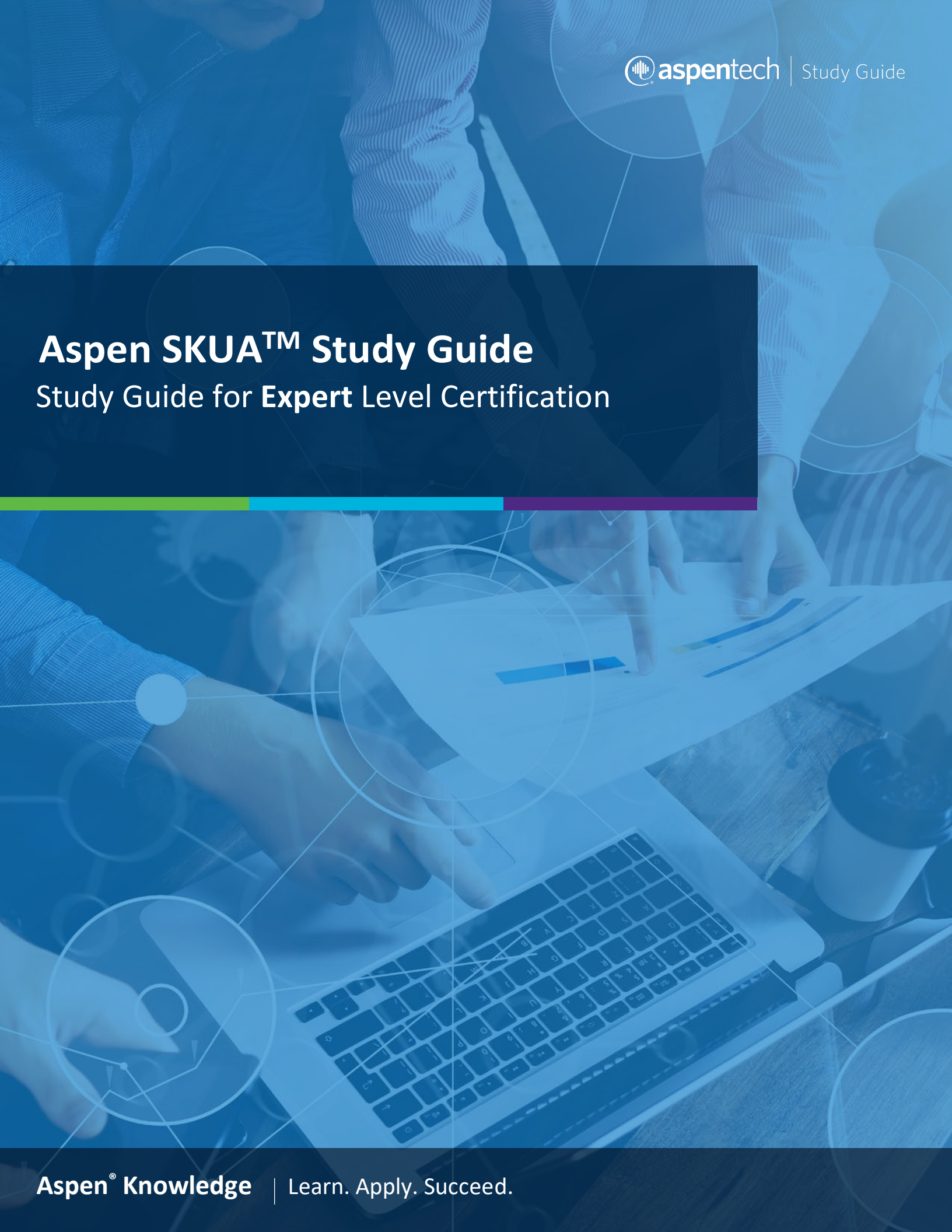

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Aspen SKUA™ Study Guide

Study Guide for **Expert** Level Certification

Aspen® Knowledge | Learn. Apply. Succeed.

Exam Scope for Aspen SKUA Data Analysis and Property Modeling Expert User Certification Exam (ACEU-SKG01)

- ☐ Reservoir Modeling Challenges
- ☐ Data and Trend Analysis Workflow Overview
- ☐ Selecting Data for Analysis
- ☐ Representative Statistics
- ☐ Data Blocking and Weighting
- ☐ Capturing and Describing Trends
- ☐ Property Modeling Overview
- ☐ Simulation Input Parameters
- ☐ Simulation and Interpolation Methods
- ☐ Managing and Running Simulations
- ☐ Reservoir Volumes and Post-processing
- ☐ Optimizing Reservoir Modeling

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Prove you Credibility

An Aspen SKUA Expert Certified User has a solid understanding of the Data Trend Analysis and the Property Modeling workflows and can use them effectively. They can establish representative statistics, capture and describe trends, upscale well data and generate resources to serve as secondary data for constraining property models. With a strong grasp of geostatistical techniques, they can apply them confidently to model facies and petrophysical properties. They are also able to analyze results and refine and optimize their models accordingly.

