

# **AspenTech University Training Catalog**

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# **Contents**

Questions about AspenTech University Training	
To register for a Training	3
Advanced Process Control	4
Artificial Intelligence of Things	6
Aspen Dynamic Optimization	7
Asset Performance Management	8
Licensing Installation and Integration	9
Manufacturing Execution Systems	9
Process Engineering	12
Refinery Planning & Scheduling	21
Supply & Distribution	23
Supply Chain	23



# **Questions about AspenTech University Training**

Please contact your AspenTech Regional Service Center below. Press option 7 to speak with a Training Coordinator or a Customer Care Specialist.

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# To register for a Training

Go to AspenTech University.



# **Advanced Process Control**

### APC020 - Unlock new features of Aspen DMC3 including Maestro

Using Maestro, an embedded AI tool, reduce time to build more accurate models and predictions for faster seed model development. In this class, Utilize Maestro's simple self-guided model building workflow starting from PID loop detection, automatic data slicing and auto-generation of nonlinear transforms to create Seed Models.

**Pre-requisites**: None **Duration**: 0.5 day(s)

#### **APC021 - Introduction to Deep Learning for Aspen Inferentials (IQ)**

Deep Learning nonlinear models for Aspen IQ's provide accurate inference of process and quality variables across a wide range of operating conditions. In this class learn to develop, deploy and monitor Deep Learning models for Aspen IQ's and leverage reports and dashboards to monitor KPIs in real time using Aspen Watch Performance Monitor™

**Pre-requisites**: None **Duration**: 0.5 day(s)

#### **APC022 - Introduction to Aspen Batch APC**

Learn how to model and control the final product quality of batch products to reduce product quality variation, increase productivity per batch and reduce batch cycle times.

**Pre-requisites**: None **Duration**: 0.5 day(s)

#### APC100 - aspenONE Advanced Process Control - Installation and Configuration

Learn to deploy the Advanced Control Product suite into a typical plant environment. This course covers installing, maintaining, and troubleshooting the Aspen APC infrastructure.

**Pre-requisites**: None **Duration**: 2 day(s)

# **APC101 - Introduction to Aspen DMCplus for APC Engineers**

Learn how to develop and build control models and applications and perform off-line tuning and simulation. Learn how to use the Smart Step mode of Aspen DMCplus. Develop skills to carry out Aspen DMCplus control projects and troubleshooting and maintaining Aspen DMCplus controllers.

**Pre-requisites**: None **Duration**: 5 day(s)

#### APC105 - Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

Learn how to use an Aspen DMC3 Model Builder to identify a controller model before implementing the controller online and gain increased effectiveness in basic troubleshooting of Aspen DMCplus and Aspen DMC3 controllers.

**Pre-requisites**: None **Duration**: 5 day(s)

#### APC105 - Online Class: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

This is the "Online" version of our popular APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder for APC Engineers course. This Online version is delivered through a combination of self-paced eLearning that you can complete over 4 weeks with live, online expert-led sessions, hands-on workshops and interactive online discussion boards. Students usually spend 8 to 12 hours per week to complete this online course.

Pre-requisites: None Duration: 5 day(s)

#### APC120 - Introduction to aspenONE Advanced Process Control - Operating and Maintaining Controllers Online

Build and interact with controllers using Aspen Production Control Web Server. You will become familiar with modeling test methods and procedures and learn how to troubleshoot a DMCplus controller.

Pre-requisites: None Duration: 2 day(s)



#### APC121 - Introduction to Aspen DMCplus - Modeling and Building Controllers for Industrial Processes

Learn the characteristics of linear, dynamic, and empirical models and use Aspen DMCplus to configure and tune DMCplus controllers.

Pre-requisites: Attended APC120 Introduction to aspenONE Advanced Process Control Operating and Maintaining

Controllers Online **Duration**: 3 day(s)

# APC125 - Introduction to Aspen DMC3 Builder - Modeling and Building Controllers for Industrial Processes

Learn the characteristics of linear, dynamic, and empirical models and use Aspen DMC3 Builder and decide whether to use FIR or SubSpace Modeling.

**Pre-requisites**: Attended APC120 Introduction to aspenONE Advanced Process Control - Operating and Maintaining Controllers Online

**Duration**: 3 day(s)

#### APC160 - Aspen Process Recipe and Process Sequencer - Recipe Management and Process Sequencing

Setup and configure a web-based Transition Overview display that allows operators to monitor and interact with key informational elements of a transition package.

Pre-requisites: Attended APC101: Introduction to Aspen DMCplus for APC Engineers OR

APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

**Duration**: 2 day(s)

# APC170 - Introduction to Aspen Inferential Qualities - Developing and Deploying Inferential Soft Sensors for Industrial Processes

Learn how to use Aspen IQ model to develop linear steady state and dynamic inferential predictors and how to deploy these applications.

Pre-requisites: Attended APC101: Introduction to Aspen DMCplus for APC Engineers OR

APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

**Duration**: 3 day(s)

#### **APC185 - Introduction to Nonlinear Controllers Using Aspen DMC3 Builder**

Learn how to simulate and tune a nonlinear controller, including best practices and general commissioning rules using Aspen DMC3 Builder.

Pre-requisites: Attended APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

**Duration**: 3 day(s)

#### APC210 - Aspen Watch Performance Monitor - Real Time Monitoring and Maintaining Controllers Online

Learn how to use Aspen Watch KPI to analyze and troubleshoot controller performance, and how to detect and repair model mismatch in Aspen DMCplus controllers. Learn to sustain the benefits achieved by your control applications.

**Pre-requisites**: Attended APC120 Introduction to aspenONE Advanced Process Control: Operating and Maintaining Controllers Online

**Duration**: 3 day(s)

#### **APC220 - APC Best Practices – Adaptive Process Control**

Experience hands on use of Adaptive Process Control technology within Aspen DMC3 to enable best in class APC maintenance and deployment workflows.

Pre-requisites: Attended APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

**Duration**: 0.5 day(s)

# **APC221 - APC Best Practices – Controller Tuning and Robustness**

Lower the barrier to controller maintenance and deployment by experiencing hands on use of Smart Tune and Robustness features available in Aspen DMC3.

Pre-requisites: Attended APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

**Duration**: 0.5 day(s)



#### APC230 - Aspen DMC3 Builder - APC Project Pretesting Using a Virtual Plant

Learn real-world control practice as they use the Virtual Plant to execute the pre-testing phase of an APC project.

Pre-requisites: Attended APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

**Duration**: 2 day(s)

#### APC240 - Aspen DMC3 Builder - APC Project Step Testing and Commissioning Using a Virtual Plant

Learn real-world control practice as they use the Virtual Plant to execute the Step Testing phase of an APC project.

Pre-requisites: Attended APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder AND

APC230 Aspen DMC3 Builder - APC Project Pretesting Using a Virtual Plant

**Duration:** 3 day(s)

### APC250 - Aspen DMC3 - APC Calibrate and Aspen Adaptive Modeling

Examine the fundamentals of Calibrate mode for APC applications. Examine the methodology of implementing new APC applications using Calibrate and Adaptive Modeling/Control. Commission the new model developed with Calibrate and Adaptive Modeling for both new and existing APC applications.

