Maximise your Investment with Well-Trained Personnel
Exceed Expectations with Skilled Personnel

Skilled personnel anticipate needs; they solve tough problems; they make an operation run smoothly. That’s why training is the cornerstone of maximum availability, sustainability, and operational excellence at your facility.

A well-trained team knows their tools and knows how to use them to meet short-term and long-term goals. Work with a partner—Emerson Educational Services can bring your entire team the expertise they need to face each challenge.

Whether your team must configure and calibrate valves, predict machinery faults, or develop a control strategy, Emerson Educational Services has the coursework to prepare your team. Investing in your team will also:

- Train and keep high-quality team members. What if you train personnel and they leave? Worse yet, what if you don’t train them and they stay? Train personnel and improve not only operations, but a sense of ownership in the operation’s results—a proven ingredient in employee satisfaction and retention.

- Learn best practices to meet profitability Goals. Emerson instructors reach deep into their decades of product experience and industry best practices. Profit from their experience to meet your business goals.

- Choose hands-on learning and train for real-life challenges. Emerson instructors combine hands-on training with real-life examples to prepare your personnel to find solutions in the midst of challenging situations.

Sources of Skill Shortages

- Fewer Incoming Workers
- Retiring Workforce
- Fewer Specialists
- Inexperienced Workers
- More Technology

“32% of O & G industry survey respondents said skills shortage was among the largest threats particularly in subsea and LNG operations where the shortage is felt in terms of project costs and delays. This threat rated second only to economic instability at 34%.”

Oil and Gas Workforce Report Published by oilcareers.com and Air Enrg, March 2013
Train and Keep High-Quality Team Members

Consider Emerson training as the effective short- and long-term solution to maximize the return on your most significant investment: your employees.

Through Emerson coursework, employees obtain the knowledge they need to not only perform their jobs, but seek efficient solutions to daily issues. They will perform with a real sense of ownership and satisfaction — resulting in increased retention.

Whether you choose individual classes or a complete education program designed specifically for your organization, Emerson can be your single expert training source and offer flexibility to work within your schedules and shifts.

Your facility will benefit from these options:
- Accelerated boot camp developed for your new recruits.
- Assessments for skill gap analysis specific to your facility.
- Efficiently delivered blended learning approach.

Competency Development Program

EXPLORE  DESIGN & PLAN  DEVELOP AGREEMENT  IMPLEMENT

To create a competency development program, Emerson follows a proven process that starts with Educational Services consultants leading your management team to identify items such as job-role definitions and skills gap analysis. We will also guide the team to discuss methods of assessing the training success.

“"The training exceeded my expectations. I wanted information on sizing control valves and I got that plus much other useful information."”
Operations/Production Worker in the Oil and Gas Industry

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**DeltaV Implementation I**

**Course 7009**

This 4-1/2 day course covers a complete DeltaV system implementation. Upon completion of this course the student will be able to define system capabilities, define nodes, configure continuous and sequential control strategies, operate the system and define users and security.

**Prerequisites**

Windows experience. It is recommended that prospective attendees new to process control systems attend Course 7010 or Course 7018.

**Topics**

- System Overview
- Explorer
- Control Modules
- Control Studio
- Motor Control
- Regulatory Control
- WorkSpace
- System Operation
- Alarms & Process History View
- Sequential Function Charts
- Phase Logic
- Security
- Alarm Help
- Electronic Marshalling (CHARMs)

**DeltaV Systems Batch Implementation**

**Course 7016**

This 4-1/2 day course covers the implementation of a complete batch application. A process simulator will provide a batch application. Students will use DeltaV Batch software to configure recipe entities including, Aliasing, Equipment Trains, Dynamic Unit Allocation, Phase Logic, Operations and Unit Procedures. Equipment entities will also be configured including, Units modules and Process cells.

**Prerequisites**

Course 7009, DeltaV Implementation I

**Topics**

- Batch Overview
- Unit Phase
- Alias Definition
- Unit Module
- Process Cell
- Class Based Control Modules
- Class Based Equipment Modules
- Operation
- Unit Procedure
- Procedure
- Equipment Trains
- Unit Aliasing
- Dynamic Unit Allocation

**DeltaV Implementation II**

**Course 7017**

This 4-1/2 day course is for process control engineers responsible for configuring the DeltaV system. Advanced topics will be covered including displays, function blocks, and configuration tips.

