
COURSE DESCRIPTION

CHH611 – Expert Optimizer Advanced Toolkit Engineering

Course goal

The goal of this course is to enable participants to understand and use the functionalities in Expert Optimizer (EO), so as to apply this knowledge to configure new applications and/or make substantial additions to existent ones.

Main learning objectives

The participants will be able to:

- Navigate in the system and create new objects and aspects
- Use standard and EO blocks
- Design and configure applications using Control Diagram Editor
- Design and configure fuzzy logic and MPC controllers
- Understand, tune and optimize EO control strategies
- Configure and modify EO control strategies
- Find efficient solutions to process optimization challenges by means of the EO tools
- Setup KPI monitoring logs and dashboards

Participant profile

This training is targeted to automation and process engineers responsible for process optimization.

Prerequisites

Participants should have knowledge of the process industries plus basic control instrumentation experience. They should also have a good knowledge of MS Windows and fluent technical English. Completion of the course “Expert Optimizer – Fundamentals and Control Strategies” (CHH610) is a requirement for students to be accepted on this course.

Topics

- Input and output processing
- Normalization and ruleblocks
- Design a fuzzy controller
- Modelling techniques for Model Predictive Control (MPC)
- MPC controller design in Advanced Process Control (APC) model builder
- Incorporate a MPC control in EO strategies
- Sequential flow chart
- Interrupt actions
- Survey page design and configuration
- KPI monitoring

Course type and methods

This is an instructor-led course with interactive classroom discussions and associated practical exercises. Approximately 50% of the course is hands-on lab activities.

Duration

The duration is 5 days:

- 8 hours daily for face-to-face classes
- 5 hours daily for remote sessions

Remarks

This course can be delivered at our Learning Center in Switzerland, at your site or as a remote session.

Course map

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Topics	Welcome, personnel introduction Course overview Engineering workplace Object type concept Graphical programming in Control Diagram Editor (CDE)	Review day 1 Process graphics Survey page design and configuration Input and output processing	Review day 2 Design a fuzzy controller with standard elements Scaling and proportioning Normalization and ruleblocks Sequential flow chart Interrupt actions	Review day 3 Process step tests Creating models for MPC Controller design in model builder	Review day 4 Include MPC in EO control strategies Configure EO KM integration Questions and answers Evaluation Course close
Time (face-to-face class)	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm
Time (remote session)	to be defined	to be defined	to be defined	to be defined	to be defined

Typical course layout (time or sequence may change)