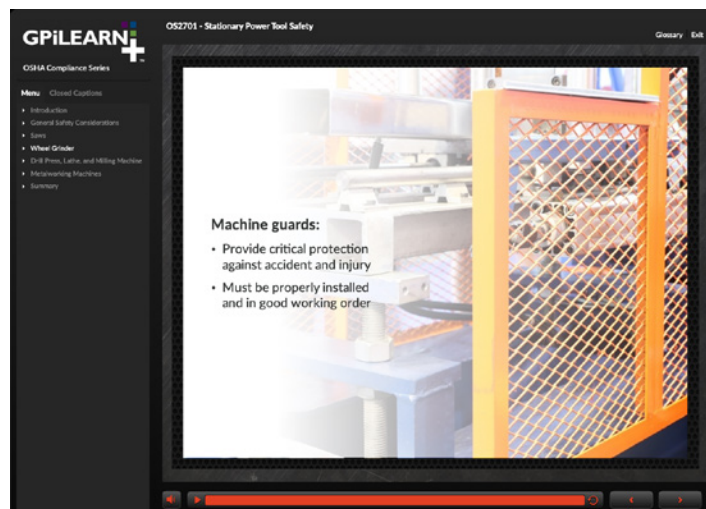
Grind a Right Hand Turning tool	MM1901
Operator Control of Engine Lathe	MM1902
Remove and Install Chucks and Face Plates with Cam Locks	MM1903
Rough Centering Work in a 4-Jaw Chuck	MM1904
Facing in a Chuck	MM1905
Center Drilling in Chucks and Collets	MM1906
Alignment of Lathe Centers	MM1907
Mount Workpieces Between Centers	MM1908
Straight Turning Between Centers	MM1909
Knurling a Workpiece	MM1910
Taper Turning with Tailstock Off-Set Method	MM1911
Straight Turning Work Held in a Chuck on an Engine Lathe	MM1912
Precision Centering Work in a 4-Jaw Chuck	MM1913
Cutting Steep Tapers and Chamfers	MM1914
Drilling on a Lathe	MM1915

Machine Reaming on a Lathe	MM1916
Parting and Grooving on a Lathe	MM1917
Grind a 60 Degree Threading Tool	MM1918
Cutting External Unified Standard Screw Threads	MM1919
Grind a Radius Tool	MM1920
Grind a Round Nose Form Tool	MM1921
Radius and Fillet Turning	MM1922
Boring on a Lathe	MM1923
Cut Internal Unified Standard Screw Threads	MM1924
Center Drill Work Between Centers	MM1925
Grind a Right Hand Facing Tool	MM1926
Taper Turning on a Lathe with a Taper Attachment	MM1927
Mount, Face, and Turn Work on Mandrel	MM1928
Reverse the Jaws in a 4-Jaw Independent Chuck	MM1929
Change the Jaws in a 3-Jaw Universal Chuck	MM1930
Reverse the Jaws in a 3-Jaw Universal Chuck with Cap Screw Mounted Jaws	MM1931
Use a Steady Rest	MM1932
Straighten a Shaft	MM1933
Hand Tools	
Non-powered Hand Tools - Part 1	MM2401
Non-powered Hand Tools - Part 2	MM2402
Power Tools	MM2403
Measuring Tools	MM2404
Fasteners	MM2405
Stationary Power Tool Safety	OS2701
Hand and Power Tool Safety	HPT-1.2 SS ES
Hand and Power Tool Safety - Canada	HPT-1.2can SS
Hand and Power Tool Safety	CAL-10.2 SS
Hand and Power Tools for the Oil and Gas Industry	OGS-26.2 SS
Chainsaw Safety	HPT-2.2 SS
Hand and Power Tool Safety: Personal Protective Equipment (Microlearning)	SNP-364.2 SS
Hand and Power Tool: Hand Tool Safety (Microlearning)	SNP-365.2 SS

Hand and Power Tool: Power Tool Safety Recommendations and Guards (Microlearning)	SNP-366.2 SS
Hand and Power Tool: Pneumatic and Hydraulic Tools (Microlearning)	SNP-367.2 SS
Hand and Power Tool: Liquid Fuel and Powder-Actuated Tools (Microlearning)	SNP-368.2 SS

Drill Press

Procedure to Drill Holes to Layout Lines	MM1501
Procedure to Drill Holes Through the Center of Round Stock	MM1502
Procedure to Countersink, Counterbore, and Spotface on a Drill Press	MM1503
Procedure to Ream Holes to Size on a Drill Press	MM1504
Tap Types and Thread Classifications	MM1505
Procedure to Tap Holes Using a Drill Press	MM1506
Selection of Correct Speed to Drill Size and Material	MM1507



OS2701 - Stationary Power Tool Safety

After completing this lesson, you will be able to recognize the safety standards and practices required when operating stationary power tools and apply those safety standards and practices to specific stationary power tools.

Power Plant Operations

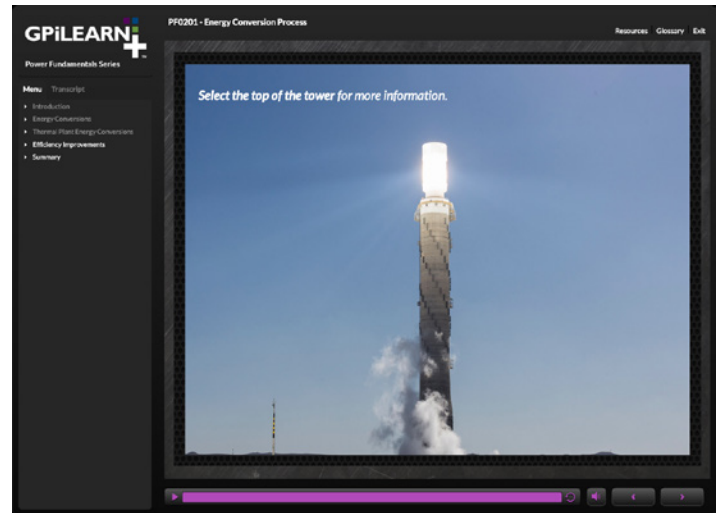
These courses provide the learner lessons in the theoretical knowledge of power generation and power plant efficiency. All major components in power generation for today's operators and maintenance technicians are covered.