Pre-requisites: Attended APC101: Introduction to Aspen DMCplus for APC Engineers OR

APC105: Model and Build Aspen DMC3 controllers using Aspen DMC3 Builder

**Duration**: 3 day(s)

#### APC601 - Aspen DMC3 Jump Start Training Package

Learn how to convert Aspen DMC controller to DMC3 and configure Aspen DMC3 features. Monitor the performance and benefits of converted Aspen DMC3 controller. Deploy and maintain Aspen DMC3 controllers.

Mentor others and propagate Aspen DMC3 competence throughout the company

Pre-requisites: Attended APC105 Introduction to Aspen DMC3 Builder for APC Engineers

**Duration**: 10 day(s)

# **Artificial Intelligence of Things**

# AEI101 - Online Class: Visualize Information, Monitor Performance and Streamline Workflows using Aspen Enterprise Insights

This is the "Online" version of our popular AEI101 Aspen Enterprise Insights Foundations class. This Online version is delivered through a combination of self-paced eLearning that you can complete within 2 weeks with live, online expert-led sessions, hands-on workshops, and interactive online discussion boards. Students usually spend 8 to 12 hours per week to complete this online course.

**Pre-requisites**: None **Duration**: 3 day(s)

#### MES020 - Aspen MES Collaborative™ for InfoPlus.21®: Highly Available Enterprise Historian

Learn how MES Collaborative works, basic configuration, and common deployment workflows.

Pre-requisites: Attended MES101 Aspen InfoPlus.21: Real Time Information Management Foundation plus

Duration: 0.5 days

#### MES101 - Aspen InfoPlus.21: Real Time Information Management Foundation

Learn how to implement and configure an Aspen InfoPlus.21 system including database security, data back up, and data transfer from DCS/PLC. Learn how to supervise, maintain, and troubleshoot an Aspen InfoPlus.21 system

**Pre-requisites**: None **Duration**: 5 day(s)



#### **MES1200 - Calculations and Data Analysis for Engineers**

Know the tools that are essential to build and execute calculations on the data, analyze historical data, configure Key Performance Indicators (KPI's) to monitor unit performance and retrieve plant data into Microsoft Excel using the Aspen Process Data add-in for Excel.

Pre-requisites: Attended MES122 Aspen Process Explorer: Using and Configuring

**Duration**: 3 day(s)

#### MES205 - Aspen InfoPlus.21: System Administration

Learn the best practices for performing an Aspen InfoPlus.21 system upgrade efficiently, optimize your network and firewall for performance, security, and reliability. Automatically synchronize your Aspen InfoPlus.21 database and DCS systems, how to add additional fields safely and easily to Aspen InfoPlus.21 record structures.

Pre-requisites: Attended MES101 Aspen InfoPlus.21: Real Time Information Management Foundation

**Duration**: 2 day(s)

# MES231 - Aspen Real-Time SPC: Using and Configuring

Learn to use Aspen Real-time Statistical Process Control Analyzer to enable real-time quality control including monitoring and reporting on variables that influence product quality. Identify potentially troublesome process trends at an early stage before they compromise product quality.

Pre-requisites: Attended MES101 Aspen InfoPlus.21: Real Time Information Management Foundation OR

MES122 Aspen Process Explorer: Using and Configuring

**Duration**: 2 day(s)

# MES235 - Aspen Real-Time SPC: Using and Configuring in aspenONE Process Explorer

Use the Statistical Process Control (SPC) tools provided by aspenONE Process Explorer to monitor and improve process quality, as well as reduce manufacturing costs. Create and modify Aspen InfoPlus.21 records that are necessary to support the aspenONE Process Explorer SPC product.

Pre-requisites: Attended MES101 Aspen InfoPlus.21: Real Time Information Management Foundation OR

MES121 aspenONE Process Explorer: Using and Configuring

**Duration**: 2 day(s)

#### MES311 - Aspen InfoPlus.21: Applications Development

Learn how to tailor Aspen InfoPlus.21 records to fit your process, how to build active processing elements into your own customized data structures. Write your own processes and applications to use with Aspen InfoPlus.21.

Pre-requisites: Attended MES101 Aspen InfoPlus.21: Real Time Information Management Foundation

Duration: 5 day(s)

# **Aspen Dynamic Optimization**

### GDOT020 - Using Dynamic Optimization to Align Process Operations with Plant-wide Economics

Learn how to define applications and estimate benefits, align with planning and scheduling work processes, online monitoring capabilities, and best practices for sustaining benefits.

**Pre-requisites**: None. **Duration**: 0.5 day(s)

#### GDOT 101: Fundamentals of Aspen Generic Dynamic Optimization Technology

Learn the fundamentals of Aspen GDOT that includes Open Equation (OE) technology, dynamic optimization and typical GDOT applications. Learn how to estimate GDOT benefits, align GDOT with planning and scheduling work processes along with Aspen GDOT implementation (offline and online) and best practices for sustaining benefits.

**Pre-requisites**: None **Duration**: 3 day(s)



# **GDOT 101: Online Class: Fundamentals of Aspen Generic Dynamic Optimization Technology (GDOT)**

This is the "Online" version of GDOT101 Fundamentals of Aspen Generic Dynamic Optimization Technology course. Delivered through a combination of self-paced eLearning that you can complete over 2 weeks with live, online expertled sessions, hands-on workshops and interactive online discussion boards. Students usually spend 10 to 12 hours per week to complete this online course.

**Pre-requisites**: None **Duration**: 3 day(s)

# **Asset Performance Management**

#### **AEA101: Investigate and Diagnose Events More Rapidly with Aspen Event Analytics**

Learn how Aspen Event Analytics™ enables your enterprise to sustain and improve operations.

**Prerequisites:** None **Duration:** 1 day(s)

#### **AFR101 - Introduction to Aspen Fidelis Reliability**

Learn how you can use Aspen Fidelis Reliability to generate accurate predictions of future performance and monitor key indicators such as availability, utilization, system shutdowns, logistics, and resource usage.

**Prerequisites:** None **Duration:** 3 day(s)

#### MPM101 - Predict and Prevent Asset Failure using Aspen Mtell

Learn how to implement the Aspen Mtell project. Understand System Architecture and Installation procedure, technical reviews for defining assets and sensor groups, setting up security and connecting to adapters, importing data, building Machine Learning Agent, setting up alerts, using Mtell View to monitor alerts.

This course includes the content from MPM111, MPM121, and MPM131 to give the total Mtell Solution experience.

**Prerequisites:** None **Duration:** 5 day(s)

#### MPM111 - Deploying Aspen Mtell to a production environment

Learn to install and configure Aspen Mtell, SQL Database, and the necessary EAM and Historian Connections. Use Mtell System Manager to connect to various data sources, configure the services required to run Machine Learning Agents, and setup security and notifications for Agent alerts.

**Pre-requisites:** None **Duration:** 1 day(s)

#### MPM121 - Building Machine Learning Agents using Aspen Mtell

Learn the Aspen Mtell implementation methodology to create Machine Learning Agents for a single asset. Practice automatic Agent tuning for the best accuracy and earliest detection of excursions from normal behavior. Utilize past failure data and the precise patterns that match degrading conditions that lead to failure to build failure Agents.

