

# Adv. Process Control: Fundamentals - Inferential Modeling With Profit Sensor Pro Implementation



## Course Overview

Course number: APC-4522

Course length: 3.5 days

**More than 90% of APC installations in the Oil & Gas industry use some kind of inferential model in conjunction with multivariable predictive control.**

This course is constructed to provide a fundamental understanding of the design and implementation of Steady State Inferential Models also referred to as Soft Sensors. Basic data analysis concepts and statistical metrics will be covered with particular emphasis on the practical application of regression models. The following types of regression models will be presented: Ordinary Least Squares, Robust Regression, Principle Components Regression and Partial Least Squares Regression. Extensive hands-on use of the Profit Sensor Pro software to develop regression models with a variety of different data sets will result in thorough understanding of the important features of the technology. The step-by-step procedure required for the successful installation of the on-line Inferential Model and integration with Profit Controller on the NT/W2K platform will also be presented. Examples on how to implement an inferential model with feedback from an on-line analyzer will be demonstrated.

## Course Benefits

### Implement an Inferential Model (Soft Sensor) from A to Z

- Gain theoretical knowledge of data analysis and different regression techniques and experimental design
- Learn about cutting edge technology for soft sensor modeling such as PLS
- Gain the basic skills required to design an inferential model and implement the model on-line using Profit Sensor Pro technology and software
- Learn how monitor and maintain the inferential model to achieve good performance for your APC solution

## Course Delivery Options

- In-Center Instructor-Led Training
- On-Site Instructor-Led Training

## Who Should Take this Course

### Customers who implement APC using Soft Sensor Technology

- Responsible for or involved in implementing inferential models to either complement or replace on-line analyzers

## Prerequisite/ Skill Requirements

### Prerequisite Course(s)

- None

### Required Skills and/or Experience

- None

### Desirable Skills and/or Experience

- Understanding Basic Process Control
- Engineers with 2-5 years process control experience
- Knowledge of modeling and some exposure to process dynamics
- Basic understanding and acquaintance with statistics
- Hands-on experience with Profit Suite Applications and Profit Design Studio will be helpful

## Course Topics

### You will learn how to...

- Extract reliable models out of process and lab data
- Use basic statistical metrics to determine model quality and predictability
- Implement a model on-line, and subsequently monitor the inferential over longer time for performance and validation

## Additional Training

To increase your knowledge and skills, there are additional courses available from Automation College.

For more information and registration, visit [www.honeywellprocess.com/en-US/training](http://www.honeywellprocess.com/en-US/training).