Intro to Power Generation

Energy Conversion Process	PF0201	ES
Combustion System Components	PF0202	
Fluidized Bed Combustion	PF0203	
Boiler Water and Steam Cycle	PF0204	
Basic Turbine Overview	PF0205	
Plant Auxiliary Systems	PF0206	
Introduction to Power Plant Efficiency and Heat Rate	PF0207	

Power Plant Efficiency

Concern for Efficiency	HR01	
First Law of Thermodynamics and Entropy	HR02	
Heat Rate	HR03	
Energy Transfer and Efficiency	HR04	
Boiler, Turbine, and Generator Efficiency	HR05	
Boiler Efficiency	HR06	
Boiler Testing	HR07	
Efficiency - Calculations and Air Heater Testing	HR08	
Turbine Cycle Efficiency	HR09	
Cycle Isolation	HR1001	
Equipment Losses	HR1002	
Introduction to Performance	PF2101	ES
Boiler Efficiency	PF2102	ES
Turbine Cycle Performance	PF2103	ES
Miscellaneous Losses	PF2104	ES



PF0201 - Energy Conversion Process

After completing this lesson, students should be able to identify the basic energy conversions that take place in a power plant, the basic power plant processes involved in steam production, and examples of ways that power plants are designed to improve efficiency.


Power Plant Systems

Power production requires knowledge of different systems to ensure proper generation, cooling, and energy conversion to maintain good energy production. Critical to developing sound operators is knowledge of how systems function and interconnect.

Turbine Generator Systems

Major Components of an A.C. Generator	OP0101	Power Sources of Generator Bearing Oil System Components	OP0713
Principles of an AC Generator	OP0102	Components of Generator Hydrogen System	OP0715
Auxiliary Systems of an AC Generator	OP0103	Power Sources of the Generator Hydrogen System	OP0716
Basic AC Power Calculations	OP0104	Purging the Generator with Air, Carbon-Dioxide, and Hydrogen	OP0717
Complete Startup of Turbine/Generator	OP0201	Power Sources of Generator Major Components	OP0718
Complete Shutdown of Turbine/Generator	OP0202	Safety Features of the Generator	OP0719
SALI Charts with and without Rotor Stress Indicator (RSI)	OP0203	Isolation and Tagging of Generator Components	OP0721
Operating Limits of the Turbine/Generator	OP0204	Major Subsystems of the Generator	OP0722
Purpose of Turbine Components and Instrumentation	OP0205	Conditions Required to Synchronize the Generator	OP0724
Operation of Turbine Components	OP0206	Function of the Main Steam Turbine	OP0901
Purpose of Generator Components and Instrumentation	OP0207	Turbine Steam Valves	OP0902
Operation of Generator Components	OP0208	Flow path of Steam through the Turbine	OP0904
Corrective Action for Transient Conditions	OP0211	Two Types of Turbine Bearings	OP0905
Emergency Generator Components	OP0301	Functions of Subsystems of the Turbine	OP0906
Emergency Generator Auxiliary Equipment	OP0302	Major Components of the Turbine and Their Function	OP0907
Emergency Generator Operation	OP0303	Components in the Turbine Front Standard	OP0909
Purpose of Generators	OP0701	Components of the Turbine Lube Oil System	OP0911
Major Components of Generators	OP0702	Flow path of the Turbine Lube Oil System	OP0912
Transformers Associated with Generators	OP0704	Flow path of the Turbine Lube Oil Filtration	OP0913
Interaction of Associated Transformers with Generators	OP0705	Effect of High Backpressure on Turbine Operation	OP0914
Systems of Generators Cooled by Cooling Water System	OP0706	Turbine Supervisory Instrumentation and Function	OP0915
Operation of Stator Cooling System	OP0707	Condenser Vacuum Effects on Turbine Operation	OP0916
Major Components of the Generator Seal Oil System	OP0708	Power Sources for Turbine Components	OP0917
Flow path of the Seal Oil System	OP0709	Safety Features of the Turbine	OP0918
Power Sources of Generator Seal Oil Components	OP0710	Function of the Turbine Exhaust Hood Spray	OP0920
Major Components of the Generator Bearing Oil System	OP0711	Function of the Turbine Steam Seal System	OP0921
Flow path of the Generator Bearing Oil System	OP0712	Isolation and Tagging of Turbine Components	OP0922

Function of the Condenser Tube Spray System	OP0923		Alignment of the Fuel System for Startup	OP0504
Introduction to the EHC System	OP1301		Alignment of the Fuel System for Shutdown	OP0505
The Fullers Earth Filter System	OP1304		Normal Operation of the Fuel System	OP0506
EHC Return Oil Filters and Coolers	OP1307		Association of Temperature and Viscosity in Burning Fuel Oil	OP0507
Alignment for Start-up of the EHC System	OP1309		Power Sources for the Major Components of a Fuel System	OP0508
EHC System Protection	OP1312		Safety Features of the Fuel System	OP0509
EHC System Power Sources and Isolation	OP1313		Functions of the Safety Features of the Fuel System	OP0510
Introduction to the MHC System	OP1401		Operation of the Fuel Unloading Terminals	OP0511
Isolation and Startup of the MHC System	OP1405		Procedure to Isolate and Tag the Fuel System Components	OP0512
Turbine Auxiliaries Overview	PF1401	ES	Fans Associated with the Boiler	OP1001
Thermal/Mechanical Understanding	PF1402	ES	Function of Fans Associated with the Boiler	OP1002
Turbine Operation	PF1403	ES	Major Components of the Fans	OP1003
Boiler Systems				
Startup of a Boiler, From a Cold Boiler to Turbine Roll-Off	OP0401		Operation of the Major Components for Fans	OP1005
Shutdown of a Boiler	OP0402		Function of the Air Preheater	OP1006
Air and Gas Flow Through the Boiler, From Fans to Stack	OP0403		Major Components of the Air Preheater	OP1007
Flow path of Water and Steam From Economizer Inlet to Main Condenser	OP0404		Functions of the Major Components of the Air Preheater	OP1008
Corrective Actions for Various Transient Conditions	OP0405		Operation of the Major Components of Air Preheater	OP1009
Boiler Hydrostatic Test	OP0406		Alignment for the Start-up of the Fans	OP1010
Operating Limits of Boilers and Boiler Components	OP0407		Alignment for the Shutdown of the Fans	OP1011
Safety Valves of the Boiler	OP0408		Alignment of the Air Preheater for Start-up	OP1012
Pressure Range Where the Boiler Safety Valves Lift	OP0409		Alignment of the Air Preheater for Shutdown	OP1013
Operation of Pressurematic Vent Valves	OP0410		Functions of the Safety Features of the Fans	OP1015
Operation of the Furnace Safeguard Supervisory System (FSSS)	OP0411		Safety Concerns, Protective Features and Functions of the Air Preheaters	OP1017
FSSS Power Supply for Low Voltages	OP0412		Power Sources for Fans and Fan Auxiliaries	OP1018
Purpose of All Boiler Instrumentation	OP0413		Power Sources for Air Preheater and Auxiliaries	OP1019
Sootblowing Effect on Furnaces	OP0414		Air Preheater Wash System	OP1020
Operation of a Bowl Mill	OP0415		Function and Operational Variables of the Air Preheater Wash System	OP1021
Runups, Rundowns, and Runbacks	OP0416		Major Components of the Air Preheater Wash System	OP1022
Major Components of the Fuel System	OP0501		Alignment for Start-up of the Air Preheater Wash System	OP1023
Function of the Major Components of the Fuel System	OP0502		Shutdown Alignment of the Air Preheater Wash System	OP1024
Flow path of Fuel Through the Fuel System	OP0503			

