

# Process Control Techniques 2

Be ready to tackle more complex control applications

Process Control Techniques 2 builds on the strong foundation covered in Process Control Techniques 1, enabling you to continue the path to control loop mastery.

This training will enhance your comprehension on advanced concepts of Lambda tuning. Upon completion of the training, you will be able to analyze and solve complex control applications.

Get ready! This training is not the regular “sit, listen, and leave” session. The extensive simulation labs cover the most common and readily applicable control strategies available in the industry.

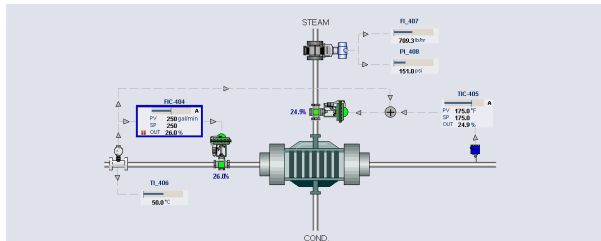
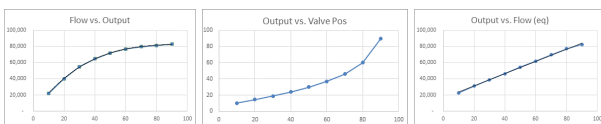
As an added bonus, each participant will take home a USB stick containing spreadsheet tools that can be directly applied to your current process control challenges.

Process Control Techniques 2 will equip you with all the necessary application-based skills to move your operation from operability into profitability.

**Prerequisite:** Process Control Techniques 1  
Working knowledge of Excel

**Who Should Attend:**

- E/I Technicians
- DCS/Control Engineers
- E/I Supervisors
- Process Engineers



## AGENDA

### Day 1

#### Process Control Techniques 1 Review

- Lambda Tuning for Self-Regulating and Integrating processes
- Cascade loop
- Interacting loops

Lab Exercise: Lambda Tuning a system of loops

#### Gain Scheduling

- Linear vs. Non-linear processes
- Examples of non-linear processes (pH control and Forced draft flow control)
- How to implement Gain Scheduling

Lab Exercise: Application of Gain Scheduling for pH Control and Forced Draft flow control

### Day 2

#### PID Lambda Tuning

- First Order vs Second Order processes measuring the process dynamics (two Time Constants)
- Review of 'D' action and different forms of PID algorithm D action on PV vs. Error
- PID Lambda tuning

Lab Exercise: Tuning temperature controller on a heat exchanger

#### Feedforward Control

- Identification of Load variable
- Calculation of Feedforward Gain
- Overview of dynamic feedforward control

Lab Exercise: Tuning feedforward controller on a heat exchanger

Date: Oct. 20 & 21, 2020

Time: 8:30am - 4:30pm

Cost: \$1495

Location: Boreal College  
21 Lasalle Boulevard  
Sudbury, ON P3A 6B1