**Prerequisites**

Course 7009, DeltaV Implementation I

**Topics**

- Function Block Structure
- HART Inputs and Outputs
- Analog Control Blocks
- DeltaV Tune with InSight
- Device Control Options
- Class Based Control Modules
- Expressions
- Unit Alarms
- Multi-Dimensional (Array Parameter)
- Equipment Modules
- Display Environment
- Custom Faceplates
- Custom Dynamos
- HART Device Alarms

**DeltaV Hardware and Troubleshooting**

**Course 7018**

This course is recommended for instrumentation and maintenance technicians, managers, and configuration engineers who need to know about DeltaV hardware. It provides an overview of the DeltaV Control Network, M- and S-series hardware, and software applications. Upon completion, you will be familiar with the hardware and be able to perform troubleshooting techniques.

**Prerequisites**

Course 7009, DeltaV Implementation I

**Topics**

- Visual Basic Primer
- Forms
- Modules
- Schedules
- User Preferences
- Picture Sizing
- Environment Customization
- Custom Faceplates
- Function Block Faceplates
- FRS Functions
- Pop Up Menus
- Color Threshold Tables
- Custom Dynamos
- Tag Groups
- Key Macro Editor
- Theme Dynamos

**DeltaV Advanced Graphics**

**Course 7025**

This 4-1/2 day course is for process control engineers responsible for configuring advanced functionality in the DeltaV user interface. This course expands on graphic topics covered in both the DeltaV Implementation, course 7009 and DeltaV Implementation II, course 7017.

**Prerequisites**

Course 7009, DeltaV Implementation I

**Topics**

- Overview/Review of System Components and Topologies
- Installation Checklist of the Windows 7 and Windows Server 2008 Operating Systems
- Installation of the DeltaV Software Components
- DeltaV Control Networks and Remote Access
- DeltaV Domains and Workgroups
- User Administration and Network Security
- Upgrading Hardware and Software
- Backup and Restore Procedures
- Importing/Exporting
- DeltaV Zones

**DeltaV Systems Administration for Windows 7 and Server 2008**

**Course 7027**

This 4-1/2 day course is designed for system engineers and administrators responsible for installing, commissioning, and managing a DeltaV system running on the Windows 7 operating system and Windows Server 2008.

**Prerequisites**

Highly recommended Course 7009, DeltaV Implementation I, or Course 7017, DeltaV Hardware and Troubleshooting

**Topics**

- Overview/Review of System Components and Topologies
- Installation Checklist of the Windows 7 and Windows Server 2008 Operating Systems
- Installation of the DeltaV Software Components
- DeltaV Control Networks and Remote Access
- DeltaV Domains and Workgroups
- User Administration and Network Security
- Upgrading Hardware and Software
- Backup and Restore Procedures
- Importing/Exporting
- DeltaV Zones
AMS Device Manager with DeltaV

Course 7039 CEUs: 3.2

Overview
This 4-1/2 day course is for instrumentation technicians responsible for all areas of managing and ensuring the reliability of instrumentation in the plant process including startup and commissioning, normal operations, maintenance, and troubleshooting

Prerequisites
Course 7009 or Course 7018. This 4-1/2 day course provides maximum hands-on experience working with the integration of FOUNDATION™ fieldbus devices and the DeltaV scalable system. The student will be able to install wireless instruments and segment checkout for the correct operation of the physical layer. The student will be able to use the DeltaV system to perform AMS Device Manager methods such as calibration, setup wizards, zero trim and diagnostics. The student will be able to implement a pressure loop using FOUNDATION™ fieldbus function blocks with the DeltaV Control Studio application. The student will configure PlantWeb Alerts and device alarm parameters.

Topics
- Topics
  - DeltaV and PlantWeb Overview
  - AMS Device Manager Overview
  - Foundation Fieldbus Overview
  - ValveLink SNAP-ON Introduction
  - HART Overview
  - PROCONEX QuickCheck SNAP-ON
  - PROFIBUS Overview
  - PlantWeb Alerts
  - AMS Device Manager User Interface
  - AMS Device Manager Help
  - AMS Device Manager Plant Location Hierarchy
  - AMS Device Manager Browser
  - Monitoring System Alerts with AMS Device Manager
  - PROCONEX AlertTrack SNAP-ON
  - Device Replacement for HART, Fieldbus, and PROFIBUS Devices
  - AMS Device Manager Audit Trail
  - ValveLink SNAP-ON Tests and Diagnostics
  - AMS Device Manager Calibration Assistant

Wireless Self Organising Network

Course 7002

Overview
This 2 day course explains how Self Organising Wireless Networks function and how they are installed, setup, configured and integrated. It emphasizes planning, proper installation and startup, configuration, maintenance, and integration. The course uses lectures and labs to maximise the hands on experience and teach the students. Students who complete this course will:

- correctly install and setup the 1420 Wireless Gateway
- properly install and configure Wireless Transmitters
- properly integrate Host interfaces to the Wireless Gateway

Prerequisites
Some experience in Networks and Host integration would be helpful.

