



*Training Course:
Aspen HYSYS: Process Modeling*

*13 - 24 September 2026
Dubai (UAE)*

Training Course: Aspen HYSYS: Process Modeling

Training Course code: EN234889 From: 13 - 24 September 2026 Venue: Dubai (UAE) - Training Course Fees: 9240 € Euro

Introduction

Aspen HYSYS is a powerful process simulation tool widely used in the oil & gas and chemical industries to model, analyze, and optimize process systems. Accurate process modeling enables engineers to improve design efficiency, enhance operational performance, and support informed decision-making.

This program, designed by Global Horizon Training Center, provides a comprehensive 10-day training that equips participants with the knowledge and hands-on skills required to develop, analyze, and optimize process models using Aspen HYSYS across various industrial applications.

Course Objectives

By the end of this program, participants will be able to:

- Understand the fundamentals of process simulation and modeling
- Develop complete process models using Aspen HYSYS
- Select appropriate thermodynamic models and property packages
- Simulate key unit operations and integrated systems
- Perform mass and energy balance calculations
- Analyze and optimize process performance
- Conduct sensitivity and scenario analysis
- Apply dynamic simulation and troubleshooting techniques

Target Audience

This program is designed for:

- Chemical and Process Engineers
- Oil & Gas and Petrochemical Professionals
- Process Design and Simulation Engineers
- Operations and Production Engineers
- Technical Specialists involved in process optimization
- Professionals seeking hands-on expertise in Aspen HYSYS

Outline

Day 1: Introduction to Process Simulation and Aspen HYSYS

- Overview of process simulation concepts
- Aspen HYSYS interface and workflow
- Creating simulation cases
- Components and property packages
- Basic model setup

Day 2: Thermodynamics and Fluid Properties

- Thermodynamic principles in simulation
- Property package selection
- Phase behavior and equilibrium
- Handling complex fluids
- Property validation

Day 3: Streams and Basic Unit Operations

- Stream definition and management
- Mixers, separators, and valves
- Pumps and compressors
- Heat exchangers basics
- Model convergence fundamentals

Day 4: Advanced Unit Operations

- Distillation columns and separation processes
- Reactor modeling fundamentals
- Advanced heat exchanger design
- Recycle streams and convergence techniques
- Process integration

Day 5: Process Modeling and Flowsheet Development

- Building complete process flowsheets
- Linking unit operations
- Process data integration
- Model validation and debugging
- Best practices in model development

Day 6: Process Analysis and Optimization

- Sensitivity analysis
- Scenario analysis and case studies
- Performance optimization techniques
- Identifying process bottlenecks
- Energy efficiency improvements

Day 7: Dynamic Simulation and Control

- Introduction to dynamic simulation
- Transition from steady-state to dynamic models

- Process control concepts
- System response analysis
- Control strategies

Day 8: Troubleshooting and Model Validation

- Identifying and resolving simulation errors
- Convergence troubleshooting techniques
- Model validation and verification
- Improving model accuracy
- Documentation practices

Day 9: Integration and Advanced Applications

- Integration with Excel and external tools
- Advanced utilities and automation
- Simulation of complex industrial systems
- Data management and reporting
- Workflow optimization

Day 10: Case Studies and Practical Applications

- Real-world process simulation cases
- Optimization and performance evaluation
- Best practices and lessons learned
- Final project or simulation exercise
- Review and knowledge consolidation

Registration form on the Training Course: Aspen HYSYS: Process Modeling

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