NGM—Sampling and Analysis

1.1 CEUs

Length: 1.5 Days

Covers the basics of automatic and manual sampling of natural gas for determining chemical composition and Btu values.

Course Content
- Gas chromatographs: types and theory of operation, calibration, and analysis report
- Sampling and sample-handling basics: manual sampling for spot sample, automatic sampling for composite sample, and automatic sampling for flow weighted on-line analysis
- Safety while transporting sampling
- Odorant injection and detection systems; selection, operation, monitoring, testing, and maintenance issues
- H₂S analyzers: description and comparison of the theory and operation of the various H₂S measurement techniques

Recommended For
Gas measurement technicians, analysts, engineers, and personnel who witness or audit natural gas measurement.

Recommended Book (50% discount when purchased during course): Gas and Liquid Measurement

Included with Course
- Catered lunch daily; beverages and snacks provided
- Course materials including instructors presentations

Completion and Workover
Elementary Drilling—Onshore
Elementary Drilling—Offshore

Fundamentals of Petroleum Measurement
Intermediate Petroleum Measurement
Advanced Petroleum Measurement

Hydraulics for Pipeline Engineers
Pipeline Technology
Pipeline Construction Inspection—new blended course

LNG: Basics of Liquefied Natural Gas

Mass Measurement of Hydrocarbon Fluids

Petroleum Fundamentals

The Rig School™—Introduction to Offshore Operations

Valves and Actuators—Operation and Maintenance
ValvePro® Certified Valve Maintenance Technician

Additional Custom Courses and Seminars also available

Enrollment Information
For additional information, contact—

PETEX Houston Training Center
The University of Texas at Austin
4702 North Sam Houston Parkway West, Suite 800
Houston, TX 77086
Tel: 800.687.7052
or 281.397.2440
Fax: 281.397.2441
Email: htc@www.utexas.edu

January, 2016
PETEX Instructor-Led Natural Gas Measurement Courses

All courses are taught by professionals with field experience!

NGM—Fundamentals and Meter Station Design/Application/Inspection

2.7 CEUs

Length: 3.5 Days

Covers the basics of the physical and chemical makeup of gas mixtures and how they are affected by temperature and pressure. Includes the fundamentals of flow measurement of natural gas and how to obtain, analyze, and determine sound measurement. Addresses the basics of natural gas meter station designs, applications of volume-determining meters including the flow-conditioning requirements for orifice, gas turbine, and ultrasonic meters. Provides hands-on practice in inspecting dual-chamber orifice meter runs.

Course Content

• Units of measurement
• Natural gas chemistry
• Physical behavior
• Flow measurement principles and design/application/inspection
  › Flow measurement principles
  › Flow conditioning principles
  › Orifice meters (gas)—design/application/inspection
• Orifice plate inspections—dual chamber and major orifice fittings
• Orifice flow meter run inspection and maintenance
• Displacement meters (gas)—design/application/inspection
• Turbine meters (gas)—design/application/inspection
• Ultrasonic meters (gas)—design/application/inspection
• Coriolis meters (gas)—design/application/inspection
• Pulsation effects on accuracy of NGM measurement
• Meter station design/application/inspection

Recommended For
Gas measurement technicians, analysts, engineers, and personnel who witness or audit natural gas measurement.

Recommended Book (50% discount when purchased during course): Gas and Liquid Measurement

Included with Course

• Catered lunch daily; beverages and snacks provided
• Course materials including instructors presentations

NGM—Electronic Flow Measurement

2.3 CEUs

Length: 3 Days

Covers the basics of electronic flow measurement including the installation and calibration of electronic flow devices. Provides an overview of basic electrical/electronics theory, instruction on the installation, operation, and calibration of electronic transmitters in both the classroom and practical lab exercises.

Course Content

• Basic electronics/electricity
• Electronic transmitters
• EFM utilizing multivariable transducers
• Application of flow computers
• Audit trail/data integrity
• SCADA applications/communication methods

Recommended For
Gas measurement technicians, analysts, engineers, and personnel who witness or audit natural gas measurement.

Recommended Book (50% discount when purchased during course): Gas and Liquid Measurement

Included with Course

• Catered lunch daily; beverages and snacks provided
• Course materials including instructors presentations

The University of Texas at Austin
Petroleum Extension (PETEX™)

Recommended Book

Gas and Liquid Measurement

Covers fundamentals; and head, turbine, and other types of meters, focusing on orifice devices for measuring gas flow rate. Includes auxiliary equipment, sampling, mass measurement, gas contracts, and unaccounted-for gas. 1993, 184 pp.