**Pre-requisites:** None **Duration:** 3 day(s)

# MPM131 - Managing Alerts using Aspen Mtell View and APM Insights

Learn to manage the lifecycle of alerts with Aspen Mtell real-time monitoring solution. Aspen Mtell View is a web application that helps users to manage alerts and monitor their assets online.

**Pre-requisites:** None **Duration:** 1 day(s)



#### MPM201 - Machine Learning Agent Best Practices for Critical Equipment

Learn to build and deploy Machine Learning Agents on few selected Critical Assets following best practices. Practice automatic Agent tuning for the best accuracy and earliest detection of excursions from normal behavior, and the precise patterns that match degrading conditions that lead to failure.

Pre-requisites: Attended MPM101: Predict and Prevent Asset Failure using Aspen Mtell OR

MPM121: Learn to build Machine Learning Agents using Aspen Mtell

**Duration**: 5 day(s)

## PMV101 - Optimize Plant Performance using multivariate data analysis

Learn how to use Aspen ProMV on your historical process data to improve understanding of key process relationships.

**Pre-requisites:** None **Duration:** 2 day(s)

#### PMV101 - Online Class: Optimize Plant Performance using multivariate data analysis

This is the "Online" version of our popular PMV101 Aspen ProMV Foundations class. This Online version is delivered through a combination of self-paced eLearning that you can complete over 2 weeks with live, online expert-led sessions, hands-on workshops and interactive online discussion boards. Students usually spend 8 to 12 hours per week to complete this online course.

**Pre-requisites:** None **Duration:** 2 day(s)

#### **PMV121 - Optimize Batch Process Performance**

Get actionable insights from your industrial batch data and to use that information for process optimization and troubleshooting. Learn how to relate time-varying process data, raw material properties and initial conditions to final product quality and productivity.

Pre-requisites: Attended PMV101: Optimize Plant Performance using multivariate data analysis

**Duration:** 1 day(s)

# **Licensing Installation and Integration**

#### SLM101 - Aspen Software License Management and Deployment

Obtain a good working knowledge of the installation and configuration process. Develop an understanding of the system requirements. Reduce installation time. Improve user experience.

**Pre-requisites:** None **Duration:** 2 day(s)

# **Manufacturing Execution Systems**

#### MES120 - Online Class: Process Data Analysis Using aspenONE Process Explorer®

This is an "Online" class geared for anyone who needs to use aspenONE Process Explorer to view plant data. This Online version is delivered through a combination of self-paced eLearning that you can complete in 1 week with live, online expert-led sessions, hands-on workshops and interactive online discussion boards. Most students will spend 10-12 hours to complete this online course.

**Pre-requisites:** None **Duration:** 1 day(s)



#### MES121 - Process Data Analysis Using aspenONE Process Explorer®

View data coming from your process using aspenONE Process Explorer. Learn to Customize the appearance of trend plots to suit your application.

**Pre-requisites:** None **Duration:** 3 day(s)

#### MES122 - Aspen Process Explorer: Using and Configuring

Learn how to view data from your process using one of AspenTech's graphic user interfaces. Learn to customize the appearance of trend plots and specify plots based on statistical analysis of process data (aggregates).

**Pre-requisites:** None **Duration:** 1 day(s)

# **MES123 - Aspen Calc: Using and Configuring**

Learn how to create calculations integrated with Aspen InfoPlus.21 without the need for programming languages. Learn how to create Ad Hoc and Shared calculations.

Pre-requisites: Attended MES122 Aspen Process Explorer: Using and Configuring

**Duration:** 2 day(s)

#### MES151 - Aspen Operations Reconciliation and Accounting (AORA)

Aspen Operations Reconciliation and Accounting (AORA) is used to reconcile refinery production data (from mass balances/simulations) with plant accounting data. With this course learn to configure and use an AORA model to store, retain history and present operations accounting information to be able to supervise or maintain an AORA system.

**Pre-requisites**: None **Duration**: 3 day(s)

# **MES171 - Aspen Production Record Manager**

Use the Reporting tools of Aspen Production Record Manager to examine data within Aspen InfoPlus.21. Learn how to produce batch reports in Microsoft Excel and batch plots in Aspen Process Explorer.

Pre-requisites: Attended MES122 Using and Configuring Aspen Process Explorer) would be beneficial.

**Duration:** 1 day(s)

# MES201 - Aspen SQLplus for Aspen InfoPlus.21

This course will help you prepare for the certification exam and the exam fee is waived with this course. Learn how to write and execute SQL queries to maintain, view, or manipulate Aspen InfoPlus.21 data and how to integrate data from Aspen InfoPlus.21 with other data sources. Configure versatile reports using Aspen SQLplus Reporting Tool.

Pre-requisites: Attended MES101 Aspen InfoPlus.21 Real Time Information Management Foundation

**Duration:** 5 day(s)

#### **MES261 - Aspen Production Execution Manager: Programming Concepts**

Develop an Aspen Production Execution Manager application. Understand the role of all necessary application components in application development. Learn how to create a Master Recipe from finished application.

**Pre-requisites:** Attended MES101 Aspen InfoPlus.21 Real Time Information Management Foundation Course OR MES271 - Aspen Production Record Manager: Configuring the Batch Area and Feed Application

**Duration:** 3 day(s)

#### MES271 - Aspen Production Record Manager: Configuring the Batch Area and Feed Application

Explain the principles, terminology, and architecture of Aspen Production Record Manager. Learn how to prepare and configure a Batch system and how to populate a Batch database, and how to create a Golden Batch Profile and apply it to the current process. View Batch SPC plots. Configure automated reports.

Pre-requisites: Attended MES171: Retrieving Batch Data Using the Reporting Tools

**Duration:** 2 day(s)



#### MES275 - Aspen Batch and Event Extractor: Transferring Data from Batch Execution Systems

Populate Aspen Production Record Manager tables with data from your batch execution system. Create and schedule Configuration Rules. Create and implement BCP Actions. Configure XSL Transformations. The Aspen Extractor provides an effective solution for managing batch and event data.

**Pre-requisites:** Attended MES171: Retrieving Batch Data Using the Reporting Tools

**Duration:** 1 day(s)

# MES361 - Aspen Production Execution Manager: Administration

Learn the concepts and architecture of Aspen Production Execution Manager. Create and assign roles, permissions, workstations, and workstation roles. Use appropriate Aspen Production Execution Manager modules to create and track orders. Configure access to and use the Production Execution Manager Web Server.

Pre-requisites: Attended MES261 - Aspen Production Execution Manager: Programming Concepts

**Duration:** 2 day(s)

### MVA101(French) - Analyse de données spectroscopiques sous Unscrambler

Ce cours sur l'analyse de données spectroscopiques est destiné aux personnes qui veulent :

- Connaître les bases des méthodes de Chimiométrie
- Apprendre à traiter leurs données spectrales de manière autonome
- Découvrir la méthodologie propre au traitement des données spectroscopiques

**Pre-requisites**: None **Duration**: 3 day(s)

#### MVA901 - Multivariate analysis of spectroscopic data using Unscrambler

Learn how to extract the most information from your spectral data with the Unscrambler application

**Pre-requisites:** None **Duration:** 2 day(s)

# MVA902 - Introduction to multivariate analysis using Unscrambler

Learn the basics of multivariate analysis while getting familiar with the Unscrambler application.

