



## Course 9025L CEUs: 3.2

This course is for engineers, managers, technicians, and others that are new to process control. This course includes the practical aspects of control design and process applications that course developers personally learned through years of hands on experience while designing and commissioning process control applications.

**Overview** This 4-1/2 day course for personnel new to automation and covers process control fundamentals as well as the practical aspects of control system design and applications. Upon completion of this course the student will be able to effectively work with and commission single and multi-loop control strategies. Interactive workshops allow the student to apply what they learn in the class

**Prerequisites** Windows experience.

### Topics

- Background – Historic Perspective
- Measurements – Basic Transmitter Types, Limitations
- Analyzers – Examples of On-Line Analyzers
- Final Elements - Valves and Variable Speed Drives
- Field Wiring and Communications – Traditional, HART, Foundation fieldbus WirelessHART
- Control Strategy Documentation – Plot Plan, Flow Sheet, P&ID, Loop Sheet
- Operator Graphics and Metrics – Considerations in Display Design
- Process Characterization – Identifying Process Dynamics and Gain
- Control Objectives
- Single Loop Control – Basis for PID, Guideline in Selecting PID Structure, Action
- Tuning and Loop Performance – Manual and Automated Tuning Techniques
- Multi-loop Control – Feedforward, Cascade, Override, Split-range, Valve Position Control
- Model Predictive Control – Addressing Difficult Dynamics, Interactive Processes
- Process Modeling – Development of Process Simulation for Control System Checkout
- Application Examples – Batch, Continuous, Combustion, Distillation, Unit Coordination

**Course Location** Control Dynamics  
201 Wylderose Dr.  
Midlothian, VA 23113

**Sponsored By** Control Dynamics and Educational Services

**To Enroll or for More Information Contact** Connie Goodman (804) 858-5800 or e-mail [Connie.Goodman@Control-Dynamics.com](mailto:Connie.Goodman@Control-Dynamics.com)

**Course Dates** April 11-15, 2011 (Session #: 11557)

**Registration Deadline** 3 weeks prior to course date

**Price** \$3,150 USDL

Purchase order or payment is required at the time of enrollment. PO, checks & credit cards acceptable and made payable to **Control Dynamics**.

**Cancellations:** If your plans or budgets change, you may cancel your reservations up to 14 calendar days prior to the start of the course without incurring a cancellation charge. Limited enrollment makes it necessary to charge 50% of the full tuition for cancellations received during the 14 days prior to the start of the course, and full tuition for failure to attend without canceling. Substitutions are accepted until the first day of class.

**Providing Training with the Latest in Process Control Methods & Technology!**

**Enroll Today- Enroll Right Now- Seating is Limited.**

**Please Call: Connie Goodman 804/858-5800 or  
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