Topics
- How Self Organising Networks Function
- Self Organising Networks Best Practices
- Network Components
- 1420 Installation and Setup
- Network Parameters
- 648 and 3051S Wireless Transmitters Installation, Configuration, Maintenance and Calibration
- Using AMS Device Manager with the 1420 Wireless gateway
- Configuring Wireless Devices with AMS Device Manager
- Operation of AMS Wireless Snap-On
- Modbus Serial Integration
- Modbus TCP Integration

DeltaV Operator Interface for Continuous Control

Course 7012

Overview
This 2-day course uses lectures and hands-on workshops to provide an in-depth overview on operating the DeltaV System. Students who complete this course will:

- access operator displays
- manipulate various control module operating parameters to operate the process
- respond to process alarms
- monitor process performance
- view real-time and historical trend data

Topics
- System Overview
- Accessing DeltaV Operator Window, Menus Displays and Directories
- Discrete, Analog, Regulatory and Cascade Control Module Operation
- Accessing Alarm Displays/Alarm Handling
- Motor Control Module Operation
- Accessing Real-time/Historical Trend Data
- Unit Alarms
- Sequential Function Chart Operation
- Phase Logic Modules
Learn Best Practices to Meet Profitability Goals

Your personnel want to perform high-quality work that shows positive results. Learning best practices, your personnel will avoid inadvertent operator errors and improper maintenance that lead to energy waste, contamination, unplanned shutdowns, and off-spec product.

“The material was good. I needed the review of the PID, the instructor explained it in a way that really helped me to understand it much better that I previously did.”

Maintenance Worker in the Refining Industry

With world-class training, your personnel will apply best practices to Emerson products and applications throughout your facility.

MAXIMISE
Plant Automation Benefits

DISCOVER
Performance Improvements & Cost Reductions

MANAGE
Change & New Technology

Learning Partner
providing best practices not just products

COMPLY
with Government Regulations

GROW
Skills in Diverse Cultures to Drive Results

Increased Productivity
Emerson instructors’ application expertise and practical field experience dramatically boost students’ skills and performance. And evergreen training keeps your people up to date on the latest technologies, enabling them to uncover new process improvements.

Broad Emerson Offerings
In developing courses and education paths, we draw from multiple disciplines: control, measurement, regulation, and automation. In this way your personnel will get the most from the Emerson products and applications at work in your operations.

“IACET
Authorized Provider
Emerson Educational Services has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). Students enjoy a consistent high quality class experience.

“The training our operators received was second to none. The real-life exercises put our operators at the top of their game and helped make this one of the best startups I’ve ever seen. We finished a day early with no injuries or environmental incidents.”

Operations Manager in the Refining Industry

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Course 7021
Learn the installation, calibration, maintenance, and troubleshooting of measurement instrumentation using AMS Device Manager. The hand’s on focus is on skills required by engineers, technicians, or others that are new to the plant or instrument environment.

This 3-day course teaches maintenance and calibration of measurement devices using AMS Device Manager software to communicate and track information. The student will learn how pressure and temperature transmitters function, are installed, and calibrated using AMS Device Manager. The course uses hands-on training, labs, and lecture to teach the student how to:
- Configure and use AMS Device Manager
- Correctly perform transmitter installation and setup procedures
- Properly configure SMART transmitters
- Properly calibrate transmitters
- Perform basic troubleshooting

Topics
- Configuring and Using AMS Device Manager
- HART Communication
- SMART Transmitters (3051C, 3144P)
- Test Equipment Selection
- Transmitter Installation
- Transmitter Configuration
- Transmitter Calibration
- AMS Calibration Manager
- Intelligent Calibrators
- Transmitter Troubleshooting

Course 3333
This course is intended for technicians, engineers and other plant personnel who need to know installation, calibration, maintenance and troubleshooting of level measurement instrumentation.

This 3-day course explains how level instruments function and how they are installed calibrated/verified. It emphasizes installation, proper setup and calibration/verification of level instruments. The course uses lectures and labs to teach the students. Those who complete this class will be able to:
- correctly install DP/Level Transmitters
- correctly install Guided Wave Radar Transmitters
- correctly install Non-contacting Radar Transmitters
- properly calibrate Level instruments
- perform basic troubleshooting

Prerequisites
Experience in instrument calibration, maintenance, installation and operation would be helpful.

Topics
- DP Level Fundamentals
- Electronic Remote Sensors
- Radar Applications
- Radar Instruments
- Radar PC Software
- Field Communicator
- Installation
- Configuration
- Calibration / Verification
- Troubleshooting

Course 2359
This 2-day course is specifically designed for your technicians and engineers who are involved in the installation, commissioning, maintenance or use of Micro Motion mass flow meters. The course can be delivered in the following languages: English, German, French or Dutch.

