MERCURY

Aspen HYSYS Learning Course

21 - 25 Oct 2024
Barcelona (Spain)

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Amman - Jordan: +962 785 666 966
London - UK: +44 748 136 28 02

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Aspen HYSYS Learning Course

Ref.: 15682_320478 **Date:** 21 - 25 Oct 2024 **Location:** Barcelona (Spain) **Fees:** 5500 **Euro**

Introduction:

The Aspen HYSYS Learning Course is a comprehensive five-day program that delivers in-depth knowledge and hands-on skills for using Aspen HYSYS, one of the leading process simulation software applications crucial for professionals in industries such as oil and gas, petrochemical, and chemical engineering. Participants to navigate and harness the core functionalities of Aspen HYSYS.

Key focus areas include process modeling, simulation, optimization, and troubleshooting. In this Aspen HYSYS Learning program, participants will have a robust foundational understanding of Aspen HYSYS that will enable them to effectively implement the software in real-world industrial scenarios, thereby improving processes in terms of efficiency, safety, and profitability.

What is Aspen HYSYS and Its Applications? Aspen HYSYS is a leading simulation software for process design, optimization, and performance modeling. Its capabilities are instrumental in oil and gas production, refining, petrochemicals, and natural gas processing. This software is pivotal for engineers and professionals aiming to improve operational efficiencies, ensure safety, and troubleshoot process challenges.

Participants in this Aspen HYSYS training will have the skills to operate Aspen HYSYS software proficiently. They will receive an Aspen HYSYS certification that will validate their acquired abilities to potential employers and within their professional industry network, acknowledging their competence in using this simulation tool to tackle complex process engineering challenges.

Targeted Groups:

- Process, Chemical, and Petroleum Engineers.
- Plant Operators.
- Simulation Specialists.
- Process Design Engineers.
- Technical Managers.
- Project Engineers in the Oil and Gas Industry.
- Refinery Engineers.
- Professionals involved in process optimization and safety management.

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Course Objectives:

At the end of this Aspen HYSYS learning course, participants will be capable of the following:

- Developing proficiency in navigating the Aspen HYSYS interface.
- Understanding and employing principles of process simulation.
- Constructing and simulating intricate process models.
- Running dynamic simulations for process control purposes.
- Optimizing process design and operational efficiencies.
- Sizing and analyzing the performance of process equipment.
- Integrating heat exchange systems with efficacy.
- Troubleshooting and resolving process-related complications.
- Leveraging rigorous process simulation to improve overall safety.
- Creating detailed reports and conducting thorough data analyses.

Targeted Competencies:

By At the end of this Aspen HYSYS training course, participants will be capable of the following:

- Process Simulation.
- Dynamic Modeling.
- Process Optimization.
- Heat Integration.
- Equipment Sizing and Design.
- Troubleshooting Techniques.
- Safety and Risk Analysis.
- Data Analysis and Reporting.
- Enhancing Energy Efficiency.
- Advanced Technical Problem-Solving Skills.

Course Content:

Unit 1: Propane Refrigeration Loop:

- Construct flowsheets by adding and connecting operations.
- Manipulate the graphic interface for clearer process representation.
- Understand both forward and backward information propagation.
- Transform simulation cases into reusable templates.
- Workshop: Building and analyzing a propane refrigeration loop simulation.

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Unit 2: Refrigerated Gas Plant:

- Install and converge various types of heat exchangers.
- Employ logical operations, including Adjust and Balance functions.
- Workshop: Modeling a simplified refrigerated gas plant.

Unit 3: NGL Fractionation Train:

- Utilize the Column Input Expert to model distillation towers effectively.
- Tailor column specifications for unique process demands.
- Calculate utility requirements through the Process Utility Manager.
- Workshop: Simulating an NGL recovery plant with multiple distillation columns.

Unit 4: Oil Characterization and HP Separation:

- Introduction to Oil Characterization within Aspen HYSYS.
- Implement the Aspen HYSYS Spreadsheet and Case Study tools.
- Workshop: Oil characterization and analysis of GOR variation under pressure with the spreadsheet operation.

Unit 5: Gas Gathering System:

- Modeling a gas gathering system with Aspen HYSYS steady-state simulation.
- Workshop: Implementing pipe segments and using the Hydraulics subflowsheet to model a piping network system.

Unit 6: Two-Stage Compression:

- Examining the process of incorporating recycling operations within simulations.
- Identify strategic locations for effective recycling implementations.
- Integrating performance curves for rotating equipment.
- Workshop: Creating a two-stage compression process and applying active compressor curves.

Unit 7: Natural Gas Dehydration with TEG:

- Discussing methods for saturating hydrocarbon streams.
- Understanding hydrate formation and inhibition techniques.
- Simulating a TEG dehydration unit.
- Workshop: Investigating methanol injections' effects on hydrate formation using a TEG dehydration model.

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Unit 8: Rating Heat Exchangers:

- Delving into heat transfer calculations with Aspen HYSYS.
- Rating shell and tube heat exchangers using specific models.
- Incorporating EDR calculations seamlessly into process flowsheets.
- Workshop: Examining heat exchanger performance and suitability using Rating models and EDR tools.

Unit 9: Troubleshooting / Best Practices:

- Highlighting best practices for leveraging product integration and automation.
- Investigating common simulation challenges and effective troubleshooting strategies.
- Identifying the most suitable thermodynamic models for specific processes.
- Learning advanced simulation debugging techniques.
- Workshop: Addressing challenges and troubleshooting within Aspen HYSYS simulation cases.

Unit 10: Reporting in Aspen HYSYS:

- Creating customized reports via the Report Manager.
- Utilizing Excel utilities to simplify data extraction from simulations.
- Integrating models with Excel using Aspen Simulation Workbook.
- Workshop: Generating tailored reports using Report Manager, Excel, and the Aspen Simulation Workbook.

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Registration form on the :
Aspen HYSYS Learning Course

code: 15682 **From:** 21 - 25 Oct 2024 **Venue:** Barcelona (Spain) **Fees:** 5500 **Euro**

Complete & Mail or fax to Mercury Training Center at the address given below

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