

Class Level

Intermediate - I

Advanced - II

ISHM 2025 CLASS SCHEDULE

Presentation Class Session

Tuesday, May 13th

Wednesday, May 14th

Thursday, May 15th

Period

1.1

1.2

1.3

1.4

2.1

2.2

2.3

2.4

2.5

2.6

3.1

3.2

3.3

Room #

11:10 AM to 12:00 PM
41102

1:20 PM to 2:10 PM
13101

2:20 PM to 3:10 PM
14101

4:10 PM to 5:00 PM
33305

8:00 AM to 9:10 AM
13003

9:00 AM to 10:40 AM
43107

10:50 AM to 12:40 PM
112001

1:20 PM to 2:10 PM
83002

2:20 PM to 3:10 PM
11003

4:10 PM to 5:00 PM
81501

8:00 AM to 9:00 AM
74006

9:00 AM to 9:50 AM
53002

10:50 AM to 11:40 AM

103

Witnessing Orifice Meter Verification / Calibration

Fundamentals of Ultrasonic Gas Measurement

Mass Meters for Gas Measurement

RF (Radio Frequency) Fundamentals of IoT

Understanding Hazardous Area Classifications

Using Control Charts to Predict Failures of Measurement Devices

Overview of GPA 2172/API 14.5 Revision

Energy Measurement Using Ultrasonic Meters and Gas Chromatography

Benefits around Timely Analysis of Measurement Data

Sample Conditioning & Contaminant Removal for Water Vapor Determination

Establishing a Development Program for Hydrocarbon Measurement Staff

Impact of Hydrogen Blending on Natural Gas Analysis

No Class

104

Refined Product Sampling Systems

API MPMS Chapter 22.2 Testing Protocol for Differential Pressure Flow Measurement Devices

Improvement of Historic Proving Practice through API MPMS Chapter 13 Statistical Methods

Estimating Measurement Uncertainty for Gas Flow Meters

LNG Measurement by Static and Dynamic Methodologies Panel (Hour 1 of 2)

LNG Measurement by Static and Dynamic Methodologies Panel (Hour 2 of 2)

Overview of Changes to API 2350 Tank Overfill Protection

Measurement Policies and Procedures – Development and Implementation Considerations

Auditing Gas Laboratories

Design, Operation and Maintenance of LACT Units

Multiphase Flow Measurement

Dynamic Measurement and Proving in LNG Systems

No Class

105

Production Equipment Effects on Gas Measurement

Fluid Volume Calculations

Cylinder Security

Orifice Meter Diagnostic Systems

Preparing a Prover for Waterdraw Calibration

Auditing Electronic Gas Measurement per API Chapter 21.1

Effects of Atmospheric Pressure on Gas Measurement

Determination of Trace Oxygen in Natural Gas

The Uncertainty of a Waterdraw Calibration vs. Gravimetric Calibration on Small Volume Pipers

Master meter prover certifications per API MPMS 4.9.3

Application in Liquid Measurement Using Clamp-On Ultrasonic Technology

Carbon Dioxide Measurement Experience

Sample System Field Certification Data Analysis and Troubleshooting

System Field Certification

106

Measurement Station Inspection Documentation Program and Guide

Basic Electronics for the Field Technician

Liquid Tank Level - Interface Measurement

Sampling and Conditioning of Natural Gas Containing Entrained Liquids

Best Practices for the Design of Gas Metering Systems for Custody Transfer

Interface Detection in Liquid Pipelines

Measurement and Regulation Operation of a LDC

Methods for Certifying Measurement Equipment

PID Control Implementation in Electronic Flow Computers

Sampling and Analysis for RNG

Spread Spectrum Radio Technology for Gas Measurement

Wet Gas Measurement

Uncertainties within Centrifuge Methods and Mitigations

201

Mass Meters for Liquid Measurement

Guidelines for Pipeline Fill, Pack, and Determination Methodology

Displacement Meters for Liquid Measurement

Engineering Ethics

BTU Analysis Using a Gas Chromatograph

Problems to Troubleshooting Guidance with Liquid Meters and Provers

Determination of H2S and Total Sulfur in Natural Gas

Evaporation Loss Measurement from Storage Tanks

Helical Turbine Meters for Liquid Measurement

Understanding How to Apply GPA 2145 to Determine Gas to Liquid and Liquid to Gas Equivalents