Flow path of the Air Preheater Wash System	OP1025	Function of the Superheat and Reheat Dampers	OP1217
Power Sources for Air Preheater Wash System	OP1026	Function of the Blowdown Tank	OP1218
Isolating and Tagging of Fan Components	OP1027	Introduction to Ash Handling	PF0501 
Isolating and Tagging of Air Preheater Components	OP1028	Bottom Ash Removal System	PF0502 
Isolating and Tagging of Air Preheater Wash System Components	OP1029	Fly Ash Handling System	PF0503 
Function and Operation of the Steam Air Heater System	OP1030	Steam Drums (Rankine/Boiler)	PF1001 
Major Components of the Steam Air Heater System	OP1032	Waterwall Circulation, Superheaters, and Drains	PF1002 
Alignment of Steam Air Heaters for Service	OP1033	Economizer, Reheater, Gas Flow, Attenuation, Soot	PF1003 
Alignment to Remove Steam Air Heaters from Service	OP1034		
Flow path of the Steam Air Heater System	OP1035	Boiler Systems (TTP)	
Isolating and Tagging of the Steam Air Heater Components	OP1036	Conventional Boiler Fundamentals - Overview	0101S_B1_Ch1 
Introduction to Sootblowing Systems	OP1101	Boiler Fundamentals - Overview	0301S_B1_Ch1 
Sootblowing System Alignment	OP1105	Boiler Fundamentals - Feedwater and Steam Flow	0301S_B1_Ch2 
Protective Features of Sootblowing Systems	OP1108	Boiler Fundamentals - Water Properties	0301S_B1_Ch3 
Power Sources for the Sootblowing System	OP1110	Boiler Fundamentals - Fuel	0301S_B1_Ch4 
Major Components of the Boiler	OP1201	Boiler Fundamentals - Primary and Secondary Air	0301S_B1_Ch5 
Function of the Boiler Drum	OP1202	Boiler Fundamentals - Burners	0301S_B1_Ch6 
Function of the Superheat and Reheat Attenuators	OP1203	Boiler Fundamentals - Combustion	0301S_B1_Ch7 
Flow Path of Water and Steam Through the Boiler	OP1204	Boiler Fundamentals - Gas-Fired Boiler	0301S_B1_Ch8 
Boiler Alignment for Cold Startup	OP1205	Flue Gas Fundamentals - Overview	0401S_B1_Ch1 
Boiler Alignment for Shutdown	OP1206	Flue Gas Fundamentals - Electrostatic Precipitators	0401S_B1_Ch2 
Procedures for Handling Transient Conditions of Boiler	OP1207	Flue Gas Fundamentals - Baghouses	0401S_B1_Ch3 
Boiler Valve Alignment for Fill and Vent	OP1208	Flue Gas Fundamentals - Flue Gas Desulfurization	0401S_B1_Ch4 
Power Sources for the Major Components of a Boiler	OP1209	Flue Gas Fundamentals - Mercury Removal	0401S_B1_Ch5 
Safety Features of Boiler	OP1210	Steam Turbine Fundamentals - Overview	0501S_B1_Ch1 
Function of the Boiler Safety Features	OP1211	Steam Turbine Fundamentals - Design	0501S_B1_Ch2 
Function of the Flash Tank	OP1212	Steam Turbine Fundamentals - Auxiliary Systems	0501S_B1_Ch3 
Sub-Critical and Critical Operation Ramps	OP1213	Steam Turbine Fundamentals - Condenser	0501S_B1_Ch4 
Identification and Monitoring of Steam Trap Operations	OP1214	Steam Turbine Fundamentals - Operation/Expansion	0501S_B1_Ch5 
Function of the Superheater Condenser	OP1215	Generator Fundamentals - Overview	0601S_B1_Ch1 
Isolating and Tagging of Boiler Components	OP1216	Generator Fundamentals - Design	0601S_B1_Ch2 
		Generator Fundamentals - Auxiliaries	0601S_B1_Ch3 
		Generator Fundamentals - Energizing	0601S_B1_Ch4 

Generator Fundamentals - MW and MVAR	0601S_B1_Ch5	\$
Generator Fundamentals - Load Control	0601S_B1_Ch6	\$
Generator Fundamentals - Fault Protection	0601S_B1_Ch7	\$
Plant Operation Fundamentals - Overview	0701S_B1_Ch1	\$
Plant Operation Fundamentals - Water Treatment	0701S_B1_Ch2	\$
Plant Operation Fundamentals - Condensate/Feedwater	0701S_B1_Ch3	\$
Plant Operation Fundamentals - Cooling Towers	0701S_B1_Ch4	\$
Plant Operation Fundamentals - Heat Rate	0701S_B1_Ch5	\$
Plant Operation Fundamentals - Boiler Efficiency	0701S_B1_Ch6	\$
Plant Operation Fundamentals - Boiler Control	0701S_B1_Ch7	\$
Plant Operation Fundamentals - CEMS	0701S_B1_Ch8	\$
Plant Operation Fundamentals - Ash	0701S_B1_Ch9	\$
Plant Operation Fundamentals - Electrical	0701S_B1_Ch10	\$

