



*Training Course:
Advanced Process Simulation and Analysis with
Aspen HYSYS - EHY2314*

*18 - 22 July 2027
Cairo (Egypt)*

Training Course: Advanced Process Simulation and Analysis with Aspen HYSYS - EHY2314

Training Course code: EN235105 From: 18 - 22 July 2027 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Process simulation is a critical tool in the oil & gas and chemical industries, enabling engineers to design, optimize, and analyze complex processes with accuracy and efficiency. Aspen HYSYS is one of the leading simulation platforms used for modeling steady-state and dynamic processes across upstream, midstream, and downstream operations.

This program, designed by Global Horizon Training Center, equips participants with advanced skills in process simulation and analysis using Aspen HYSYS, focusing on real-world applications, optimization techniques, and performance improvement.

Course Objectives

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

- Develop advanced process simulation models using Aspen HYSYS
- Analyze and optimize process performance and efficiency
- Configure fluid packages and thermodynamic models
- Simulate complex unit operations and integrated systems
- Perform sensitivity and case studies within HYSYS
- Troubleshoot simulation issues and validate models
- Apply dynamic simulation concepts for operational analysis
- Support process design and decision-making using simulation results

Target Audience

This program is designed for:

- Process Engineers in Oil & Gas and Petrochemical industries
- Chemical Engineers and Plant Engineers
- Operations and Production Engineers
- Design and Simulation Specialists
- Technical Professionals involved in process optimization
- Engineers seeking advanced skills in Aspen HYSYS

Outline

Day 1: Advanced HYSYS Fundamentals and Environment Setup

- Overview of Aspen HYSYS interface and workflow
- Fluid package selection and thermodynamic models
- Property estimation and validation
- Advanced stream and unit operation setup
- Model initialization and convergence basics

Day 2: Simulation of Complex Unit Operations

- Modeling distillation columns and separation systems
- Heat exchangers and energy integration
- Reactors and reaction kinetics
- Compression and pumping systems
- Handling recycles and convergence strategies

Day 3: Process Analysis and Optimization Techniques

- Sensitivity analysis and case studies
- Process optimization and performance tuning
- Energy efficiency and heat integration
- Identifying bottlenecks and inefficiencies
- Scenario analysis for operational improvements

Day 4: Dynamic Simulation and Troubleshooting

- Introduction to dynamic simulation concepts
- Transition from steady-state to dynamic models
- Control strategies and process response
- Troubleshooting convergence and modeling errors
- Model validation and verification

Day 5: Advanced Applications and Industrial Case Studies

- Integrated process simulation upstream/downstream systems
- Linking simulation with operational data
- Reporting and visualization of results
- Best practices in simulation projects
- Case studies and real-world applications

Registration form on the Training Course: Advanced Process Simulation and Analysis with Aspen HYSYS - EHY2314

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