

Training Courses Offered by CTC

UPID™ – Universal Process IDentification

Objectives:

- Gain a better understanding of Multivariable Process Control (MPC) and the Finite Impulse Response (FIR) identification technique.
- Develop skills necessary to build useful models for Advanced Process Control (APC) applications.
- Learn fundamentals of developing a successful APC models beginning with data collection and ending with analyzing predictions.
- Develop skills necessary in building piece-wise linear transformations for use in ADMC or CTCsim, and gain insight on how controller maintenance can be reduced with the advanced implementation approach employed by CTC.

Approach:

The course is a combination of lecture and tutorial examples. The focus is to provide a minimal amount of lecture and focus on hands-on exercises to familiarize the user with the UPID platform and the newest modeling techniques.

A set of handouts is also provided to better assist in re-enforcing the material covered and for future reference.

Prerequisites:

There are no prerequisites required, but familiarity with some basic processes and distributed control system architecture will prove helpful, as well as some familiarity with the Microsoft Windows operating system.

Who Should Attend:

- Personnel responsible for maintaining traditional linear model based controls.
- Personnel interested in designing traditional or new ADMC based controls.
- Simulator or training personnel who are responsible for maintaining a CTCsim application.

Duration: 4 days

Tuition: \$2350

ADMC™ - Adaptive Dynamic Matrix Control

DMCX1 – CTC's New DMCplus® Replacement product

(DMCplus is a registered trademark of Aspen Technology)

Objectives:

- Learn how to configure and implement a new ADMC application. Gain an understanding on tuning and maintaining an ADMC application.
- Utilize the ADMC simulation environment to test a model before implementing it on a live system.
- Perform some maintenance tasks to keep the control working at peak performance despite changes to the plant, such as PID tuning changes or valve maintenance.

Approach:

The course is a combination of lecture and tutorial examples. The focus is to provide a minimal amount of lecture and focus on hands-on exercises to familiarize the user with the ADMC platform and tuning the ADMC controller.

A set of handouts is also provided to better assist in re-enforcing the material covered and for future reference.

Prerequisites:

The UPID training course is a prerequisite to the ADMC course because a basic understanding of UPID is necessary for the ADMC course

Who Should Attend:

- Personnel responsible for maintaining an ADMC application.
- Personnel interested in learning more about the next generation of model-based controllers.
- Experienced operators who will participate in supporting or training other operations personnel on the ADMC applications.

Duration: 3 days

Tuition: \$1750

CTCSim – Operator Advisor & Plant Simulation

CTCSim includes three programs: DesignSim, PlantSim, and Operator Advisor. PlantSim is an off-line dynamic simulator, and Operator Advisor is the on-line version of the simulator that can be synchronized with the current plant values and used to simulate how regulatory control changes will impact the plant at some time in the future. Operator Advisor can execute at up to 100 times faster than real time allowing the user to see the impact of changes and run many “what-if” scenarios based on the current plant state. DesignSim is the program used to develop the simulator that is used in both PlantSim and Operator Advisor. The CTCSim course covers all three programs.

Objectives:

- Develop and maintain the interface for CTCSim.
- Develop calculations.
- Update the model, the transforms, and the initial values.
- Configure alarms.
- Add hot keys.
- Run the simulation.
- Build and use trends.
- Develop, run, and score scenarios.
- Add noise and measured disturbances to the simulation.
- Use operator advisor.

Approach:

The course is a combination of lecture and tutorial examples with an emphasis on hands-on exercises to familiarize the user with how to use, build, and maintain a CTCSim application. A training manual will be provided.

Prerequisites:

The UPID training course is a prerequisite to the CTCSim course because a basic understanding of UPID is helpful in understanding and maintaining a CTCSim application.

Who Should Attend:

Personnel interested in using a CTCSim application.

Personnel responsible for maintaining a CTCSim application.

Personnel interested in developing a training program for new employees or a refresher course for experienced employees using a CTCSim application.

Duration: 3 days

Tuition: \$1750