Cooling Water Systems

Shell and Tube Heat Exchanger (3D Exploratory)	TDX0301
Fin Fan Cooler (3D Exploratory)	TDX0302
Mechanical Draft Cooling Tower (3D Exploratory)	TDX0303
Natural Draft Cooling Tower (3D Exploratory)	TDX0304
Function and Types of Circulating Water Systems	OP0601
Major Components of the Circulating Water System	OP0602
Flow path of Water through the Circulating Water System	OP0603
Alignment for the Startup of the Circulating Water System	OP0604
Alignment for a Shutdown of the Circulating Water System	OP0605
Chemical Treatment of the Circulating Water System	OP0606
Flow path of the Chemical Feed for a Circulating Water System	OP0607
Power Sources for Circulating Water System Components	OP0608

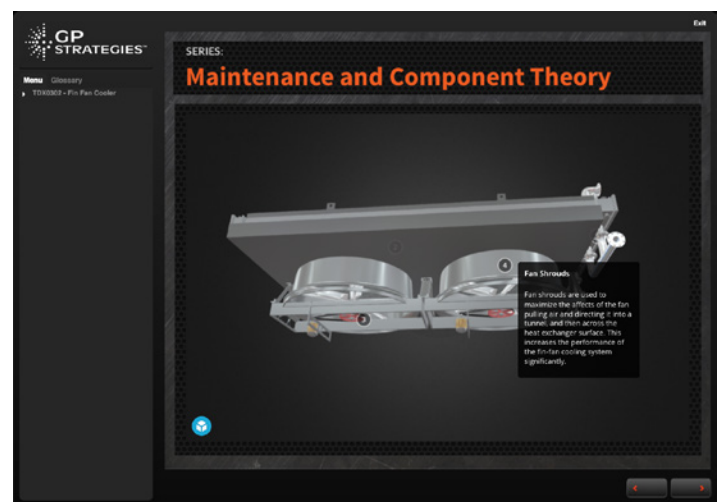
Safety Features and Their Function in the Circulating Water System	OP0609
Isolating and Tagging of Circulating Water System Components	OP0612

Air Pollution Control Systems

Pollution Control (3D Exploratory)	TDX0601
Introduction to Precipitators	OP0801
Precipitator Operation Fundamentals	OP0802
Precipitator Start-Up Alignment	OP0804
Precipitator Shutdown Alignment	OP0805
Precipitator Safety	OP0806
Precipitator Power Systems	OP0808
Particulate Removal Equipment	PF1902 ES

Electrical Systems

Practical Basic Electricity	PF1501 ES
AC Electricity and Generators	PF1502 ES
Basic Generator / Exciter Operation	PF1503 ES
Station Service Systems and Transformers	PF1601 ES
Circuit Breakers	PF1602 ES
General Relaying	PF1603 ES
Motors	PF1604 ES

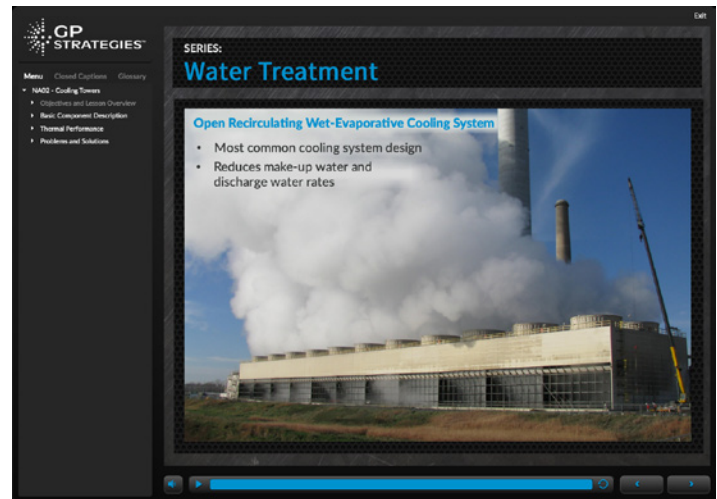


TDX0302 - Fin Fan Cooler

This interactive, 3D model describes a cooler heat exchanger and allows the user to see the major components of a fin-fan cooler, including the tubes, piping connections, cooling fans, and fan shrouds.

Water Treatment




Multi Media Filter (3D Exploratory)	TDX0501
RO Filtration Cycle (3D Exploratory)	TDX0502
Introduction to Desalination	DS0101
Introduction to Reverse Osmosis	DS0201
Corrosion and Scale	BC0201
Corrosion Types	BC0202
Corrosion Control Methods	BC0203
Water Sources	BC0301
Clarification, Filtration, and Softening	BC0302
Ion Exchange	BC0303
Membrane Technologies	BC0304
Boiler Water Treatment	BC0401
Cooling Water Guidelines	BC0501
Cooling Towers	NA02
Chillers	NA03
Boiler Basics	NA05
Water Tube Boilers	NA06
Boiler Cycle Chemistry	NA07
Advanced Boiler Problems and Solutions	NA08
Ion Exchange Basics	NA09
Statistical Process Control	NA12
Basic Types of Wastewater Treatment	NA14
Raw Water Treatment Equipment	NA15
Wastewater Treatment Processes	NA16
Introduction to Chemistry	PF1801 
Water Treatment System Components	PF1802 
Scale, Deposit, and Fouling	PF1803 
Demineralization	PF1804 
Introduction to Zero Liquid Discharge Systems	PF2401
Brine Concentrator Systems	PF2402
Crystallizer Systems	PF2403
ZLD System Decanter Centrifuges	PF2404





NA02 - Cooling Towers

Learners will be able to identify the different types of cooling towers generally in use and how they operate, identify and explain the basic components of cooling towers with a focus on open recirculating cooling towers, explain the concept of thermal performance and how it influences the size of cooling towers, describe the causes and effects of common operational problems in open recirculating cooling tower systems, and describe the solutions to common operational problems in open recirculating cooling tower systems.

Plant Water Cycle

Condenser & Circulating Water	PF1201 
Pumps	PF1202 
Feedwater Components & Cycle Operation	PF1203 

Plant Auxiliaries

Package Boiler (3D Exploratory)	TDX0401
Air Compressor (3D Exploratory)	TDX0801
Compressed Air & Plant Cooling Systems	PF1301 
Valves, Traps & Piping	PF1302 
Introduction to Air Conditioning	PF2501

Health and Emergency Preparedness

Keeping employees safe is paramount in business. Another key component of successful workforces is an employees' health. Employees need to be prepared for dealing with the physical and visual recognition of hazards. These lessons focus on foundational items for your workforce to understand what is important and how to keep themselves prepared.