SCADA and Field Data Capture in the Cloud

Effects of Petroleum Properties on Pipeline Measurements

202

Measurement of Petroleum on board Marine Vessels

Fundamentals of Gas Turbine Meters

Causes and Cures of Regulator Instability

An Optical Hydrocarbon Analyzer for On-Line Hydrocarbon Gas Speciation and Measurement

Hydrocarbon Dew Point Effects on Gas Flow Measurement

Moisture Measurement Using Laser Spectroscopy

Transmuting gas sampling and Pipeline Monitoring through Digitalization: Process Cameras and Real-Time Visual Data for

Testing, Maintenance and Operation of Electronic Flow Computers for the Gas Industry

Selection, Sizing and Operation of Control Valves for Gases and Liquids

Operation and Problems Associated with Prover Detector Switches

Offshore Liquid FFSO Measurement Systems

Identifying and Eliminating Effects of Induced Signals on Measurement System Electronics

Water Vapor Effects on Natural Gas Quality and Natural Gas Measurement

203

Fundamentals of Liquid Turbine Meters

The "Not So Small" Small Volume Prover

Production and Productivity Optimization Through Wireless Sensing

Flow Conditioning for Fluid Flow Measurement

LACT Unit Proving - The Role of the Witness

Effects of Abnormal Conditions on Accuracy of Orifice Measurement

Field and Laboratory Testing of Sediment and Water in Crude Oil

Compressibility of Natural Gas

Fundamentals of Low Pressure Gas Rotary Metering

Allocations 20-Principles of Allocations

Thermometry in Gas Measurement

Leveraging May Meter Diagnostics to Understand Flow Process, and Performance

Coping with Changing Flow Requirements at Existing Meter Stations

204

BTU Determination of Natural Gas Using a Portable Chromatograph

Conventional Measurement in Unconventional Plays

Material Loss Control in Refineries and Petrochemical Plants

Discipline of Sizing SVP for All Metering Technologies

Challenges in Allocation Measurement Panel (Hour 1 of 2)

Challenges in Allocation Measurement Panel (Hour 2 of 2)

Calibration Transferability for Coriolis Mass Flow Meters

Crude Oil Gathering - Gauging Testing and Truck Measurement Alternatives (Hour 1 of 2)

Crude Oil Gathering - Gauging Testing and Truck Measurement Alternatives (Hour 2 of 2)

Small Scale LNG Measurement

The Evolution of Technologies in H2O and H2S Measurement

Data Validation - Requirements of an EGM Editor

208A

Fundamentals of Gas Measurement I

Fundamentals of Gas Measurement II

Fundamentals of Gas Measurement III

Advanced Diagnostic Measurements and Verification with Coriolis Flow meters

Fundamentals of Gas Measurement I

Fundamental of Gas Measurement II

Fundamentals of Gas Measurement III

Proving Coriolis Flow Meters Panel (Hour 1 of 2)

Proving Coriolis Flow Meters Panel (Hour 2 of 2)

Determination of Water Vapor Content in Natural Gas

Measurement Scene Investigations

Ultrasonic Meters for Liquid Measurement

Measurement Scene Investigations

208B

Determination of Hydrocarbon Dew Point in Natural Gas (Hour 1 of 2)

Determination of Hydrocarbon Dew Point in Natural Gas (Hour 2 of 2)

Troubleshooting Liquid Pipeline Losses and Gain (Hour 1 of 2)

Troubleshooting Liquid Pipeline Losses and Gain (Hour 2 of 2)

Resolving Liquid Measurement Differences

Artificial Intelligence - Data Capture and Back-Office Measurement Applications

Calibration of Liquid Provers

Review & Discussion of BLM Orders 3173, 3174, & 3175 (Hour 1 of 2)

Review & Discussion of BLM Orders 3173, 3174, & 3175 (Hour 2 of 2)

