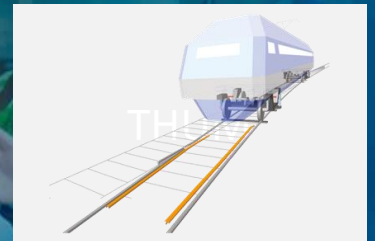


SIMPACK RAIL

SIMULIA COURSE DESCRIPTION



Level: Advanced
Products: Simpack
Disciplines: Motion & Multibody System

Audience

- Simulation analysts and design engineers in the railway industry
- Multibody simulation experts with no previous experience of railway simulation in Simpack

Why take this course?

The Simpack Rail training explains how to use Modeling Elements to simulate rail-wheel contact, how to set up entire vehicle models, and the most important analysis types for rail vehicles. It also introduces rail vehicle specific elements such as tracks, irregularities, wheel and rail profiles as well as suspension elements.

What will you learn?

Upon completion of this course you will be able to:

- Understand all necessary elements for railway modeling
- Set up railway vehicles according to common

concepts

- Set up, run and analyze typical applications for railway models

Explore Your Learning Options

Live Sessions	Engage in Real-Time, interactive group workshops guided by experts. Learn and collaborate live in your preferred language and time zone.	Join a live session
On-Demand Learning	Access expert-designed courses anytime, anywhere. Perfect for independent learners looking to build skills on their schedule.	Start Learning Now
Private Training	Exclusive, tailor-made sessions designed to meet your team's unique goals with expert guidance.	Contact Us for Custom Training



Gain hands-on experience and master real-world workflows through guided, practical training sessions.

The course helps you make dynamic simulation data consistent and reusable across projects.

– SIMULIA Training Expert Team

What You Need to Know Before Starting

- Before undertaking this course, you should have completed the Introduction to Simpack training course
- Familiarity with fundamental railway theory is recommended

Agenda for Virtual Live Sessions

Participate in hands-on, real-time workshops where you'll gain practical expertise. Here's what you'll cover:

[Join an Instructor Led Session](#)

Day 1

Lesson 1: Basic Elements
Lesson 2: Plots and Outputs
Lesson 3: Track Settings
Workshop 2: Track Definition
Lesson 4: Suspension Modeling
Workshop 3: Full Vehicle
Lesson 5: Finalize Model Setup
Workshop 4: Preloads and Solver

Day 2

Lesson 6: Quasilinearization
Workshop 5: Calculate Eigenvalues
Lesson 7: Critical Speed
Workshop 6: Root Loci (Linear Critical Speed)
Workshop 7: Nonlinear Critical Speed
Lesson 8: Typical Applications
Workshop 8: Derailment
Workshop 9: Comfort Analysis
Workshop 10: Roll Coefficient
Lesson 9: Additional Rail Topics (optional)
Workshop 11: Independent Wheels (optional)
Workshop 12: Roller Rig (optional)
Workshop 13: Elastic Track Foundation (optional)
Workshop 14: Airspring (optional)

Want to Learn More?

Expand your knowledge by exploring our [course Catalog](#) and browsing learning paths on [Eduspace](#), our dedicated e-learning platform.

Join the Community!

[Join the SIMULIA community](#) to connect, learn, and stay updated.



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