Disease Control

Asbestos Handbook	EN0201	
COVID-19 General awareness	GH0101	
Returning to Work: Protecting Yourself and Others	GH0102	
Returning to Work: Employee Rights	GH0103	
Face Mask Safety	GH0104	
Bloodborne Pathogen Awareness	OS0601	ES
Bloodborne Pathogens	BBP-1.2	SS
Bloodborne Pathogens	CAL-5.2	SS
Bloodborne Pathogens - Canada	BBP-1.2can	SS
Influenza Symptoms and Prevention Strategies for Employees and Business Owners	FLU-1.2	SS
N95 Respirators - Preventing Airborne Disease Transmission	MED-4.2	SS
Legionnaires' Disease	MED-5.2	SS
Influenza Pandemic Planning for Businesses	MED-12.2	SS
Influenza Prevention	MED-13.2	SS
Coronavirus (COVID-19) Prevention	MED-14.2	SS ES
Coronavirus (COVID-19) Prevention in the Workplace	MED-15.2	SS
Coronavirus (COVID-19) Prevention in the Workplace - Canada	MED-15.2can	SS
Bloodborne Pathogens: Characteristics	SNP-9.2	SS
Bloodborne Pathogens: Cleaning and Disinfecting	SNP-10.2	SS
Bloodborne Pathogens: Exposure Control	SNP-11.2	SS
Bloodborne Pathogens: Protocols and Recordkeeping	SNP-12.2	SS
Bloodborne Pathogens: Routes of Transmission	SNP-13.2	SS

Severe Weather

Cold Stress in the Workplace	CSW-1.2	SS
Cold Stress in the Workplace - Canada	CSW-1.2can	SS
Earthquake Safety	EMR-2.2	SS
Hurricane Safety	EMR-3.2	SS
Heat Stress in the Workplace	HSW-1.2	SS ES
Heat Stress in the Workplace - Canada	HSW-1.2can	SS
Severe Weather: Flash Floods	SNP-35.2	SS
Severe Weather Awareness	SNP-36.2	SS
Severe Weather: Thunderstorms	SNP-37.2	SS
Severe Weather: Tornadoes	SNP-38.2	SS
Cold Stress in the Workplace: Contributing Factors (Microlearning)	SNP-106.2	SS
Cold Stress in the Workplace: Symptoms and Illnesses (Microlearning)	SNP-107.2	SS
Cold Stress in the Workplace: Cold Stress Prevention (Microlearning)	SNP-108.2	SS
Hurricane Safety: Hurricane Risk Areas (Microlearning)	SNP-241.2	SS
Hurricane Safety: Preparing for a Hurricane (Microlearning)	SNP-242.2	SS
Hurricane Safety: Safety During and After a Hurricane (Microlearning)	SNP-243.2	SS
Severe Weather and Outdoor Work	SVW-1.2	SS
Severe Weather and Outdoor Work - Canada	SVW-1.2can	SS
Heat Stress for Upstream Oil and Gas Operations	OGS-19.2	SS
Cold Stress for Upstream and Midstream Oil and Gas Operations	OGS-20.2	SS

Math and Sciences

Providing your employees, the tools necessary to be independent productive workers is critical to lean workforces. These courses provide foundational just-in-time content for workforces on calculation, measurement, physical properties, and chemistry.




Math

Placement of Decimals	BA0101
Math Problems using Addition, Subtraction, Multiplication, and Division	BA0102
Math Problems Using Whole Numbers and Decimals	BA0103
Averaging	BA0104
Fractions into Decimals	BA0105
Decimals into Fractions	BA0106
Decimals and Fractions into Percent	BA0107
Percent into Fractions and Decimals	BA0108
Negative Powers of Ten	BA0109
Positive Powers of Ten	BA0110




Measurement

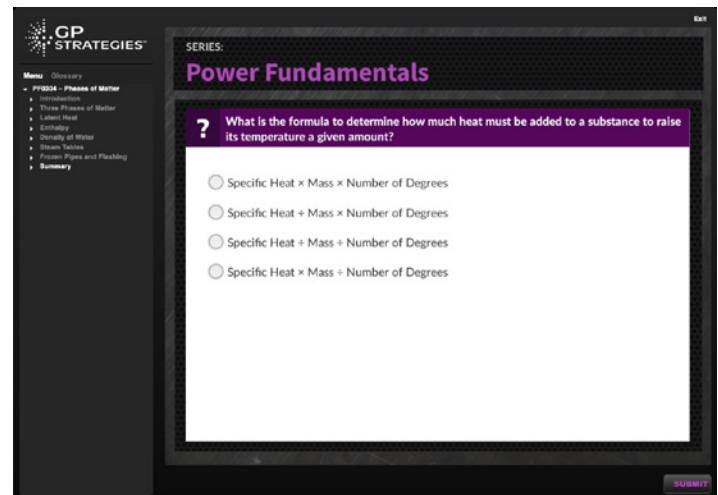
Area	BA0111
Volume	BA0112
Density	BA0113
Specific Gravity	BA0114
Conversion	BA0115
Measurement Systems	BA0116
Utilizing Conversion Units	BA0117
Dimensional Properties	BA0118
Dimensional Problems	BA0119
Degrees/Minutes/Seconds	BA0120
Units of Measurements	PF0301 

Physical Properties

Relationships Between Tables and Graphs	BA0121
Tables and Graphs Related to Math	BA0122
Solve Problems Using Tables and Graphs	BA0123
Triangles	BA0124
Pressure	PF0302 
Energy	PF0303 
Phases of Matter	PF0304 

Chemistry and Combustion Basics

Matter and Energy	BC0101
The Periodic Table	BC0102
Chemical Bonds, Formulas and Equations	BC0103
Chemistry of Water Solutions	BC0104
Fuels	PF0401 
Chemistry of Combustion	PF0402 
Heat Transfer	PF0403 



PF0304 - Phases of Matter

This lesson reviews the three phases of matter, how latent heat affects phase, the factors that determine enthalpy, the factors that determine the density and specific volume of water and steam, the types of information provided on steam tables, and the ways that a frozen pipe and flashing may cause damage.