**Pre-requisites:** None **Duration:** 2 days(s)

#### MVA903 - Batch Analysis with Unscrambler

Learn about data analysis strategies for batch process monitoring and control.

**Pre-requisites:** None **Duration:** 2 day(s)

#### **MVA904 - Multivariate Classification with Unscrambler**

Learn how to build models to predict groups or categories while getting familiar with Unscrambler.

**Pre-requisites:** None **Duration:** 2 day(s)

#### MVA905 - Multivariate analysis in regulated environments with Process Pulse

Learn about key aspects of compliance and quality assurance in regulated MVA applications in process analytical technology (PAT) for analyzing and monitoring manufacturing processes.

**Pre-requisites:** None **Duration:** 2 day(s)

#### MVA906 - Multivariate Analysis of Hyperspectral Images with Unscrambler HSI

Learn how to perform explorative, multivariate analysis of HSI data in the spectral domain, including calibration model development and its application for quality control.

**Pre-requisites:** None **Duration:** 2 day(s)



#### PAT901 - Introduction to Process Analytics with Unscrambler & Process Pulse

Get an introduction to strategies for ensuring quality and safety with real-time process analysis. **Pre-requisites:** MVA902: Introduction to multivariate analysis using Unscrambler" online class.

Described 2 described

**Duration:** 2 day(s)

# **Process Engineering**

# EHM101 - Introduction to Aspen Hybrid Models for Engineering

Review advantages of using Aspen Hybrid Models and when they should be used. Understand and determine different types of Aspen Hybrid models and which one to use

Pre-requisites: Attended EAP101 Introduction to Process Modeling using Aspen Plus OR

EHY101 Introduction to Process Modeling using Aspen HYSYS.

**Duration:** 1 day(s)

### **EAP021: Rate Based Model to Design and Optimize Carbon Capture**

Learn how to leverage Aspen Rate-Based Distillation technology to create reliable models to aid in the decision-making at the design or operation stages of these type of processes. In this training you will learn about key parameters in Rate Base Distillation and how to build CO2 rate-based distillation system.

**Pre-requisites:** None **Duration:** 0.5 day(s)

#### **EAP101: Aspen Plus Process Modeling**

Learn steady-state process simulation, process analysis and optimization using Aspen Plus

**Pre-requisites:** None **Duration:** 3 day(s)

#### **EAP121 - Introduction to Aspen Simulation**

Learn how to embed and link an Aspen Plus Simulation case and variables within MS Excel without using any programming languages.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

Duration: 1 day(s)

#### **EAP150 - Rigorous Design and Rating of Distillation Columns**

Understand how to interactively design and rate distillation columns in Aspen Plus.

Pre-requisites: None Duration: 1 day(s)

### EAP201 - Aspen Plus: Select, Use and Modify Property Model Calculations for Improved Accuracy

Develop the skills and techniques required to specify and use thermodynamic property models in your steady-state and dynamic simulations by gaining a better understanding of the Aspen Plus physical properties system.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

Duration: 2 day(s)

# **EAP202 - Modeling Batch Processes using Aspen Plus**

Build and troubleshoot flowsheet simulations with batch distillation columns, reactors, crystallizers. Model custom kinetics without using a programming language.

Pre-requisites: Attended EAP101: Introduction to Process modeling using Aspen Plus

Duration: 2 day(s)

#### **EAP206 - Batch Process Modeling using Aspen Plus for Fine Chemical**

Build and troubleshoot flowsheet simulations, with batch distillation columns, batch reactors, heaters, and separators. Reduce process design time by evaluating various plant configurations. Determine optimal process conditions for new or existing processes and help de-bottleneck processes.

Pre-requisites: None Duration: 2 day(s)



#### **EAP2121 - Process Flowsheet Convergence in Aspen Plus**

Review and analyze convergence and optimization features in Aspen Plus sequential run mode and learn how to solve convergence problems. Enables the attendee to develop more robust and efficient models of complex flowsheets.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 1 day(s)

#### **EAP2311 - Building Custom Simulation Models using Aspen Custom Modeler**

Learn how to develop open equation models using Aspen Custom Modeler. Gain the practical skills to build and run custom models. Use automation to pass information to and from Microsoft? Excel and control the simulation.

**Pre-requisites:** None **Duration:** 3 day(s)

#### EAP2411 - Improved Process Operability and Control through Aspen Plus Dynamic Models

Learn how to solve process design, plant operation and control problems using Aspen Plus Dynamics. Study and select control strategies and reduce plant design time. Evaluate plant re-vamp opportunities and troubleshoot plant operation problems.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 3 day(s)

#### **EAP250 - Aspen Plus: Distillation Modeling**

Learn how to handle complex distillation such as azeotropic, 3-phase, and reactive distillation, how to set up pump arounds, side draws, multiple condensers and how to optimize the feed location and number of stages. Learn how to perform Sizing/Rating of trayed and packed towers. Troubleshoot convergence issues.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 2 day(s)

#### EAP 2510 - Achieve Sustainability Targets through Carbon Capture Modeling in Aspen Plus

Learn how to use a higher fidelity, more realistic modeling approach to obtain simulation results that are more accurate than those attainable through conventional models, allowing users to make better predictions for sustainability calculations.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 3 day(s)

#### **EAP252 - Pressure Relief Analysis Using Aspen Plus**

Learn how to define overpressure systems using Aspen Plus in accordance with API 520, 521 and 2000. Design single or multiple relief valves for all applicable scenarios in an overpressure system. Document the full overpressure analysis within Aspen Plus.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 1 day(s)

#### **EAP253 - Modeling and Optimizing Chemical Processes Using Aspen Plus**

Learn how to build process flowsheet simulation models to analyze steady-state processes using Aspen Plus. Learn how to simulate, optimize, and troubleshoot various Unit Operation models and full process models. Develop the skills for process design, debottlenecking, and optimization of distillation columns which are both capital and energy intensive.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 5 day(s)

#### **EAP2711 - Reaction Analysis and Reactor Design using Aspen Plus**

Enables the attendee to recognize the various reactor/reaction capabilities within Aspen Plus. Provides hands-on experience modeling various reactors and analyzing reaction results.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 2 day(s)



#### EAP281 - Aspen Plus: Process Simulation with Aspen Polymers

Learn how to use Aspen Polymers to model polymerization processes. Acquire knowledge on polymer thermodynamics and phase equilibria and the modeling approach for polymerization kinetics. Understand the basic steps for developing polymer process models.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus OR

EAP201 Aspen Plus: Physical Properties for Process Engineers

**Duration:** 3 day(s)

# **EAP288 - Introduction to Aspen Adsorption**

Acquire the skills to set up and solve the dynamic simulation problems in adsorption. Gain first-hand experience in working within the Aspen Adsorption simulation environment. Apply Aspen Adsorption to build and execute simulations rapidly.

