

Training Course Data Sheet	
<h1>Process Modeling</h1> <h2>Using Aspen Plus®</h2>	Course Number: ES200
	Duration: 3 days
	CEUs Awarded: 2.1
	Level: Introductory

<p>Objectives</p> <ul style="list-style-type: none"> To learn the basic concepts required to model and analyze steady-state processes using Aspen Plus® This course serves as a prerequisite for many of the more advanced courses. <p>Course Benefits</p> <ul style="list-style-type: none"> Gain the practical skills and knowledge to begin modeling new and existing processes Learn some practical techniques for building and troubleshooting flowsheet simulations Reduce process design time by testing various plant configurations Determine optimal process conditions to improve current processes Help de-bottleneck constraining parts of a process <p>Who Should Attend</p> <ul style="list-style-type: none"> Engineers new to Aspen Plus who need basic training to get started Aspen Custom Modeler™ users who need exposure to steady-state simulation as preparation for using Aspen Dynamics™ Simulation engineers involved in design and/or real-time optimization 	<p>Approach</p> <ul style="list-style-type: none"> Instruction on basic topics Discussion about the general approach and the key elements for successful simulations Instructor-guided demonstrations of features Hands-on workshops that apply learned concepts Detailed course notes Answer keys <p>Prerequisites</p> <ul style="list-style-type: none"> A background in chemical engineering or industrial chemistry <p>Suggested Subsequent Courses</p> <ul style="list-style-type: none"> Harnessing the Power of Equation Oriented Modeling in Aspen Plus Real Time Modeling and Optimization with Aspen Plus Introduction to Aspen Dynamics™
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Process Modeling Using Aspen Plus[®] Course Agenda

Day 1

- Become familiar with the Aspen Plus graphical user interface
- Enter basic input required for a simulation
- Review major unit operation models, such as flash drums, heaters, reactors and columns; discuss flowsheet handling
- Study the basic input of the rigorous multistage distillation model, including Design Specs, efficiencies, and tray sizing

Day 2

- Evaluate various classes of reactor models
- Become familiar with basic physical property issues in Aspen Plus
- Learn how to reference flowsheet variables
- Examine Sensitivity Analysis to study relationships between process variables
- Incorporate Design Specifications to meet process design requirements

Day 3

- Become familiar with the usefulness of Fortran and Excel Calculator blocks
- Compare HeatX calculation modes for modeling shell-and-tube heat exchangers
- Review pressure changer models, such as pumps, compressors, and valves
- Gain knowledge of basic flowsheet convergence techniques

Optional Topics for Customized Courses

- Use Aspen Plus with other AspenTech software
- Customize and annotate your flowsheet
- Estimate physical properties of non-databank components
- Model electrolytes systems
- Obtain an overview of solids capabilities
- Introduce Equation Oriented modeling
- Converge difficult distillation columns

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