HR compliance courses inform your workforce on common workplace etiquette, business security, and personal security.

Ethics/Code of Conduct

Electronic Communication Etiquette for Business	ETQ-1.2	SS
Discrimination in the Workplace	HRM-3.2	SS
Discrimination in the Workplace for Managers - Canada	HRM-3.2can	SS
Diversity in the Workplace	HRM-13.0	SS
Conflict Resolution Strategies	HRM-22.2	SS
HIPAA Compliance Training	MED-1.2	SS
HIPAA Compliance Training for HR Officers	MED-3.2	SS

Wage & Hour

Foreign Corrupt Practices Act (FCPA)	ETH-2.2	SS
Lawful Hiring Practices	HRM-2.0	SS
Fair Labor Standards Act (FLSA)	HRM-25.2	SS
Lawful Terminations and Employee Separation	HRM-16.0	SS



Harrassment

Sexual Harassment Prevention for Managers	HRM-10.0	SS
Sexual Harassment and Discrimination for Employees	HRM-17.0	SS
Sexual Harassment and Discrimination for Managers in California	HRM-18.2	SS
Sexual Harassment and Discrimination for Employees in California	HRM-21.2	SS
Sexual Harassment and Discrimination for Managers in New York	HRM-23.2	SS
Sexual Harassment and Discrimination for Employees in New York	HRM-24.2	SS
Bullying and Harassment in the Workplace	HRM-27.2	SS
Sexual Harassment for Employees in Connecticut	HRM-29.2	SS
Sexual Harassment Prevention for Customer-Facing Positions	HRM-30.2	SS
Human Trafficking Awareness and Prevention	HSP-13.2	SS
Human Trafficking Awareness	DOT-6.2	SS

Drug Policy

Drug Free Workplace	HRM-8.2	SS	ES
Drug Free Workplace - Canada	HRM-8.2can	SS	
Reasonable Suspicion Substance Abuse Training for Supervisors	HRM-20.0	SS	
Reasonable Suspicion Substance Abuse Training for Supervisors in the Oil and Gas Industry	OGS-41.2	SS	

Workplace Violence

Active Shooter: Run/Hide/Fight	ALC-2.2	SS
Violence in the Workplace	HRM-7.2	SS
Violence in the Workplace - Canada	HRM-7.2can	SS
Emergency Response: Bomb Threats	SNP-19.2	SS

Environmental Management

Management of hazardous materials provides safe storage and use of chemicals that would otherwise be hazardous to the environment. These lessons provide guidance into understanding spill-prevention control and countermeasures, as well as information into regulatory compliance with local and federal ordinances.

Environmental Policy

Environmental Policy Handbook	EN0401	
The Environment	PF1901	ES
Environmental Awareness	ENV-1.2	SS
Environmental Awareness	INT-18.0	SS
Used Oil Management	UOM-1.2	SS
Universal Waste Management	UWM-1.2	SS

DOT Awareness

DOT General Awareness	EN0301	
DOT Function Specific	EN0302	
DOT Safety	EN0303	
DOT Security Awareness Training	EN0304	

Water Management

Storm Water	EN1001	
Water Handbook	EN1101	
Waste Management	EN1201	
Waste Water	EN1301	
Blowdown NPDES Limits	OP0611	
Identify NPDES Limits	OP0613	
Water Pollution	PF1904	ES
Stormwater Pollution Prevention for Industrial Operations	STW-2.2	SS ES
Marine Trash and Debris	OGS-58.2	SS

SPCC

Spill Prevention Control and Countermeasure (SPCC)	EN0901	
Spill Prevention/Control/Countermeasures	ENV-3.2	SS
Spill Prevention/Control/Countermeasures - Canada	ENV-3.2can	SS
Small Spill Response	HZC-9.2	SS
SPCC for Oil and Gas: Spill Prevention Measures (Microlearning)	SNP-189.2	SS
SPCC: Spill Prevention Measures (Microlearning)	SNP-200.2	SS

Spill Response for Oil and Gas Personnel	OGS-13.2	SS
SPCC Canada - Spill Prevention Measures (Microlearning)	SNP-313.2can	SS
Small Spill Response - Spill Response Info (Microlearning)	SNP-289.2	SS
Small Spill Response - Spill Considerations (Microlearning)	SNP-290.2	SS
Small Spill Response - Best Practices (Microlearning)	SNP-291.2	SS
Spill Prevention/Control/Countermeasures for Oil and Gas Operations	OGS-12.2	SS

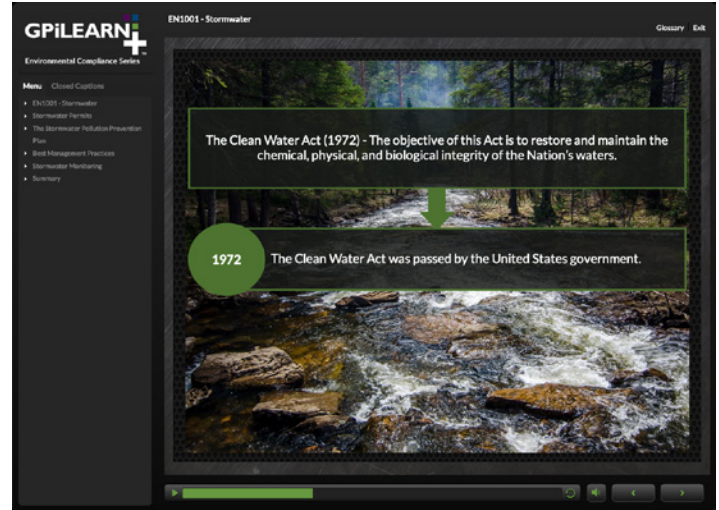
Hazardous Materials

Hazardous Materials Handbook	EN0501	
Hazardous Waste Generation	EN0601	
Hazardous Waste Handbook	EN0602	
Asbestos Hazard Awareness	ASB-1.2	SS ES
Chemical Safety	CHM-1.2	SS
Chemical Safety - Canada	CHM-1.2can	SS
Carcinogen Awareness	CHM-2.2	SS
Benzene Awareness	CHM-3.2	SS
Hexavalent Chromium	CHM-5.2	SS
Beryllium Awareness	CHM-7.2	SS
Ammonium Hydroxide	CHM-9.2	SS
Surveying the HAZMAT Incident	FRO-1.2	SS
Hazmat 0: Hazardous Materials Transportation, Introduction	HMT-0.2	SS
Hazmat 01: The Hazardous Materials Table	HMT-01.2	SS
Hazmat 02: Hazmat Shipping Papers	HMT-02.2	SS
Hazmat 03: Hazmat Marking and Labeling	HMT-03.2	SS
Hazmat 04: Hazmat Placarding	HMT-04.2	SS
Hazmat 05: Hazmat Packaging	HMT-05.2	SS
Hazmat 10: Hazmat Transportation Security Awareness	HMT-10.2	SS
Hazardous Materials Classification - Basic	HZM-1.2	SS
Hazardous Materials Management - Explosives	HZM-2.0	SS
Hazardous Waste Awareness (RCRA)	HZW-1.2	SS ES