Prerequisites
Flow Knowledge of basic flow fundamentals. · Flow Knowledge of Microsoft Windows®.

Topics
- Micro Motion product overview
- Coriolis principle of operation
- Sensor installation and start-up
- Zero calibration, simulation and outputs trimming
- Transmitters’ configuration and Basic troubleshooting

Course 2340
This 1-day course uses lectures and labs to teach the student how to install, configure, calibrate, and maintain the Rosemount Model 8700 Series Smart Magnetic Flowmeter System. Upon completion of course students will:
- explain the differences and capabilities of the Rosemount Magnetic Flowmeters
- identify transmitter parts/explain functionality
- explain Faraday’s Law and the principles of operation of Magnetic Flowmeter system
- configure and test transmitters using the LOI and Field Communicator or AMS
- properly install/troubleshoot the Rosemount Smart Magnetic Flowmeter System

Course 2341
This 1-day course uses lectures and labs to teach the student how to install, configure and maintain the Rosemount Model 8800 Smart Vortex Flowmeter. The students will also learn the operation and interface capabilities of the Field Communicator. Students who complete this course will:
- explain the advantages and limitations of vortex flowmeters
- identify 8800 parts and functionality
- explain the Von Karman effect and the principles of vortex shedding
- properly install and configure the Model 8800 Vortex
- commission and troubleshoot the Rosemount Model 8800

Prerequisites
Knowledge of basic flow fundamentals.

Topics
- Vortex Flowmeter Applications
- 8800 Vortex Flowmeter Overview
- Von Karman Effect and Principles of Vortex Shedding
- Proper Installation
- Field Communicator Operation
- Start-Up and Commissioning
- Configuring the 8800 using the Field Communicator or AMS
- Troubleshooting and Maintenance
- Digital Trims/Calibration/Verification
- Digital Signal Processing
## Courses 2018

### January-June

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**Instrument Measurement Courses**
- Micro Motion Coriolis Technician
- RF Vortex Technician
- RF Magmeter Technician
- Micro Motion Coriolis Advanced Technician
- RF Vortex Advanced Technician
- Instrument Fundamentals
- Analytic Fundamentals Part 1 pH & Conductivity
- Analytic Fundamentals Part 2 Combustion O2
- Wireless Self Organizing Network
- Process Measurement Level III
- Tank Gauging Technical Product Training
- Tank Master Training

**Process Systems Courses**
- DeltaV Basic Implementation I
- DeltaV Batch
- DeltaV Implementation II
- DeltaV Hardware & Troubleshooting
- DeltaV Advanced Graphic
- DeltaV System Administration
- DeltaV Foundation Fieldbus
- AMS Device Manager with DeltaV

**Notes:** DK=Denmark, FI=Finland, G=Gothenburg, K=Karlstad, L=Luleå, M=Malmö, Ste=Stenungsund, Sto=Stockholm, Su=Sundsvall, VC=Virtual Class

### July-December

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Choose Hands-On Learning and Train for Real-Life Challenges

Learning styles vary as widely as people do. Proof shows, however, that hands-on training and experiential learning bring out questions and solidify ideas for students.

Emerson delivers comprehensive, hands-on blended training programs— including on-site instructor-led, virtual, eLearning, and more. Hands-on training provides practical application skills with dedicated hardware at regional training centers or locally.

Because your facility's requirements extend beyond Emerson products, we offer classes in best practices such as process control design.

"The workshop was great! I like having the hands-on training. It is what made everything really come together."

Maintenance Worker at the Chemical Industry

Your Choice of Learning Platforms

Your Emerson training plan is designed and developed toward your objectives. For any learning situation - on-site, virtual learning, or eLearning - you can choose to include facility scenarios, student testing, student scoring, and reports of student progress.

Choose and build your own learning path with our New Course Advisor at www.EmersonProcessCourseAdvisor.com

More than 25 Training Locations
Over 130 Dedicated Certified Instructors

On-site Traditional
Courses can be taken at an Emerson regional training center, at a local site, or in your facility. Instructor-led classes provide local language support with the equipment and tools necessary for hands-on deep dives into engineering, maintenance, and operations knowledge.

Virtual Learning
An instructor, based at an Emerson facility, leads virtual learning classes while students in their own locations interact with instructors, the equipment, and other students in real-time.

eLearning
In an eLearning setting, students learn at their own pace, on their own schedule, online with no travel required. A Learning Management System (LMS) monitors their hands-on learning progress.
Attain all the benefits your Emerson solution has to offer: Receive training from the experts at Emerson Educational Services. You will find a sustainable, competitive edge through classes that help maximize your investment.

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