Step 1: Take the Class: Data Analysis and Property Modeling using Aspen SKUA (SKG202) – 2 days

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)

Step 2: Review Scope and Objectives

This study guide covers all the objectives for the Aspen SKUA Data Analysis and Property Modeling Expert User Certification exam and serves as both a study tool and an on-the-job reference.

Step 3: Take the Exam: Aspen SKUA Data Analysis and Property Modeling Expert User Certification (ACEU – SKG01)

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

SCOPE	TECHNICAL CONTENT	COMPETENCY OBJECTIVE
Reservoir Modeling Workflows Challenges	SKUA Workflows	**Identify** Aspen SKUA solutions for analyzing data and modeling properties
		Demonstrate an understanding of the overall purpose of the Data and Trend Analysis (DTA) workflow
		Demonstrate an understanding of the overall purpose of the Reservoir Properties (RP) workflow
		Understand the advantages of using the Data and Trend Analysis workflow
	Reservoir Modeling Challenges and Techniques	**Recognize** the main challenge in modeling property using different input data types.
		Understand why geostatistical techniques enhance reservoir modeling reliability
Data Trend Analysis Workflow Overview	Workflow outputs	**Identify** outputs computable with the Data and Trend Analysis workflow.
Selecting Data for Analysis	Properties to Analyze	**Understand** what the properties to analyze correspond to
	Property Types and Settings	**Identify** the reason for missing measurement representation options in the Select Data panel
		Understand the impact of the property type when selecting data
	Domains	**Select** domains of analysis
Representative Statistics	Histograms	**Define** what is a histogram
		Recognize the need for histogram smoothing in reservoir analysis
		Apply plot layout for visualizing histograms
		Use results from histogram computation to make informed decisions
		Identify how data can be saved as resource objects from the DTA workflow
Data Blocking and Weighting	Upscaling Well Data (Data Blocking)	**Recognize** the main challenge when blocking data
		Understand the advantages of blocking data in the DTA workflow.
		List the various uses of blocked data in data analysis and property modeling
		Identify how to visualize blocked data from the DTA workflow

SCOPE	TECHNICAL CONTENT	COMPETENCY OBJECTIVE
		Understand the advantage of the Nearest to Cell Center blocking method
		Recognize the reason for using filter when blocking data
	Removing Sampling Bias (Data Weighting)	**Explain** data weighting
		Explain the cell-declustering method
		Recognize the output generated by cell-declustering in the DTA workflow
Capturing and Describing Trends	VPC (Vertical Proportion Curve) and VTC (Vertical Trend Curve)	**Understand** the goal of computing Vertical Proportion Curves
		Demonstrate an understanding on how to use VPC to inform subsurface modeling decisions
	2D Proportion and Trend Maps	**Explain** how to save proportion or trend maps from the DTA workflow
	3D Proportion Cubes	**Identify** the input needed to compute 3D proportion cubes
		Identify how are 3D proportion cubes saved as
	Bivariate Analysis	**Explain** the purpose of performing bivariate analysis
		Demonstrate an understanding of the Bivariate Analysis task in the DTA workflow
Property Modeling Overview	Process	**Define** the recommended sequence for analyzing properties
	Secondary data	**Identify** when to use secondary data
Simulation Input Parameters	General Parameters	**List** container types for property modeling in the Reservoir Properties workflow.
		Identify the type of 3D Grid that best supports property modeling
	Horizon modeling	**Understand** which output from the Data Trend Analysis workflow is best for conditioning data in property simulation.
		Specify rock type proportions in the Reservoir Properties workflow.
		Identify the tool used for quantifying spatial correlation
Simulation and Interpolation Methods	Geostatistical algorithms	**Assess** geostatistical algorithm applicability in Aspen SKUA
		Understand the difference between interpolation and simulation
		Explain what an unconditional simulation is
		Recommend the best simulation method for a specific configuration

SCOPE	TECHNICAL CONTENT	COMPETENCY OBJECTIVE
		List the differences between Sequential Indicator Simulation and Truncated Gaussian methods
		Identify which simulation method allows varying the variogram model by range
		Explain the advantages of using Gaussian for property modeling
		Identify cases when Sequential Gaussian Simulation is not recommended
		Understand the advantage of Cloud Transform over classical Porosity/Permeability transforms.
	Detrending	**Identify** why data may need to be detrended
		Explain the process when modeling a property using detrending
Managing and Running Simulations	Transition zone	**Define** the parameters needed to create a transition between facies ranges.
	Outputs	**Identify** the outputs of the Reservoir Properties workflow
Reservoir Volumes and Post-processing	Volume Computations	**Explain** how to compute reservoir volumes in Aspen SKUA
		List the features available when computing reservoir volumes in Aspen SKUA
	Post-processing options	**Identify** post-processing operations
		Identify how to compute most frequence occurrence of a property
		Understand the purpose of connectivity analysis
		Identify what geobodies correspond to in Aspen SKUA
Optimizing Reservoir Modeling	Refine Model	**Explain** how to improve reservoir modeling studies
	Aspen SKUA proposition	**Describe** Aspen SKUA solution for data analysis and property modeling