Incident Investigation	INV-1.2	SS
Incident Investigation - Canada	INV-1.2can	SS
Chemical Safety - Tools and Strategies (Microlearning)	SNP-280.2	SS
Chemical Safety - Hazard Controls (Microlearning)	SNP-281.2	SS
Chemical Safety - Handling and Storage (Microlearning)	SNP-282.2	SS
Chemical Safety - Emergency Procedures (Microlearning)	SNP-283.2	SS
Organic Peroxide Awareness	CHM-6.2	SS

Air Emissions & Permitting

Air Handbook	EN0101	
Introduction to Nitrogen Oxide and Sulfur Oxide Emissions	FG0101	
EPA Compliance Standards	FG0102	
Introduction to Selective Non-Catalytic Reduction/Selective Catalytic Reduction	FG0201	
Selective Non-Catalytic Reduction/Selective Catalytic Reduction Process	FG0202	
SCR/SNCR Basic Operation, Preventive Maintenance, and Safety	FG0203	
Flue Gas Desulfurization	FG0301	
Flue Gas Desulfurization Process	FG0302	
FGD Basic Operation, Maintenance, and Safety	FG0303	
Gaseous Emissions Control	PF1903	ES
The Environment	PF2001	ES
Catalysts	PF2002	ES
Steam and Water Injection Systems	PF2003	ES
Water Pollution	PF2004	ES



EN1001 - Lesson Title Goes Here

This course goes over the basic requirements of stormwater pollution prevention regulations, stormwater permit types and their basic precepts and conditions, the definition of a stormwater pollution prevention plan, the relationship between a stormwater permit and a stormwater pollution prevention plan, the general requirements of a stormwater pollution prevention plan, best management practices and their basic elements, the purpose of stormwater monitoring, and stormwater monitoring techniques.

Solid Waste

Solid Waste Handbook	EN0801
Solid Waste Permit	EN0802

PCB

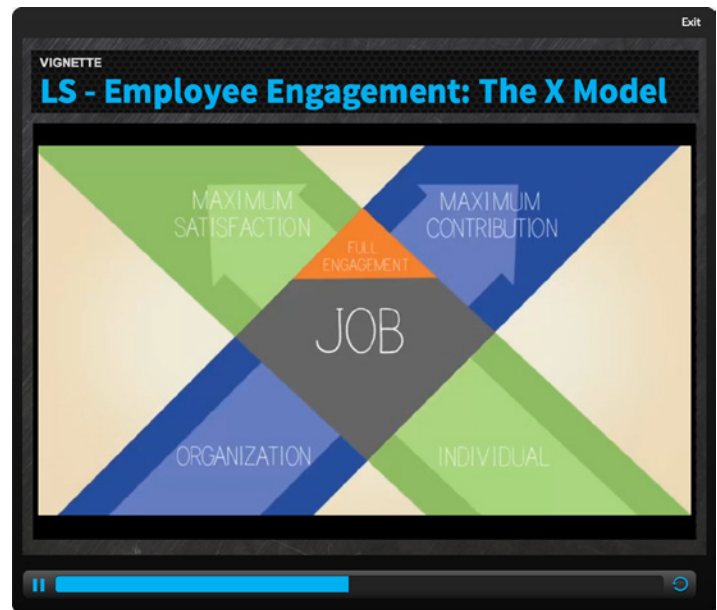
PCB Handbook	EN0701
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Leadership

Leading organizations and small teams require key skills to understand, develop and engage employees. Being able to communicate and work with others helps establish good business etiquette and drives productivity. Our leadership content provides the foundational tools for today's front-line leaders and mid-level managers.

Leadership Skills

Employee Engagement - The X Model	LS0102
Employee Engagement - Shared Responsibility	LS0103
Questioning Strategically - The Four Quadrants	LS0105
Showing Empathy - The Logic Emotion Bubble	LS0107
Communicating Benefits - The Bull's Eye	LS0108
Handling Resistance - The Roundabout	LS0109
Delegating Responsibility - The Funnel	LS0110
Leadership Skills for Managers	HRM-14.2 
Active Listening	SFT-1.2 
Negotiation Skills	SFT-2.2 
Time Management	SFT-3.2 



LS0102 - Employee Engagement - The X Model

This vignette details a specific and compelling model for defining Employee Engagement – and what it means to the individual and the organization they work for.

Embrace problem-solving as the key to continuous improvement. Dive down into a problem and understand its root cause, whether it is mechanical or communicative.

Reliability

Defect Elimination: Journal Bearings	RE0200
Defect Elimination: Centrifugal Pumps	RE0205
Defect Elimination: Mechanical Seals	RE0210
Defect Elimination: Valves	RE0215
Defect Elimination: Actuators	RE0220
Defect Elimination: Solenoids	RE0225
Defect Elimination: Electric Motors	RE0230
Defect Elimination: Brakes	RE0231
Defect Elimination: Clutches	RE0232
Defect Elimination: Couplings	RE0235
Defect Elimination: Compressors	RE0240
Defect Elimination: Accumulators	RE0245
Defect Elimination: Gears and Splines	RE0250
Defect Elimination: Filters	RE0255
Chain Drives: Tensioning a Single Roller Chain	RE1001
Belt Drives: Tensioning a V-Belt	RE1002
Valve Types	RE1003
Bearings: Remove/Replace Tapered Bearings	RE1004
Seals: Mechanical Seal Replacements	RE1005
Seals: Valve Packing Replacement	RE1006
Lubrication: Centrifugal Pump Oil Change	RE1007