The Role of BLM in Oil and Gas Measurement

Installation and Operation Errors in Gas Measurement

Orifice Meter Tube Fabrication Shop Inspection Program

PID Pressure Control Implementation and Tuning in Electronic Flow Computers

209A

Measurement Economics

Auditing Liquid Measurement

New Ideas in Measurement (Hour 1 of 2)

New Ideas in Measurement (Hour 2 of 2)

Fundamentals of Liquid Measurement I - Static (Repeat Class)

Fundamentals of Liquid Measurement II - Dynamic (Repeat Class)

The Measurement Data Handling Process-Now and in the Future

Calculation of Liquid Petroleum Quantities

Understanding Liquid Meter Proving and Proving Reports

Verification / Calibration of Devices Used in Liquid Measurement

Estimating Measurement Uncertainty for Gas Flow Meters (Repeat Class)

In-Situ (On-Site) Gas Meter Proving

209B

Fundamentals of Liquid Measurement I - Physical Properties

Fundamentals of Liquid Measurement II - Static

Fundamentals of Liquid Measurement II - Dynamic

Measurement Accounting Overview

Liquid Meter Proving Techniques

Introduction to Uncertainty in Measurement

Liquid Measurement Station Design

On-line Flow Computers for Liquid Custody Transfer

Liquid Flow Provers

Statistical Control of Meter Factors A Simplified Approach

Crude Oil Blending

Improving Flow Measurements with Improved Calibration & Data Handling Procedures

Operational Experience with Liquid Coriolis Meters

301A

Effects and Control of Pollution in Gas Measurement

Flare Measurement Practices

Odorization in Natural Gas

Measurement Analyst Training for a Liquid System

Real-Time Electronic Gas Measurement

Viscosity and its Application in Liquid Hydrocarbon Measurement

Allocation Measurement 101-Fundamentals of Allocations

Fundamentals of Sampling Natural Gas for BTU Determination

On-line Water Measurement Devices in Liquid Containers

DOT Requirements for the Transportation of Sample Containers

Loading of Crude into Rail Tank Cars

Orifice Meters - Operation and Maintenance

No Class

301B

New Technologies in SAW Measurement

Pycnometer Installation, Operation and Calibration

Sampling Challenges Associated With Unconventional Gas Sources

Setting up effective system balances

Program for Training a Gas Measurement Technician

Manufactured Meter Pulses – An Explanation

Mass Measurement of Natural Gas Liquid Mixtures

Update on API, AGA, GPA and ASTM Standards - Measurement Activities (Hour 1 of 2)

Update on API, AGA, GPA and ASTM Standards - Measurement Activities (Hour 2 of 2)

Simplifying Real-time and Historical (EFM) Data Collection for the Oil & Gas Industry

No Class

Uncertainty Based Transmitter Verification

No Class

301C

SCADA Systems

Basics of High Pressure Measuring and Regulating Station Design

Proving Liquid Meters with Microprocessor Based Pulse Outputs

Crude Quality - What is Important and Why it's Involved

The Evolution of Data Collection for Gas Measurement

Over Pressure Protection Methods

Reducing Measurement Uncertainty in Process Gas Quality Measurements

Certification and Performance Testing of Automatic Samplers

Advanced Application of Liquid Flow Computers

Flow Conditioner for Orifice Measurement

Measurement Accuracy and Sources of Error in Tank Gauging

Techniques of Gas Composite Sampling

Transient Lightning Protection for Electronic Measurement Devices

301D

Crude Oil Sampling for Custody Transfer Panel (Hour 1 of 2)

Crude Oil Sampling for Custody Transfer Panel (Hour 2 of 2)