Pre-requisites: None Duration: 2 day(s)

# **EAP289 - Introduction to Aspen Chromatography**

Learn how to set up and solve the dynamic simulation problems in chromatography. Gain first-hand experience in working within the Aspen Chromatography simulation environment to build and execute simulations rapidly.

Pre-requisites: Attended EAP2311 Building Custom Simulation Models using Aspen Custom Modeler

**Duration:** 2 day(s)

#### **EAP2911 - Solids Modeling Using Aspen Plus**

Become proficient in modeling processes containing solids handling equipment. Determine optimal process conditions for new or existing solids processes. Support troubleshooting and de-bottlenecking of solids processes.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 2 day(s)

#### EAP2980 - Modeling of Processes with Aqueous Ionic Solutions - Electrolytes and Salts

Learn how to set up simulations for electrolyte systems in Aspen Plus. Learn how to use electrolyte properties by gaining a better understanding of the Aspen Plus electrolyte physical properties system. Address special issues when modeling processes with electrolytes.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 2 day(s)

#### **EAP301 - Aspen Plus: Real Time Modeling and Optimization**

Learn how to do real time optimization using the Equation Oriented (EO) strategy and how to tune models using realtime data and parameter estimation and data reconciliation. Learn to solve large flowsheets quickly using the EO approach. Increase confidence in the plant measurements using parameter estimation and data reconciliation. Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

Duration: 4 day(s)

#### EAP3021 - Aspen OnLine: Project Setup and Establish Connection

Learn to Setup Aspen OnLine project, import and export tags and mapping variables in process simulation models. Schedule the automated run and data synchronization between historian and process simulation models.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 1 day(s)



#### **EAP3022 - Aspen OnLine: Advanced Configuration**

Learn In-depth understanding of Aspen OnLine project execution. Understand the use of different type of tags and tag section for large plant models and Utilize advance feature for models scheduling.

Pre-requisites: Attended EAP3021 Aspen OnLine: Project Setup and Establish Connection AND

EAP101: Introduction to Process Modeling using Aspen Plus

**Duration:** 1 day(s)

#### **EAU2831 - Introduction to Energy Optimization**

Reduce the risk involved in making decisions that need to consider utility prices, equipment availability and constraints, efficiency, and utility demand. Optimize utility variability by adopting a consistent methodology to model, simulate and analyze energy management business processes.

**Pre-requisites:** None **Duration:** 2 day(s)

#### **EBE020 - Process Safety Datasheets**

Leverage Aspen Basic Engineering's centralized database architecture to edit and share datasheets seamlessly. In this class, users will learn how to use ABE to generate process safety datasheets from within the simulators. Users will be able to effortlessly transfer process data and safety devices calculation results into pre-built datasheet templates.

Pre-requisites: None Duration: 0.5 day(s)

#### EBE101 - Develop FEED Packages using Aspen Basic Engineering

Learn how to conduct engineering studies and projects using a central data repository with controlled and simultaneous data access. Eliminate clerical transcription and errors through instant update of changes in data to all users viewing the data. Gain an understanding of how the various modules of Aspen Basic Engineering are structured.

**Pre-requisites:** None **Duration:** 2 day(s)

#### EBE201 - Aspen Basic Engineering: Project and Administrator Configuration

Learn how to configure Aspen Basic Engineering (ABE) to meet your specific needs, and the structure of ABE modules. Develop organization/industry/project specific datasheets and symbols and customize data model to reflect industry specific objects and attributes.

Pre-requisites: Attended EBE101: Develop FEED Packages using Aspen Basic Engineering

**Duration:** 2 day(s)

#### EEE020 - Improve Project Collaboration, Productivity and Performance with ACCE Insights

Gain estimation accuracy by reducing uncertainty with quick visualization of project cost estimates with ACCE Insights. Benefit from seamless visualization, correlation, and quantification of cost risks. This training class will focus on deployment of ACCE insights as well as creating visual milestones which allow estimators to take a snapshot of the current estimate and track it over time.

Pre-requisites: Attended EEE101: Introduction to Aspen Capital Cost Estimator

**Duration:** 0.5 day(s)

# **EEE101 - Develop Cost Estimates for Capital Projects**

Learn how to obtain detailed EPC estimate from minimal input in a fraction of the time required by traditional methods. Use Aspen Capital Cost Estimator to evaluate your company's projects and maximize return on investment. Reduce estimation variability by adopting a consistent methodology. Make adjustments to project estimates according to local area conditions and reduce potential decision-making risks.

**Pre-requisites:** None **Duration:** 4 day(s)



#### **EEE102 - Use Cost Estimation Tool for Process Simulations**

Learn to develop an economic evaluation and proposed design using Aspen Process Economic Analyzer. Obtain detailed design results for both equipment and installation bulks with minimal input, and by integrating operating cost, capital cost, and schedule. Learn to analyze different process alternatives in simulation and determine the more profitable approach. Learn to show the utility usage for your process. Learn to adjust construction wages and to adjust the system calculations to reflect your local cost.

**Pre-requisites:** None **Duration:** 3 day(s)

#### EEE103 - Creating and Interpreting Project Cost Estimates for Small Capital Projects

Learn how to develop in-plant design, estimate and schedule using Aspen In-Plant Cost Estimator. Reduce estimation variability by adopting a consistent methodology.

**Pre-requisites:** None **Duration:** 3 day(s)

#### **EEE200 - Refresher Aspen Capital Cost Estimator for Certification**

Use the Aspen Capital Cost Estimator system more effectively, tailoring it to specific project estimates.

Pre-requisites: Attended EEE101: Develop Cost estimates for Capital Projects

Duration: 1 day(s)

## **EEE201 - Aspen Capital Cost Estimator: Advanced Topics**

Gain the experience you need to use Aspen Capital Cost Estimator for detailed estimates and cost tracking, all phases of estimating the lifecycle of a job, and using the decision analyzer to scale estimates.

Pre-requisites: Attended EEE101 Develop Cost Estimates for Capital Projects

**Duration:** 5 day(s)

#### EHM020 - Combine AI and First Principles to Improve Model Performance

Build, validate, and deploy Aspen Hybrid Models to leverage the power of AI without engineers requiring data science or machine learning expertise.

**Pre-requisites:** None **Duration:** 0.5 day(s)

### **EHX101 - Design and Rate Shell and Tube Heat Exchangers**

Learn how to integrate and general design consideration of Shell and Tube Heat Exchangers.

**Pre-requisites:** None **Duration:** 2 day(s)

# **EHX1021 - Design and Rate Air Cooled Heat Exchangers**

Learn the general design considerations of Air-Cooled Exchangers. Examine process side, air side, geometry selection and physical properties, and investigate thermal design principles, crossflow exchangers and extended surfaces. Explore process-side events and responses, including single and two-phase heat transfer, condensing and fouling.

