ADMN 6015: Preventive Maintenance

Learning Outcome

When you complete this module you will be able to ….

Discuss preventive maintenance.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Set up a preventive maintenance program.

CHEM 6001: Acids, Bases and Salts

Learning Outcome

When you complete this module you will be able to ….

Identify acids, bases and salts.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. List the properties of acids, bases, and salts.
2. Name simple inorganic acids, bases, and salts.
3. Recognize the hazards of handling acids and bases.
4. Describe the process of using a refractometer.
5. Describe the use of PH paper.
6. Describe the process of titration.

CHEM 6006: Classification of Light Hydrocarbons

Learning Outcome

When you complete this module you will be able to ….

Describe hydrocarbon classification and terms that are related to classifying hydrocarbons.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Define the different units of pressure.
2. Define density.
3. Define specific gravity.
4. Compare substances through reference to their individual specific gravities.
5. Define vapour pressure.
6. Describe typical phase behaviour of light hydrocarbons.
7. Describe the limits of flammability of hydrocarbons.
8. Describe hydrocarbon hydrates and their formation.
9. Describe hydrocarbon product specifications.

CODE 6011: Roles of ASME, NBBI and the Jurisdictions

Learning Outcome

When you complete this module you will be able to ….

Discuss the roles of The American Society of Mechanical Engineers (ASME), The National Board of Boiler and Pressure Vessel Inspectors (NBBI), and the Jurisdictions respecting the design, construction, inspection, and testing of boiler and pressure vessels.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Briefly discuss the purpose and scope of ASME, NBBI, and the Jurisdictions.
2. Briefly discuss the history of ASME.
3. Briefly discuss the functions of ASME.
4. Briefly discuss the functions of NBBI.
5. Briefly discuss the function of the Jurisdictions.

ELEC 6004: Hazardous Area Classification

Learning Outcome

When you complete this module you will be able to ….

Have an understanding of the various Hazardous Area Classifications and the electrical standards that apply to these areas relative to oil and gas exploration and production operations.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Review a facility or operational area and establish the Area Classification for that area in accordance with the Canadian Electrical Code.
2. Establish what electrical equipment would be required for installation in a particular facility or operational area.
3. Describe the various Classes, Divisions, and Groups applicable to hazardous areas.

ELEC 6016: Intrinsically Safe Circuits

Learning Outcome

When you complete this module you will be able to ….

Demonstrate knowledge of intrinsically safe (I.S.) circuits as applied to hazardous locations.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Describe an intrinsically safe circuit.
2. List criteria required for the selection of a barrier.
3. List the advantages of I.S. systems over explosion proof systems.
4. List installation requirements necessary for an I.S. loop where a barrier is utilized (barrier location and sealing).
5. State the function of the zener diodes in a zener barrier.
6. Describe the grounding requirements for an I.S. system.

ELEC 6019: Explosion Proof Equipment

Learning Outcome

When you complete this module you will be able to ….

Explain the requirements for explosion proof equipment in hazardous locations.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Define and describe hazardous location.
2. Describe the purpose of explosion proof equipment.
3. Define installation requirements for conduit, seals, fixtures, and appliances.
4. Describe maintenance procedures for explosion

ENVS 6004: Environmental Monitoring of Air Pollutants

Learning Outcome

When you complete this module, you will be able to …

Describe commonly used methods to monitor for common air pollutants.

Learning Objectives

Here is what you will be able to do when you complete each objective:

1. Explain the terms used in air pollution monitoring.
2. Discuss the major types of air pollutants and how they are measured.

ENVS 6025: Introduction to Spill Containment and Control

Learning Outcome

When you complete this module you will be able to ….

Develop a basic spill response plan.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Identify spills most likely to occur.
2. Identify equipment and personnel to respond to a spill.
3. Develop a basic spill response plan.

INST 6051: Fluid Turbine Meters

Learning Outcome

When you complete this module you will be able to ….

Briefly, explain the operation of fluid turbine meter.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Explain the operation of a turbine meter.
2. Sketch and describe a turbine meter.
3. Describe applications for use of turbine meters.
4. Understand proper use of a turbine meter and its application in the field.

PIPE 6005: Piping Materials and Connections

Learning Outcome

When you complete this module you will be able to:

Describe the various types of materials used for piping in a heating plant and describe how connections in piping systems are made.

Learning Objectives

Here is what you will be able to do when you complete each objective:

1. Describe the various types of materials used in piping and explain the advantages and disadvantages of each.
2. Describe the various types of connections used to connect pipe.

PIPE 6008: Standard Valves

Learning Outcome

When you complete this module you will be able to ….

Discuss the standard valve types and their general applications in industry.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Describe the factors that determine the suitability of valves for diverse services.
2. Describe the standard valve types and explain their applications.
3. Discuss valve maintenance.

PTPR 6002: API Gravity Determination

Learning Outcome

When you complete this module you will be able to ….

Describe the method for determining the gravity of ultraheavy crude oil.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Explain the testing procedures for gravity determination.
2. Calculate the volume loss due to gravity loss.
3. Convert between API gravity and relative density.
4. Use gravity correction tables to correct observed readings to 15.5°C.