Smart Transmitter Selection, Calibration and Installation

Installation and Operation of Denominators

Application of Turbine Meters in Liquid Measurement

Chromatograph Applications and Problems from the User's Standpoint

Mainline Crude Oil Terminal Measurement Systems

Measurement Methods for Liquid Storage Tanks

Determination of Lost and Unaccounted for Gas

Orifice Fittings and Meter Tubes

Communication Systems for Gas Measurement Data

Energy Measurement using Flow Computers and Chromatography

No Class

302A

Fundamentals of Gas Chromatography

Flow Calibrating Ultrasonic Gas Meters

Contaminant Accumulation Effect on Gas Ultrasonic Flow Meters

Gas Ultrasonic Diagnostics

Chromatograph Maintenance and Troubleshooting

Flare Measurement Using Advanced Ultrasonic Technology

Theory and Application of Pulse Interpolation to Prover Systems

Data Averaging

Design Considerations for Analyzer Enclosure Systems

Roles and Responsibilities of Witnessing a Prover Calibration

Application of Flow Computers for Gas Measurement and Control

Techniques of Gas Spot Sampling

Automated Truck Loading Systems

302B

Gas Meter Selection

Leak Detection on Petroleum Pipelines

ESG and GHG Measurement and Impact of Federal and State Air Regulations on Measurement of Emissions and Flaring

Basic Applications for Flow Computers and Telemetry Systems

Large Scale LNG Measurement

Condition-Based Monitoring of Natural Gas Ultrasonic Measurement Facilities

Sampling and Analysis for RNG

Overview of Revised API Chapter 5.6 Liquid Coriolis Meters (Panel)

Proving Liquid Ultrasonic Meters

Ethernet for SCADA Systems

Measurement Data Analytics in the Age of Machine Learning

Operational Experience with Small Volume Provers

OPC Fundamentals

302C

Measurement Analyst Training for a Gas System

Chromatographic Analysis of Natural Gas Liquids

Measurement Management Systems

Understanding the Volume Correction Factor used in measurement systems

Financial Models of Gas Systems

Investigating LAUF

Lies, Damned Lies, and statistics of Flow Meter Linearization

Introductions to Industry Standards

Measurement System Auditing Class 1 of 2

Measurement System Auditing Class 2 of 2

Reducing the uncertainty of hydrocarbon dewpoint calculations using a c95 analysis

No Class

No Class

Hands-On Class Session

Tuesday, May 13th

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Room #

967.1

929.9

969.4

971.1

946.1

946.2

920.1

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977.1

952.1

936.1

205A

Schneider-Electric - Foxboro Production Vortex Meters

Omni - Omni Flow Computers (Hour 1 of 2) (Repeat Class)

Omni - Omni Flow Computers (Hour 2 of 2) (Repeat Class)

ZEGAZ Instruments - ZEGAZ Instruments Automated Chilled-Mirrors

Quorum Software - FLOWCAL Measurement Software (Hour 1 of 2)

Quorum Software - FLOWCAL Measurement Software (Hour 2 of 2)

Micro Motion - Micro Motion Gas Coriolis Meters

Mustang Sampling - Mustang Sampling Pony Box and P-53 Samplers

Ametek - Ametek Dead Weight Tester

TMCO - SureShot Orifice Fitting Operation and Maintenance

Endress+Hauser - Endress + Hauser Coriolis Flowmeter Best Practices

Quorum Software - PROVEIt and PYCH Meter Proving Software

Brodie International - Positive Displacement Meters

205B

YZ Systems - YZ Odorization

Micro Motion - Micro Motion Liquid Coriolis Meters (Hour 1 of 2)

Micro Motion - Micro Motion Liquid Coriolis Meters (Hour 2 of 2)

Emerson - Rosemount Tank Gauging

KGM Inc. - Mooney-Pilot Operated Regulators (Hour 1 of 2)

KGM Inc. - Mooney-Pilot Operated Regulators (Hour 2 of 2)

Axix - Manifold and Stabilizer Installation

Schneider Electric - RealFlo Software For Scadapack Flow Computers (Hour 1 of 2)

Schneider Electric - RealFlo Software For Scadapack Flow Computers (Hour 2 of 2)

Siemens - Siemens Clamp-On Ultrasonic Meter

Endress+Hauser - Endress + Hauser Electromagnetic Flowmeter Best Practices

Barracuda Measurement Solutions - ModuX-Liquid Flow Computer

KGM Inc. - Dresser Rotary Meters

206A

Fisher Controls - Fisher Control High Pressure Regulators

Rosemount Analytical - Gas Chromatograph Configuration (Hour 1 of 2)

