

Register [here](#) for our next PPCT course.

DAY ONE

- Process Control context – objectives, benefits, threats, terminology and structure.
- Process Responses – types and measurement.
- Data analysis – sampling, noise and filtering.
- PID feedback control – PID components, equation types and tuning approaches.
- Tuning techniques – flow, pressure, temperature and level tuning approaches.
- Loop performance and instrument vulnerabilities.

- Exercises to focus on:
 - Response definition
 - Appropriate use of filtering
 - Use of the Tune Wizard tuning tool

DAY TWO

- Dealing with Deadtime – tuning and model based control.
- Cascade control – initialisation and anti-windup issues.
- Process non-linearity and how to deal with this.
- Constraint control and ratio control.
- Dynamic compensation and feedforward control.

- Exercises to focus on:
 - Diagnosing loop performance problems
 - Issues associated with tuning level loops manually
 - Design of cascaded loops
 - Solutions to Non-linearity
 - PID loop design review
 - Feedforward control design review
- Workshop to discuss specific control issues (attendee supplied)

DAY THREE

- Alternative level control approaches.
- Distillation control approaches.
- Interaction and Decoupling.
- Duty control.
- Use of calculations and pressure compensated temperatures.
- Use of engineering models and developing an inference.
- Analyser feedback control.
- Control scheme design, implementation and maintenance and Operator Needs.
- Multivariable Predictive Control and benefits estimation.
- Other APC Techniques: Neural networks, Fuzzy logic and Expert Systems.

- Exercises to focus on:
 - Issues associated with tuning deadtime loops manually
 - Design of duty controllers
 - Level Controller tuning techniques
 - Pressure Controller tuning techniques

Valuable training hours to meet professional CPD requirements whatever your discipline.

Note – although the course tuning exercises use TuneWizard from PAS (available for free from <http://www.pas.com/tunewizard>), the purpose of the exercises is to demonstrate generic loop tuning principles and skills applicable to any tuning package.