

# Siemens Xcelerator Academy: On-Demand Training

Thursday, March 17, 2022 5:04 PM

Designed for test engineers. You will learn about Simcenter Testlab and Tecware. You will work with different modules of Testlab, a complete integrated solution for test-based engineering. You will also learn about load data processing using Simcenter Tecware.

- 12 month subscription
- Access to cloud-based environment for hands-on lab exercises
- Access to new training content added during the subscription period
- Knowledge assessments to measure learning progress

*On-Demand Training - Testing solutions using Simcenter*

*Simcenter Testlab Component-based TPA 3 Chapters*

Introduction and overview of TPA and Component-based TPA and its applications.

[1 Basic Concepts 10 Topics](#)

1. Transfer Path Analysis for NVH
2. Load Identification Methods
3. Mount Stiffness Methods
4. Matrix Inversion Methods
5. Single Path Inversion Methods
6. Visualizing TPA Results
7. Interpreting TPA Results
8. Classical vs Component-based TPA results
9. Knowledge Check: TPA Basic Concepts
10. Lab: Build TPA model

[2 Component-based TPA 7 Topics](#)

1. Component-based TPA theory
2. Measurement challenges in Component-based TPA
3. Independent source characterization
4. Virtual system assembly
5. Component-based TPA using Free Velocities
6. Knowledge Check: Component-based TPA
7. Lab: Building a Component TPA Model

[3 Assessment: Component-based TPA 1 Topic](#)

1. Assessment: Component-based TPA

*Introduction to Simcenter Testlab Desktop Neo 4 Chapters*

Introduction to Simcenter Testlab Desktop Neo features and its functionalities.

[1 Introduction to Desktop Neo 12 Topics](#)

1. Tasks and Add-ins
2. Desktop Neo Layout
3. Project structure and data interoperability
4. Configuration and Unit system tools
5. Help Features
6. Home Ribbon Features
7. The pivot table and data visualization
8. Create and edit displays
9. Display features demonstration
10. Import and sync an external video
11. Lab - Desktop Neo
12. Knowledge Check - Introduction to Desktop Neo

## 2 Overview of Reporting Capabilities 7 Topics

1. General features about reporting
2. Data Lookup
3. Using Queries for Reporting
4. The Report Format
5. Efficient Reporting with the Report Format
6. Lab - Create reports
7. Knowledge Check - Reporting Capabilities

## 3 Simcenter Testlab Neo Process Designer 7 Topics

1. Process Designer Overview
2. Ribbon Features
3. Properties of Methods
4. Process Designer Methods
5. Building a process
6. Lab - Design a process
7. Knowledge Check - Neo Process Designer

## 4 Assessment - Introduction to Simcenter Testlab Desktop Neo 1 Topic

1. Assessment - Introduction to Simcenter Testlab Desktop Neo

### *Simcenter Testlab Neo Durability processing 5 Chapters*

Introduction to the concepts and methods in Testlab Neo Durability Processing

## 1 Durability processing and data consolidation 6 Topics

1. Durability processing overview
2. Data consolidation
3. Rename channels
4. Anomaly correction
5. Lab - Anomaly correction
6. Knowledge check - Durability processing and data consolidation

## 2 Counting Methods 7 Topics

1. Basics of counting methods
2. Four-Point Algorithm
3. Rainflow Damage Calculation
4. Additional Counting Methods
5. Using counting methods in Process Designer
6. Lab - Counting methods
7. Knowledge Check - Counting methods

## 3 Analysis and Modification Methods 4 Topics

1. PSD and Filter Methods
2. Superposition
3. Lab - Analysis Methods
4. Knowledge Check - Analysis and Modification Methods

## 4 Accelerated Testing 4 Topics

1. Basics of Time Compression
2. Damage-Based Time Compression
3. Lab - Compressing time signals
4. Knowledge Check - Accelerated Testing

## 5 Assessment: Simcenter Testlab Neo Durability processing 1 Topic

1. Assessment: Simcenter Testlab Neo Durability processing

### *Load data analysis with Simcenter Tecware 7 Chapters*

Get an overview of Simcenter Tecware and its methods to perform load data analysis

## 1 Learning Experience Overview 2 Topics

1. Welcome: Navigation Overview
2. Load data analysis with Simcenter Tecware Intro

## 2 Simcenter Tecware Desktop 9 Topics

1. Simcenter Tecware Overview
2. Data import options
3. Demo of data import
4. Data Set display
5. Desktop Additional Features
6. Demo of Data Handling
7. Data Conversion
8. Lab: Desktop Data Set
9. Knowledge Check: Tecware Desktop