**Pre-requisites:** None **Duration:** 1 day(s)

### **EHX1031 - Design and Simulation of Fired Heaters**

Learn the fundamentals of rating and simulating a fired heater. Understand the requirements for design checking and simulation of fired heaters. Efficiently use the Aspen Fired Heater application to evaluate: Vertical Cylindrical Unit (VCU) with convection bank, Twin cabin firebox, Single cabin fired heater with roof tubes.

**Pre-requisites:** None **Duration:** 1 day(s)



#### EHX1041 - Introduction to Aspen Plate Fin Exchanger

Learn the fundamentals of simulating a plate fin heat exchanger. Understand the requirements for design, checking and simulation of plate fin exchanger. Efficiently use the Aspen Plate Fin Exchanger application to evaluate: Single-phase exchangers, Cryogenic condensers, Cryogenic reboilers/vaporizers, Multi stream/layers exchangers.

**Pre-requisites:** None **Duration:** 1 day(s)

# EHX1061 - Introduction to Aspen Coil Wound Heat Exchanger

Identify and explain the basic concepts of heat transfer in association with coil wound heat exchangers

**Pre-requisites:** None **Duration:** 1 day(s)

# EHX1100 - Modeling Heat Exchangers Using the Exchanger Design and Rating Suite

Learn the fundamentals of producing a cost optimized exchanger design.

**Pre-requisites:** None **Duration:** 3 day(s)

### EHX131 – Heat Exchanger Mechanical Design using Aspen Shell & Tube Mechanical

Learn the basic mechanical design of shell and tube heat exchangers. Reduce design time and capital costs by utilizing powerful optimization techniques. Realize cost savings by reducing the project lifecycle.

Pre-requisites: Participants should be involved in the thermal and mechanical design of shell and tube heat

exchangers. **Duration:** 1 day(s)

## EHX2911 - Improved Sustainability Targets through Energy Efficiency using Heat Integration

Learn how to use Aspen Energy Analyzer with Aspen Plus or Aspen HYSYS to design better and more efficient heat exchanger networks.

Pre-requisites: Attended EAP101: Introduction to Process Modeling using Aspen Plus OR

EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 3 day(s)

#### EHY021 - Process Monitoring Using Plant Data and Aspen Online

Improve sustainability by building a Plant Digital Twin solution for Emissions Monitoring and reduced carbon footprint. In this course you will learn how to calibrate a model using plant data to accurately predict plant performance and deploy the model online.

**Pre-requisites:** None **Duration:** 0.5 day(s)

#### EHY101 - Introduction to Process Modeling using Aspen HYSYS (Includes Free Certification)

Learn how to build and troubleshoot flowsheet simulation models using Aspen HYSYS

**Pre-requisites:** None **Duration:** 3 day(s)

### EHY102 - Model and Troubleshoot Refinery Process Units using Aspen HYSYS Petroleum Refining Tools

Learn and apply the industry best practices to build, troubleshoot and optimize the refinery process units using Aspen HYSYS® Petroleum Refining tools.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 3 day(s)

#### EHY107 - Ensure Process Safety with BLOWDOWN™ Technology and PSV Sizing in Aspen HYSYS

Learn to use latest features in Aspen HYSYS to design and rate blowdown valves, pressure safety valves and pressure vacuum vents.

Pre-requisites: None
Duration: 1 day(s)



#### EHY121 - Building MS Excel User Interfaces for Aspen HYSYS Simulations Using Aspen Simulation Workbook

Learn how to embed and link an Aspen HYSYS Simulation case and variables within MS Excel without using any programming languages.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 1 day(s)

# EHY130 - Modeling Liquefied Natural Gas Plant Using Aspen HYSYS®

Use the capabilities of Aspen HYSYS Upstream to enable shared workflow for Liquefied Natural Gas plant modeling. Build a composition-based flowsheet. Utilize several analysis tools for improving overall performance. Implement different unit used to customize flowsheet.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 2 day(s)

### EHY150 - Refinery Process Modeling using Aspen HYSYS and Aspen HYSYS Petroleum Refining

Learn to build, navigate, and optimize process simulations using Aspen HYSYS and Aspen HYSYS Petroleum Refining.

**Pre-requisites:** None **Duration:** 5 day(s)

# **EHY202 - Advanced Solutions using Aspen HYSYS**

Learn how to use and apply advanced modeling techniques to enhance your simulation and Create models that emulate plant conditions.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 2 day(s)

# **EHY210 - Optimize Refinery Process Models with Aspen HYSYS Petroleum Refining**

Learn to build, evaluate, and optimize Refinery Models including complicated refinery reactors using Aspen HYSYS<sup>™</sup> Petroleum Refining. Learn to track petroleum properties, perform case studies, and evaluate profit for steady-state simulations of refining processes.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 3 day(s)

#### EHY223 - Build, Optimize and Control Dynamic Process Models using Aspen HYSYS® Dynamics

Learn how to convert steady-state models into dynamic models to solve process design, plant operation and control problems using Aspen HYSYS Dynamics.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 3 day(s)

#### **EHY2311 - Developing Automation Solutions for Aspen HYSYS**

Recognize the benefits of using automation in conjunction with Aspen HYSYS. Reinforce programming concepts that support automation in Aspen HYSYS. Use Visual Basic and Excel to create automation solutions for Aspen HYSYS simulation models.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 2 day(s)

# **EHY2312 - Create Custom Unit Operations and Kinetic Model Extensions using VB.net for Aspen HYSYS**

Learn to develop custom unit operations in Aspen HYSYS Learn the efficient use of different HYSYS functions to understand how custom unit operations work. Investigate how different methods and properties work and interact with custom HYSYS extensions.

**Pre-requisites:** Attended EHY2311: Developing Automation Solutions for Aspen HYSYS.

**Duration:** 2 day(s)



#### EHY2314 - Developing Dynamic Unit Operation Extensions for Aspen HYSYS using VB.NET

Build and troubleshoot a Dynamic Unit Operation Extension. Learn the fundamentals of creating the base code for a Dynamic Unit Operation Extension that implements Pressure and Flow Balance equations.

**Pre-requisites:** Familiarity with Basic Aspen HYSYS Dynamic process modeling. Knowledge of how to program in VB or other computer languages.

**Duration:** 1 day(s)

# EHY2351 - Modeling Heavy Oil & Gas Production and Facilities Using Aspen HYSYS Upstream

Use the new advanced capabilities of Aspen HYSYS to enable shared workflow between production modeling and facilities modeling.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 2 day(s)

#### EHY250 - Determine Rapid Depressurization Safety Limits for Design and Rating

Learn the industrial importance of BLOWDOWN technology and how it is used to accurately determine temperature profiles during depressurization process, which is critical to the design and operation of every process plant.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 1 day(s)

#### **EHY251 - Evaluating and Rating Flare Networks**

Learn how to design and evaluate flare network flowrates and design constraints on backpressure, Mach number, noise, and pipe fatigue. Solve complex network hydraulics and incorporate industry standards. Reduce capital cost by determining optimum equipment sizes, and, more importantly, assure the safety of the plant.

