OTHER PETEX COURSES

Advanced Petroleum Measurement (third of three levels)
Completion and Workover
Elementary Drilling
Field Handling of Natural Gas—Emphasis on Engineering
Field Handling of Natural Gas—Emphasis on Operations
Fundamentals of Petroleum Measurement (first of three levels)
Gauging, Testing, and Running of Lease Tanks
Hydraulics for Pipeline Engineers
Hydraulics for Pipeline Operators
Intermediate Petroleum Measurement (second of three levels)
Introduction to Offshore Operations—The Rig School
LNG: Basics of Liquefied Natural Gas
Mass Measurement of Hydrocarbon Fluids
Petroleum Fundamentals
Pipeline Technology
Plant Processing of Natural Gas—Emphasis on Engineering
Plant Processing of Natural Gas—Emphasis on Operations
Production Technology
Valves and Actuators—Operation and Maintenance
ValvePro® Certified Valve Maintenance Technician

Enrollment Information
Your company is invited to participate in these training programs. For additional information, contact—
PETEX Learning and Assessment Center
The University of Texas
4702 North Sam Houston Parkway West, Suite 800
Houston, TX 77086
Tel: 800.687.7052
or 281.397.2440
FAX: 281.397.2441
Email: plach@www.utexas.edu

PETEX Natural Gas Measurement Courses
➤ NGM—Fundamentals
➤ NGM—Design/Application/Inspection
➤ NGM—Electronic Flow Measurement
➤ NGM—Sampling and Analysis
These courses are endorsed by the GPA and Canadian School of Hydrocarbon Measurement!

March, 2012
PETEX Natural Gas Measurement Courses

All course sections taught by professionals with experience in the field!

Natural Gas Measurement—Fundamentals

2.3 CEUs
Length: 3 Days
Covers the basics of physical and chemical makeup of gas mixtures, how the mixtures are affected by temperature and pressure. How to analyze and determine good measurement and how to obtain it; also covers the fundamentals of volume determination devices. Participants receive handouts and a PETEX book—Gas and Liquid Measurement.

UNITS OF MEASUREMENT
• Base conditions
• Standard cubic feet
• Heating value
• Mass

FUNDAMENTALS
• Natural gas chemistry
• Physical behavior

VOLUME DETERMINATIONS
• Flow meters
• Orifice meter—general
• Orifice meter—gas
• Turbine meter—gas
• Ultrasonic gas meter
• Rotary/positive displacement meter
• Coriolis mass force gas meter

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

Natural Gas Measurement—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. The proper application of electronic flow computers including their installation, operation, and troubleshooting is addressed. The integration of electronic flow computers with SCADA applications is covered along with the various communication methods. Covers the audit trail and data integrity requirements when using electronic flow computers. Participants receive handouts and a PETEX book—Gas and Liquid Measurement.

BASIC ELECTRONICS/ELECTRICITY

Electronic Transmitters

EFM Utilizing Multivariable Transducers
Laboratory Exercises—Transmitters
Application of Flow Computers
Audit Trail/Data Integrity
Economics of EFM
SCADA Applications/Communication Methods

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

Natural Gas Measurement—Design/Application/Inspection, cont.

These Courses are endorsed by the Gas Processors Association and Canadian School of Hydrocarbon Measurement and may assist in meeting requirements for DOT Operator Certification.

Natural Gas Measurement—Sampling and Analysis

1.1 CEUs
Length: 1.5 Days
Covers the basics of automatic and manual sampling of natural gas for the determination of the chemical composition and Btu values. The participants receive an overview of the operation, calibration, and maintenance of gas chromatographs and H₂S analyzers. In addition, the design, installation, operation, and maintenance of odorant injection and detection systems are addressed. Participants receive handouts and a PETEX book—Gas and Liquid Measurement.

Sampling
• Basis of sampling
• Spot and manual sampling
• Continuous
• Safety while transporting samples

Natural Gas Chromatographs
• Chromatographs
• Analysis report

Odorant Injection and Detection Systems
• Theory of operation
• Installation issues
• Operation and maintenance issues

H₂S Analyzers
• Theory of operation
• Installation issues
• Operation and maintenance issues

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