## 3 Time Data Viewing and Editing 10 Topics

1. TimeEdit Overview
2. Data Display Options
3. Demo of Displaying Data
4. Lab - Statistical Values
5. Lab - Signal Display
6. Select signal and intervals
7. Data Editing Options
8. Demo of Data Editing
9. Lab: Signal Modification
10. Knowledge Check: TimeEdit

## 4 Analysis Methods 11 Topics

1. Analysis Methods Overview
2. Lab: Signal Calculation
3. General Analysis Methods
4. Lab: Gear ratio analysis
5. Anomaly Processing
6. Demo of Drift Correction
7. Time Data Filtering
8. Spectral Analysis
9. Demo of Filtering and Result Display
10. Lab: Filter Methods
11. Knowledge Check - Analysis Methods

## 5 Counting Methods 10 Topics

1. Basics of counting
2. 4-point Algorithm
3. Rainflow display and damage
4. Additional counting methods
5. Demo of counting and displaying Rainflow matrices
6. Lab - Signal decomposition and damage
7. Lab - Frequency content and damage
8. Rainflow modification methods
9. Lab - RainEdit
10. Knowledge Check - Counting Methods

## 6 Reporting 6 Topics

1. Standard reports
2. Layout builder
3. Demo to create a new report
4. Lab - Layout builder
5. Knowledge Check - reporting
6. Thank you for watching Load data analysis with Simcenter Tecware

## 7 Assessment: Load data analysis with Simcenter Tecware 1 Topic

1. Assessment: Load data analysis with Simcenter Tecware

Learn to shorten the time signals for the test rig runs and modify the Rainflow data to create target histograms in the Simcenter Tecware.

#### 1 Rainflow manipulation 5 Topics

1. Rainflow superposition
2. Lab: Compare superposition results
3. Rainflow extrapolation
4. Lab: Extrapolating matrices
5. Knowledge Check: Rainflow Manipulation

#### 2 Damage-based time compression 5 Topics

1. Basics of time compression
2. Time compression with pre-defined processes
3. Lab: RP-filtering target damage
4. Multi-axial RP-Filter
5. Knowledge Check: Damage-based time compression

#### 3 Assessment: Accelerated testing and test schedule optimization 1 Topic

1. Assessment: Accelerated testing and test schedule optimization

#### *Introduction to Simcenter Testlab Desktop Neo - 2021.1 4 Chapters*

Introduction to Simcenter Testlab Desktop Neo features and its functionalities.

#### 1 Introduction to Desktop Neo - 2021.1 12 Topics

1. Tasks and Add-ins
2. Desktop Neo Layout
3. Project structure and data interoperability
4. Configuration and Unit system tools
5. Help Features
6. Home Ribbon Features
7. The pivot table and data visualization
8. Create and edit displays
9. Display features demonstration
10. Import and sync an external video
11. Lab - Desktop Neo
12. Knowledge Check - Introduction to Desktop Neo

#### 2 Overview of Reporting Capabilities - 2021.1 7 Topics

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3. Using Queries for Reporting
4. The Report Format
5. Efficient Reporting with the Report Format
6. Lab - Create reports
7. Knowledge Check - Reporting Capabilities

#### 3 Simcenter Testlab Neo Process Designer - 2021.1 7 Topics

1. Process Designer Overview
2. Ribbon Features
3. Properties of Methods
4. Process Designer Methods
5. Building a process
6. Lab - Design a process
7. Knowledge Check - Neo Process Designer

#### 4 Assessment - Introduction to Simcenter Testlab Desktop Neo - 2021.1 1 Topic

1. Assessment - Introduction to Simcenter Testlab Desktop Neo

#### *Introduction to Simcenter Testlab Desktop Neo - 2019.1 4 Chapters*

Introduction to Simcenter Testlab Desktop Neo features and its functionalities.

## 1 Introduction to Desktop Neo - 2019.1 12 Topics

1. Tasks and Add-ins
2. Desktop Neo Layout
3. Project structure and data interoperability
4. Configuration and Unit system tools
5. Help Features
6. Home Ribbon Features
7. The pivot table and data visualization
8. Create and edit displays
9. Display features demonstration
10. Import and sync an external video
11. Lab - Desktop Neo
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## 2 Overview of Reporting Capabilities - 2019.1 5 Topics

1. General features about reporting
2. Generate Batch Report
3. Reporting functionalities demonstration
4. Lab - Create reports
5. Knowledge Check - Reporting Capabilities

## 3 Simcenter Testlab Neo Process Designer - 2019.1 5 Topics

1. Process Designer Features
2. Process Designer Ribbon Features
3. Building a process
4. Lab - Design a process
5. Knowledge Check - Neo Process Designer

## 4 Assessment - Introduction to Simcenter Testlab Desktop Neo - 2019.1 1 Topic

1. Assessment - Introduction to Simcenter Testlab Desktop Neo