**Pre-requisites:** None **Duration:** 2 day(s)

#### **EHY252 - Pressure Relief Analysis Using Aspen HYSYS**

Learn how to define overpressure systems using Aspen HYSYS in accordance with API 520, 521 and 2000. Design single or multiple relief valves for all applicable scenarios in an overpressure system. Document the full overpressure analysis within Aspen HYSYS.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS

**Duration:** 1 day(s)

#### EHY262 - Modeling and Optimizing Catalytic Reformer Using Aspen HYSYS Petroleum Refining

Learn technique to generate delta vectors which can be used in the refinery LP planning model (Aspen PIMS) to improve refinery crude feedstock selection and plant-wide optimization. This customized course is primarily workshop-based with an introductory lecture and demonstration.

**Pre-requisites:** None **Duration:** 1 day(s)

#### EHY263 - Modeling and Optimizing Hydrocracker Using Aspen HYSYS Petroleum Refining

Learn technique to generate delta vectors which can be used in the refinery LP planning model (Aspen PIMS) to improve refinery crude feedstock selection and plant-wide optimization. This customized course is primarily workshop-based with an introductory lecture and demonstration.

**Pre-requisites:** None **Duration:** 1 day(s)

# EHY264 - Modeling and Optimizing Refinery Reactors (FCC, Catalytic Reformer, Hydrocracker) Using Aspen HYSYS Petroleum Refining

Learn technique to generate delta vectors which can be used in the refinery LP planning model (Aspen PIMS) to improve refinery crude feedstock selection and plant-wide optimization. This customized course is primarily workshop-based with an introductory lecture and demonstration.

**Pre-requisites:** None **Duration:** 4 day(s)



#### EHY265 - Modeling and Optimizing FCC Reactor Using Aspen HYSYS Petroleum Refining

Learn technique to generate delta vectors which can be used in the refinery LP planning model (Aspen PIMS) to improve refinery crude feedstock selection and plant-wide optimization. This customized course is primarily workshop-based with an introductory lecture and demonstration.

Pre-requisites: None Duration: 2 day(s)

#### EHY301 - Troubleshoot complex processes using advanced EO in Aspen HYSYS

Learn to use Equation Oriented (EO) Capabilities in Aspen HYSYS to simulate a fully integrated Crude Distillation Unit preheat train.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS OR

EHY202: Advanced Solutions using Aspen HYSYS

**Duration:** 0.5 day(s)

# EHY302 - What's New in V10: Faster optimization using advanced EO in Aspen HYSYS®

In this hands-on workshop, you will use Equation Oriented (EO) Capabilities introduced in Aspen HYSYS V10 to optimize a fully integrated Crude Distillation Unit preheat train.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS OR

EHY202: Advanced Solutions using Aspen HYSYS

**Duration:** 0.5 day(s)

### **EHY303 - Introduction to Modelling Air Separation Units**

Build, navigate and optimize a steady state simulation of an Air Separation Unit (ASU) using Aspen HYSYS. Utilize a wide variety of unit operation models and calculation tools to model process equipment. Use templates and sub-flowsheets to streamline and organize the different sections of the plant.

Pre-requisites: Attended EHY101: Introduction to Process Modeling using Aspen HYSYS OR

EHY202: Advanced Solutions using Aspen HYSYS

**Duration:** 2 day(s)

# EMC020 - Accelerate Process Simulation with Parallel Computing in Aspen Multi-Case

Learn Aspen Multi-Case best practices to generate data for case studies, plant configuration studies, and reducedorder modelling.

**Pre-requisites:** None **Duration:** 0.5 day(s)

#### **EOP020 - Introduction to 3D Conceptual Layout**

Learn how OptiPlant 3D can help you visualize parametric model and reduce CAPEX costs.

**Pre-requisites:** None **Duration:** 0.5 day(s)

# EOP101 - 3D Conceptual Layout for Estimation - Basic Training using Aspen OptiPlant & ACCE

Learn to Build, navigate and optimize 3D conceptual models using Aspen OptiPlant

**Pre-requisites:** None **Duration:** 3 day(s)

#### EOP201 - 3D Conceptual modeling for FEED Projects - Advanced Training using Aspen OptiPlant

Build, navigate and optimize 3D conceptual models using Aspen OptiPlant with AI integrated automatic pipe routing and transfer the conceptual 3D model to other 3D detailed designing tools.

**Pre-requisites:** Attended EOP101: 3D Conceptual Layout for Estimation - Basic Training using Aspen OptiPlant & ACCE

**Duration:** 3 day(s)

# **EPD101 - Modeling and Analyzing Batch Processes for Pharmaceuticals**

Learn how to model and analyze batch data to rapidly evaluate new synthesis routes and develop cost estimates with limited data, and to build an equipment and material database.

**Pre-requisites:** None **Duration:** 2 day(s)



#### **EPD213 - Aspen Properties: Introduction to Aspen Solubility Modeler**

Regress parameters from solid solubility experimental data using Aspen Solubility Modeler. Evaluate solid solubility in various solvents using Aspen Solubility Modeler. Learn how to calculate solubility in various solvent types quickly and efficiently.

Pre-requisites: Attended EAP201 - Aspen Plus: Select, Use and Modify Property Model Calculations

**Duration:** 0.5 day(s)

#### MOOC01 - 化工设计大赛赛前冲刺培训 Aspen Plus 篇

该课程为 Aspen Plus **的基**础课程,面向参加 "2020年大学生化工竞赛" 的在校学生和指导教师。课程的目的是使学生了解 Aspen Plus 基本建模和流程优化的方法。该课程将以网络虚拟课堂的形式进行。

#### **Pre-requisites:**

具有化学工程与工艺专业背景

已完成化工原理、物理化学、化工热力学和化工动力学的课程

了解 Aspen Plus 的基本操作 有一定的英文阅读能力

**Duration:** 1 day(s)

# **Refinery Planning & Scheduling**

#### **AUP020 - Aspen Unified PIMS: New Technology for Planning**

This class provides hands-on workshops to boost user skills in planning model management and analysis with cuttingedge technologies in Aspen Unified PIMS.

**Pre-requisites:** None **Duration:** 0.5 day(s)

#### **AUP101 - Introduction to Aspen Unified PIMS**

This course provides systematic training in Aspen Unified PIMS (AUP) for refinery Linear Programming (LP) planners. Detailed emphasis is placed on introducing and reviewing advanced features and functions in Aspen Unified PIMS, including Planning Work Area, Price Catalog, Flowsheet Model Building, Model Life Cycle Management, etc.

**Pre-requisites:** None **Duration:** 3 day(s)

#### **RBS020 - Introduction of Aspen Unified Scheduling for refinery schedulers**

Learn how to increase margins by aligning schedule with optimized plan using the Aspen Unified Site Catalog and Schedule Optimization.

**Pre-requisites:** None **Duration:** 0.5 day(s)

#### **RBS101 - Aspen Petroleum Scheduler: Using Models for Daily Scheduling**

Learn how to use Aspen Petroleum Scheduler effectively for daily scheduling operations. This course is geared for daily users rather than model developers.

**Pre-requisites:** None **Duration:** 2 day(s)

#### **RBS121 - Online Class: Building Models using Aspen Petroleum Scheduler**

This is the "Online" version of our popular RBS121 Aspen Petroleum Scheduler class. This Online version is delivered through a combination of self-paced eLearning that you can complete over 3 weeks with live, online expert-led sessions, hands-on workshops, and interactive online discussion boards. Students usually spend 8 to 12 hours per week to complete this online course.