Rosemount Analytical - Gas Chromatograph Configuration (Hour 2 of 2)

Schneider Electric - Acutech Wireless Instrumentation

ABB Totalflow - NGC/PCC 1000 Gas Chromatograph (Hour 1 of 2)

ABB Totalflow - NGC/PCC 1000 Gas Chromatograph (Hour 2 of 2)

Quorum Software - TESTIt Meter Calibration Software

Thermo Scientific - AutoFLEX Flow Computer (Hour 1 of 2)

Thermo Scientific - AutoFLEX Flow Computer (Hour 2 of 2)

A+ Corporation - Genie Sample Probes and Membrane Samplers

ABB Totalflow - ABB Xseries Flow Computers (Hour 1 of 2)

ABB Totalflow - ABB Xseries Flow Computers (Hour 2 of 2)

Daniel - Daniel Liquid Turbine Meters

206B

TechnipFMC - TechnipFMC-Invalco BSAW Monitor

Guidant - ACCULOAD Family Preset Controller (Hour 1 of 2)

Guidant - ACCULOAD Family Preset Controller (Hour 2 of 2)

Mustang Sampling - Mustang Sampling-OMA300 Process Analyzer

Emerson - DeltaV FB3000 RTU Overview & Configuration (Hour 1 of 2)

Emerson - DeltaV FB3000 RTU Overview & Configuration (Hour 2 of 2)

PGI - PGI Interceptor Composite Sampler O&M

Omni - Omni Flow Computers (Hour 1 of 2)

Omni - Omni Flow Computers (Hour 2 of 2)

Emerson - DeltaV FB3000 RTU Custom Display Builder

TechnipFMC - TechnipFMC-Invalco BSAW Monitor (Repeat Class)

YZ Systems - YZ Natural Gas Sampler O&M

Guidant - Guidant Liquid Positive Displacement Meters

207A

Tempconics - Automatic Tank Gauging Magnetostrictive Technology

Endress+Hauser - TDLAS H2O Analysis (Hour 1 of 2)

Endress+Hauser - TDLAS H2O Analysis (Hour 2 of 2)

Sensia Global - Sensia Crude Oil Sampling

CRT Services - Split IT Flow Computers (Hour 1 of 2)

CRT Services - Split IT Flow Computers (Hour 2 of 2)

Flexim - Flexim Clamp On Ultrasonic Meters

Emerson - Rosemount Ultrasonic Meters (Hour 1 of 2)

Emerson - Rosemount Ultrasonic Meters (Hour 2 of 2)

Emerson - Rosemount Tank Gauging (Repeat Class)

SICK, Inc. - FLOWSiC500 Ultrasonic Meter (Hour 1 of 2)

SICK, Inc. - FLOWSiC500 Ultrasonic Meter (Hour 2 of 2)

A+ Corporation - ACES Sample System Design, Installation and Maintenance

207B

Vinson Process - Fisher Control Valves

SICK, Inc. - SICK Gas Ultrasonic Meters (Hour 1 of 2)

SICK, Inc. - SICK Gas Ultrasonic Meters (Hour 2 of 2)

Rosemount - Rosemount Smart Transmitters

Circle B - Orifice Tube and Fitting Inspection (Hour 1 of 2)

Circle B - Orifice Tube and Fitting Inspection (Hour 2 of 2)

Guidant - Guidant Turbine Meter Diagnostic Tool

Emerson - Emerson FB Series Flow Computers Configurations & Troubleshooting (Hour 1 of 2)

Emerson - Emerson FB Series Flow Computers Configurations & Troubleshooting (Hour 2 of 2)

Flow MD - Witnessing Prover Calibrations (Gravimetric Method)

Flow MD - Flow MD Small Volume Provers (Hour 1 of 2)

Flow MD - Flow MD Small Volume Provers (Hour 2 of 2)

- NO CLASS

Bathroom A

Gas Fundamentals Track (Requires Additional Registration Fee)