Global Horizon
TRAINING CENTER

Training Course:
Optimizing Process Operations with Aspen HYSYS - EHY202

5 - 9 May 2025
Kuala Lumpur (Malaysia)
Royale Chulan Kuala Lumpur

Training Course:
Optimizing Process Operations with Aspen HYSYS - EHY202

Training Course code: EN235103 From: 5 - 9 May 2025 Venue: Kuala Lumpur (Malaysia) - Royale Chulan Kuala Lumpur
Training Course Fees: 6500 Euro

Introduction

Welcome to the Optimizing Process Operations with Aspen HYSYS - EHY202 Training Program! In today's ever-evolving industrial landscape, optimizing process operations has become a crucial aspect of achieving sustainable growth, maximizing efficiency, and minimizing costs. Aspen HYSYS, a powerful process simulation software, offers engineers and professionals the tools they need to analyze, optimize, and improve various process units and systems.

This comprehensive training program is designed to equip participants with the knowledge and skills necessary to leverage Aspen HYSYS for process optimization. Throughout the course, participants will delve into essential concepts, advanced techniques, and practical applications to enhance overall operational efficiency, identify bottlenecks, and develop sustainable solutions.

Objectives

By the end of this training program, participants will:

- Gain Proficiency in Aspen HYSYS: Develop a strong foundation in using Aspen HYSYS, understanding its functionalities, and navigating the user interface effectively.
- Master Process Simulation Basics: Learn how to set up process simulations, define components and thermodynamic models, and interpret simulation results for process analysis.
- Identify Process Bottlenecks: Acquire the skills to identify and analyze process constraints and bottlenecks using sensitivity analysis and optimization techniques.
- Optimize Equipment Performance: Discover advanced equipment modeling approaches and optimization strategies to improve the performance of complex equipment.
- Implement Heat Integration and Energy Optimization: Explore the principles of pinch analysis and energy optimization to minimize energy consumption and utility usage.
- Apply Advanced Process Optimization Techniques: Learn steady-state and dynamic optimization methods, including real-time optimization RTO, to achieve optimal process operation.
- Handle Uncertainty in Optimization: Understand how to deal with uncertain parameters in simulations and perform Monte Carlo simulations for uncertainty analysis.
- Integrate Aspen HYSYS with External Tools and Data: Explore the integration of Aspen HYSYS with other software and process monitoring and control systems.
- Optimize Plant-wide Operations: Discover techniques to integrate multiple process units and identify global optimization opportunities for plant-wide efficiency.
- Implement Best Practices: Acquire guidelines and best practices for successful process optimization projects and overcoming common challenges.

Target Audience

This training program is ideal for the following professionals:

- Chemical engineers seeking to enhance their expertise in process optimization and simulation.
- Process engineers aim to optimize various process units and improve overall plant performance.
- Operations managers and plant supervisors responsible for increasing operational efficiency and productivity.
- Production team members involved in process optimization projects and seeking to improve process design and operations.
- Professionals from diverse industries are seeking to leverage Aspen HYSYS for process optimization and efficiency improvement.

Training program outline

Day 1: Introduction to Aspen HYSYS and Process Simulation Basics

Session 1: Introduction to Aspen HYSYS

- Overview of Aspen HYSYS capabilities
- Navigating the user interface
- Creating and managing simulation files

Session 2: Setting up Process Simulations

- Defining components and thermodynamic models
- Building process flowsheets
- Specifying operating conditions and equipment parameters

Session 3: Simulation and Analysis

- Running simulations and interpreting results
- Analyzing process behavior and performance
- Identifying key performance indicators KPIs

Day 2: Process Optimization Techniques

Session 4: Identifying Process Bottlenecks

- Understanding process constraints and bottlenecks
- Using sensitivity analysis to identify critical parameters.
- Optimal operation targets and constraints

Session 5: Advanced Equipment Modeling

- Modeling complex equipment e.g., distillation columns, heat exchangers
- Troubleshooting and optimizing equipment performance

Session 6: Heat Integration and E

- Pinch analysis for heat exchanger network design
- Minimizing energy consumption and utility usage

Day 3: Advanced Process Optimization Techniques

Session 7: Advanced Process Optimization Strategies

- Steady-state optimization techniques
- Dynamic simulation and optimization
- Real-time optimization RTO concepts

Session 8: Optimization under Uncertainty

- Dealing with uncertain parameters in simulations
- Monte Carlo simulations for uncertainty analysis

Session 9: Integration with External Tools and Data

- Importing and exporting data from/to Excel and other software.
- Integrating Aspen HYSYS with process monitoring and control systems

Day 4: Advanced Equipment and Plant-wide Optimization

Session 10: Advanced Equipment Optimization

- Detailed modeling and optimization of specific equipment
- Advanced distillation column optimization techniques

Session 11: Plant-wide Optimization

- Integrating multiple process units for plant-wide optimization
- Identifying global optimization opportunities

Session 12: Optimization Case Studies

- Real-world case studies of successful plant-wide optimization projects

Day 5: Advanced Optimization Strategies and Best Practices

Session 13: Multidisciplinary Optimization

- Integrating process, mechanical, and control optimization
- Collaborative optimization approaches

Session 14: Advanced Control Strategies

- PID tuning for optimized operation.
- Model predictive control MPC integration with Aspen HYSYS

Session 15: Best Practices and Implementation Strategies

- Guidelines for successful process optimization projects
- Overcoming common challenges in the implementation.

Session 16: Course Summary and Wrap-up

- Review of key concepts and takeaways from the training program
- Q&A session and closing remarks.

Registration form on the Training Course: Optimizing Process Operations with Aspen HYSYS - EHY202

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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