PTPR 6004: Chemical Inhibition and Solvents

Learning Outcome

When you complete this module you will be able to ….

Describe the application of corrosion inhibitors, and solvents in production operations.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Describe three mechanisms by which corrosion inhibition is accomplished.
2. Describe two batch treatment techniques for applying corrosion inhibitors to an oil or gas well.
3. Describe how thermal degradation affects corrosion inhibitors.

PTPR 6022: Hydrate Control

Learning Outcome

When you complete this module you will be able to ….

Describe hydrates, their basic properties, conditions for formation, and basic methods for prevention and removal.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Explain what hydrates are.
2. List the properties of hydrates.
3. Discuss the factors influencing hydrate formation.
4. Determine conditions which likely will lead to hydrate formation and methods of prediction.
5. Discuss methods for hydrate prevention.
6. Explain some basic methods for hydrate removal.

PTPR 6023: Hydrocarbons Storage and Loading

Learning Outcome

When you complete this module you will be able to ….

Describe the types of storage and loading facilities used in the disposition of hydrocarbon products.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Describe the differing requirements for, and types of, hydrocarbon storage.
2. Describe the basic operational and safety requirements of a storage and loading system.

PTPR 6026: Oil Field Operations Overview

Learning Outcome

When you complete this module you will be able to ….

Describe typical crude oil wellsite and gathering systems.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Discuss fluid formation in reservoirs, the drive mechanisms for liquid removal, and the effects of reservoir pressure.
2. Identify the components of a wellsite system and describe their basic functions.
3. Identify the components of a field gathering (satellite) system and describe their basic functions.

PTPR 6027: Pipeline Pigging

Learning Outcome

When you complete this module you will be able to ….
Describe a typical pipeline pigging procedure.

Learning Objectives

Here is what you will be able to do when you complete each objective.
1. Describe different types of pigs.
2. Describe reasons for using different types of material in pig construction.
3. Discuss reasons for pigging.
4. Discuss safety procedures used while pigging.
5. Describe the piping arrangement to facilitate pipeline pigging.

PTPR 6049: Oil and Gas Separation and Separator Design

Learning Outcome

When you complete this module you will be able to ….
Discuss the physical characteristics of a typical well stream. Identify and describe the separators and how separation is accomplished.

Learning Objectives

Here is what you will be able to do when you complete each objective.
1. Describe the complex mixture of compounds produced in a well and discuss the physical makeup of these compounds.
2. Discuss the factors and principles involved in the separation of liquids, gases and solids.
3. Describe the types and designs of separation equipment.

PTPR 6050: Shipping and Transferring Fluids

Rationale

Why is it important for you to learn this material?
Fluids are a fact of life in the petroleum industry. In order to be able to handle them safely, it is necessary to learn the proper procedures for transferring flammable and non-flammable fluids during well testing operations and identify the hazards involved.

Learning Outcome

When you complete this module you will be able to ….
Safely transfer fluids and identify the hazards of doing so.

Learning Objectives

Here is what you will be able to do when you complete each objective.
1. Safely transfer flammable fluids from test vessels to tank trucks during well testing operations.
2. Safely transfer non-flammable fluids from test vessels to tank trucks during well testing operation.

SAFE 6022: Purging and Ventilating

Learning Outcome

When you complete this module, you will be able to…

Discuss methods for displacing harmful gases from process vessels prior to entry by personnel and to prevent an explosive atmosphere from occurring in vessels and piping.

Learning Objectives

Here is what you will be able to do when you complete each objective:

1. Explain the purpose and principles of purging and ventilating.
2. Describe alternative methods and mediums for purging, including the advantages and disadvantages of each.
3. Explain how to properly ventilate a space that has contained combustible or toxic vapours.
4. Explain the reason for purging vessels and piping with flammable gases.
5. Explain why the steps in purging with methane are different from purging with propane.

Note: All jurisdictions in Canada have the same or similar legislation concerning safety and health. Since it is impossible to refer to them all, the Alberta acts, regulations, and codes may be referred to in this module. You are encouraged to refer to the appropriate documents for your province or territory.

SAFE 6025: Handling and Storage of Gases

Rationale

Why is it important for you to learn this material?

In order to maximize capacity for transportation, storage and use, gases are liquefied under conditions of reduced temperature and high pressure. When compressed gases are in service, pressure reduction occurs with corresponding conversion of a relatively small volume of liquid product to a large volume of gas. This phase change with corresponding increase in volume of the product is necessary in use but can be a real problem if it occurs during an uncontrolled emission such as a leak.

Learning Outcome

When you complete this module, you will be able to…

Describe the procedures for safe storage and handling of cylinders containing gases.

Learning Objectives

Here is what you will be able to do when you complete each objective:

1. Discuss properties of cylinder gases and explain gas cylinder markings.
2. Describe the safe procedures for handling and moving gas cylinders.
3. Explain the safe procedures for storing gas cylinders.
4. Describe the safety features of gas cylinders.
5. Describe the requirements and frequency of inspection of gas cylinders.