

Aspen HYSYS® Study Guide

Study Guide for **Master** User Certification
for Upstream and Safety



Prove your Credibility

An **Aspen Certified Master User in Aspen HYSYS for Upstream and Safety** demonstrates comprehensive understanding and mastery of the product’s features. Additionally, they can build complex models in both steady-state and dynamic simulation mode and interpret results and resolve simulation issues with minimal guidance.



For the lab section of the exam, upstream, energy analysis, dynamic application and column models will be covered.

Exam Scope

- Advanced Aspen HYSYS Topics
- Upstream Applications
- Safety Analysis
- Dynamic Simulation
- Column Convergence

Step 1: Take the Class:

- [Aspen HYSYS Dynamics: Introduction to Dynamic Modeling](#)

AspenTech offers a variety of delivery methods in which you can take training.

- Register for [public training](#) (face to face or virtual)
- Register for [private training](#) (face to face or virtual)
- Subscribe to [eLearning](#) (on-demand)

Grading

Grade	Weight
Multiple choice questions	35%
Lab Task	65%
Total	100%

Step 2: Review Scope and Objectives

This **study guide** covers **all the objectives** for the Aspen HYSYS Master User Certification exam and serves as both a study tool and an on-the-job reference.

Step 3: Take the Exam: **Aspen HYSYS Master User Certification for Upstream and Safety (ACMU-HYSYS01)**

The total time for the certification exam is four hours.
The passing score is 70%

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SCOPE	TECHNICAL CONTENT	TEST OBJECTIVES
Dynamic Simulation	General	Understand the basics of dynamic simulation
		Recognize dynamics details for better performance
	Dynamics modeling development	Master the techniques required for dynamic modeling development
		Set up control schemes and monitor key parameters
		Develop scenarios with Event Scheduler and CEM
		Familiarize Columns dynamic modeling conversion
		Understand Pipeline and Hydraulics dynamic modeling
	Compressors in dynamics	Know how to do Surge Analysis in dynamic modeling
Recognize how to model multiple Compressor types (Screw / Reciprocator)		
Activated Integration	Economic Evaluation	Perform preliminary economic cost estimation
	Energy Analysis	Understand the features of Energy Analysis
		Recognize how to explore and implement design changes, then optimize energy efficiency
		Know how to implement new utility types in energy analysis
	Aspen Exchanger Design and Rating	Integrate exchangers except Shell and Tube with EDR for rigorous modeling
	Aspen Flare System Analyzer	Identify the options of transferring PSVs from HYSYS to Aspen Flare System Analyzer
	Aspen Simulation Workbook	Know how to integrate HYSYS with ASW
Greenhouse Gas Emissions	Understand CO2 equivalent calculation and carbon tax calculation and settings	
Steady State	Optimization and Data Fit	Illustrate the workflow of setting up Original and SQP optimizers
		Understand the configuration and features of Data Fit
	Compressor Surge Analysis	Understand the settings, features and know how to apply into simulation
	Correlation Manager	Utilize Correlation Manager to get non-standard correlations
	Separator Carryover	Familiarize basics of three carryover options and explore the available results
		Perform carryover calculation to minimize data discrepancy from reality

	EO Modeling	Understand the basics of EO modeling
	Property Package Customization	Configure Tabular Props to better fit experimental data
		Comprehend how to resolve flash failure or suspicious results with stab test options
		Customize property methods within Options of fluid packages
	Hydraulics	Conduct flow regime analysis and choke flow
	Reaction	Explore the reaction types and configurations
		Configure the reactors with reactions and explore the results
	Equipment Design	Utilize Equipment design for line and vessel sizing
	Register Extension	Identify the workflow of extension development and implementation
	Column Operations	Recognize technics to fit column results with plant data
Familiarize the available Side Operations and converge columns (atmospheric/vacuum)		
Identify troubleshooting parameters in Column Analysis to resolve hydraulics issues		
Safety Analysis	Blowdown	Master Blowdown basics
		Understand Stagger blowdown
Sustainability	Acid Gas Removal	Recognize the configuration of advanced calculation type of acid gas removal
	Alkaline electrolysis	Configure electrolyzer and explore the results