Human Performance

Overview of Human Performance Improvement	HP0101
Self Checking Vignette	HP0201
Effective Communication Vignette	HP0202
Time Out Vignette	HP0203
Peer Checking Vignette	HP0204
Place Keeping Vignette	HP0205
Brief-Huddle-Review Vignette	HP0206
Two-Minute Rule Vignette	HP0207
Independent Verification Vignette	HP0208
Questioning Attitude (QVV) Vignette	HP0209

Concurrent Verification	HP0210
Effective Communication Activity	HP0301
Place Keeping Activity	HP0302
Peer Checking Activity	HP0303
Two-Minute Rule Activity	HP0304
Conduct of Operations Overview	CO0101
Operator Rounds	CO0201
Measurement and Records	CO0202
Housekeeping and Safety	CO0203
Operational Conditions	CO0204
Rotating Equipment Status	CO0205
System Lineup	CO0206
Valves	CO0207
Battery Maintenance	CO0208

Root Cause Analysis

Problem Solving Fundamentals	SY0101
RCA Tools and Methods	SY0102
The Five Whys	SY0103
Fishbone Diagrams	SY0104
Logic Trees	GP-RCA-05

These courses provide content-specific topics that provide a deep dive into an identified topic of interest.

Waste to Energy

Municipal Solid Waste as Fuel	WTE0101
Refuse Receiving, Handling Layout, and Equipment	WTE0102
Refuse Receiving and Handling Operations	WTE0103
Refuse Receiving and Handling Summary	WTE0104
Refuse Fired Boiler Overview	WTE0201
Refuse Boiler Main Components	WTE0202
Refuse Boiler Combustion Section	WTE0203
Basics of Corrosion and High Temperature Corrosion	WTE0301
Controlling Corrosion	WTE0302
Types of High Temperature Corrosion	WTE0303
Boiler Design and Operational Concerns	WTE0304
Practices Affecting Corrosion	WTE0305

Coal Fundamentals

Sump Pump Function	CY0101
Sump Pump Components	CY0102
Power Sources	CY0103
Sump Pump Isolation	CY0104
Function of Magnetic Separator	CY0201
Function of Major Components of Magnetic Separator	CY0202
Identify Power Sources (MCC)	CY0203
Explain Function of Fire Protection System in the Coal Yard	CY0301
Function of the Major Components of the Fire Protection System in the Coal Yard	CY0302
Function of the Fire System Bypass Switch	CY0303
D.C. Power Normal and Alternate Supply	CY0304
Fire Protection System Equipment Power Sources	CY0305
Hazards Associated with Extinguishing Coal Fires in Open and Enclosed Areas	CY0306
Describe Penn Crusher Operating Limitations as Dictated by Coal Conditions	CY0401

Identify Safety Precautions Associated with the Penn Crusher	CY0402
Equipment Walkdown/Checkoff	CY0501
Check, Add, and Identify Proper Lubricants for All Components	CY0502
Identify Power Supply Locations	CY0503
Operate Sump Pumps	CY0504
Housekeeping Activities	CY0505
Deficiencies Specific to this Equipment	CY0506
Dust Suppression System Operation	CY0507
Proper Start-Up and Shutdown Procedure	CY0508
Safety Precautions Associated with Equipment	CY0509
Basic Dumper/Positioner Operation	CY0510
Rotary Dumper Interlocks	CY0511
Procedure for Coupling and Uncoupling Railroad Cars	CY0512
Observations/Inspections Made During Unloading Operations	CY0513
Operate Train Brake System	CY0514
Equipment Walkdown/Checkoff for Stacker Reclaimers	CY0601
Check, Add, and Identify Proper Lubricants	CY0602
Power Supply Locations	CY0603
Housekeeping Activities	CY0604
Deficiencies Specific to Stacker Reclaimers	CY0605
Proper Start-up and Shutdown Procedures	CY0606
Safety Precautions Associated with Stacker Reclaimers	CY0607
Equipment Pre-Checks	CY0701
Check, Add, and Identify Proper Lubricants for All Components on the Water Wagon	CY0702
Identify Equipment Deficiencies Specific to Water Wagon	CY0703
Proper Coal Compaction Activities with the Water Wagon	CY0704
Safety Precautions Associated with the Water Wagon	CY0705

Function of Conveyor System	CY1001	Isolating and Tagging of Pulverizer and Feeder Components	OP1514
Major Components of Conveyor System	CY1002	Introduction to Coal Handling	PF2301
Identify Power Sources (MCC)	CY1003	Unloading Rail Delivered Coal	PF2302
Operator Safety Features	CY1004	Unloading Barge Delivered Coal	PF2303
Equipment Safety Features	CY1005	Coal Conveyors	PF2304
Possible Causes of Belt Misalignment	CY1006	Stackout, Reclaim, and Coal Pile Management	PF2305
Equipment Pre-Checks on Rubber Tired Scraper	CY1101	Crushers and Trippers	PF2306
Check, Add, and Identify Proper Lubricants for All Components	CY1102	Railyard Operation	PF2307
Equipment Deficiencies Specific to Rubber Tired Scraper	CY1103		
Proper Coal Compaction Activities with the Rubber Tired Scraper	CY1104		
Safety Precautions Associated with Rubber Tired Scraper	CY1105		
Equipment Pre-Checks on Dust Collection Equipment	CY1201		
Equipment Deficiencies Specific to Dust Collection Equipment	CY1202		
Safety Precautions Associated with Dust Collection Equipment	CY1203		
Proper Operation of Dust Collection Equipment	CY1204		
Major Components of the Pulverizers and Feeders	OP1501		
Function of the Pulverizers and Feeders	OP1502		
Flow path of Coal through the Pulverizers and Feeders	OP1503		
Pulverizer Oil Systems	OP1504		
Functions of the Pulverizer Oil Systems	OP1505		
Start-Up Alignment of the Pulverizers and Feeders	OP1506		
Power Sources for Pulverizers, Feeders, and Components	OP1507		
Safety Features of the Pulverizers and Feeders	OP1508		
Safety Feature Functions of the Pulverizers and Feeders	OP1509		
Inerting Steam Operation	OP1510		
Seal Air Sequence for Pulverizer Start-Up	OP1511		
Function of the Pyrite System	OP1512		
Operation of the Pyrite System	OP1513		



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