**Pre-requisites:** None **Duration:** 5 day(s)



# RBS131 - Aspen Refinery Multi-Blend Optimizer: Blend Planning and Scheduling

Learn how to build a model for seamless scheduling and optimization of daily blend activities.

**Pre-requisites:** None **Duration:** 2 day(s)

#### RPA100 - Essential PIMS Concepts and Economic Analysis for Managers & Economists

Learn the essential concepts and basic navigation of PIMS. Geared for non-engineers, this course focuses on understanding and analyzing PIMS results without the complexity of model building. Learn to apply constraints to an existing PIMS model and run various case scenarios. Analyze the report data to perform basic economic evaluations.

**Pre-requisites:** None **Duration:** 2 day(s)

#### **RPA101 - Introduction to Refinery Planning using Aspen PIMS**

Learn how to solve refinery planning problems using Aspen PIMS and Aspen PIMS-Advanced Optimization.

**Pre-requisites:** None **Duration:** 5 day(s)

# **RPA102 - Introduction to Aspen PIMS for Petrochemical Planning**

Build petrochemical planning models in PIMS to generate optimum plans including evaluating alternative feeds, process units, products, and markets. Develop Linear Programming (LP) structure to solve optimization problem including interpreting and analyzing the LP solutions.

**Pre-requisites:** None **Duration:** 4 day(s)

#### **RPA105 - Introduction to Hybrid Modeling for Planning**

To provide fundamental training in Hybrid Modeling for Planning. Introduce and review advanced features and functions in Hybrid Modeling tools, including Aspen Multi-Case, Aspen Al Model Builder.

**Pre-requisites:** None **Duration:** 0.5 day(s)

#### **RPA153 - Aspen Report Writer for Aspen PIMS**

Learn how to build reports that display data from PIMS, Aspen Petroleum Scheduler and Aspen Multi-Blend Optimizer.

Pre-requisites: Attended RPA101 - Introduction to Refinery Planning using Aspen PIMS

**Duration:** 1 day(s)

#### **RPA201 - Aspen PIMS: Solving Refinery Planning Problems**

To provide an intensive problem-solving workshop designed for the experienced Aspen PIMS user. Detailed emphasis is placed on reviewing Aspen PIMS modeling techniques and troubleshooting errors and warnings in models.

Pre-requisites: Attended RPA101: Introduction to Refinery Planning using Aspen PIMS

Duration: 5 day(s)

# **RPA206 - Multi-Period Refinery Modeling with Aspen PPIMS**

Learn how to build and analyze a multi-period LP models. Optimize your operating variables from period-to-period by identifying inventory holding costs and present value factors. Transfer inventory from period-to-period. Control blending recipes across multiple periods.

Pre-requisites: Attended RPA101: Introduction to Refinery Planning using Aspen PIMS

**Duration:** 2 day(s)

# **RPA207 - Multiple Plant Planning with Aspen MPIMS**

Integration of individual plant planning models leads to the benefit of true system-wide optimization. Improve corporate supply and demand planning accuracy with inter plant transfers and depot modeling. Develop on-site expertise to support in-house implementation of changes.

Pre-requisites: Attended RPA101: Introduction to Refinery Planning using Aspen PIMS

**Duration:** 2 day(s)



#### RPA208 - Aspen PIMS Platinum and Assay Manager for Experienced Aspen PIMS Users

Introduce Aspen PIMS Platinum functionality and learn to customize it. Run a case using Aspen PIMS Platinum Case Runner. Integrate Aspen Assay Management into your existing Aspen PIMS workflow. Execute a Spot Crude Evaluation using Aspen PIMS Platinum. Modify assay data using Aspen Assay Management.

Pre-requisites: Attended RPA101: Introduction to Refinery Planning using Aspen PIMS

**Duration:** 1 day(s)

#### **RPA221 - Aspen PIMS: Advanced Optimization Features**

Learn the differences between standard Aspen PIMS using Distributed Recursion and Aspen PIMS Advanced Optimization using the XNLP framework. Learn to troubleshoot suboptimal solutions inherent to non-linear optimization problems.

Pre-requisites: Attended RPA101: Introduction to Refinery Planning using Aspen PIMS

Duration: 2 day(s)

# **RPA231 - Aspen PIMS: Enhance Planning Results**

Learn Aspen PIMS modeling techniques and troubleshooting errors and warnings in Distributive Recursion (DR) and Advanced Optimization (AO) models.

Pre-requisites: Attended RPA101: Introduction to Refinery Planning using Aspen PIMS

**Duration:** 5 day(s)

# **RPA301 - Aspen PIMS: Advanced Refinery Planning Models**

Learn to debug recursion structure and problems. Address Mixed Integer Situations using Aspen PIMS MIP capabilities. Apply Aspen Blend Model Library and other blending techniques to model rigorous blending. Troubleshoot modeling and convergence problems to perform Solution Analysis. Manage local optima problems.

Pre-requisites: Attended RPA201 Aspen PIMS: Solving Refinery Planning Problems

**Duration:** 5 day(s)

### RPA901 - Production Planning for Better Business Results with Aspen PIMS-AO

In this webinar, users will learn PIMS/PIMS-AO best practices to maintain and improve solution analysis using the robust engine available in PIMS-AO.

**Pre-requisites:** None **Duration:** 0.5 day(s)

# **Supply & Distribution**

# **RPA135 - Economic Optimization of Distribution and Transportation Networks**

This course introduces the Aspen Petroleum Supply Chain Planner (PSCP) system and its application for business problems. Emphasis is placed on learning how to use the Aspen Petroleum Supply Chain Planner system to solve typical primary distribution and transportation planning problems of refinery products.

**Pre-requisites:** None **Duration:** 4 day(s)

# **Supply Chain**



#### SCM020 - Close the Gaps between Plans and Actuals

Take advantage of this unique opportunity to gain hands-on experience with these two powerful software apps from the Aspen Supply Chain Management suite. Learn how you can visualize, optimize, and add value to your S&OP business processes by using the highly configurable Aspen Supply Chain Planner. Understand how Aspen Schedule Explorer can help your organization streamline your S&OE business processes, enhancing collaboration while saving valuable time and resources.

**Pre-requisites:** None **Duration:** 0.5 day(s)

# SCM121 - Introduction to Aspen Plant Scheduler Configuration for Modelers

Learn how to build a new scheduling model or make changes to an existing model for plants that manufactures or packages basic chemicals, polymers, specialty chemicals, or other consumer goods. Course provides step-by-step coverage for configuring an Aspen Plant Scheduler models.

**Pre-requisites:** None **Duration:** 3 day(s)

#### SCM201 - Introduction to aspenONE Supply Chain Management for Modelers

Learn the new configuration steps for the aspenONE Supply Chain Management (Aspen SCM) product suite. Learn how to configure the new user interface of the Aspen SCM product suite. Improve configuration expertise to support new version implementation and perform upgrades from previous versions.

**Pre-requisites:** None **Duration:** 4 day(s)