VEHICLE DYNAMICS LIBRARY INTRODUCTION

This two-day course gives an Introduction to the usage of the Vehicle Dynamics Library. It teaches you how to configure vehicle models and subsystems. The course also practices how to set up different types of virtual experiments and teaches how to go beyond templates to define own models and set up customized templates.

THE COURSE COVERS THE FOLLOWING TOPICS:

VEHICLE AND SUBSYSTEMS
- Chassis and chassis components
- Geometric and tabular suspensions
- Steering systems, wheels and tires
- Engine, transmission and brake subsystems
- Drivelines and hybrid powertrains
- Active systems, sensor, actuators

VIRTUAL TESTING
- Creating 3D roads
- Configuring driver models
- Open and closed loop testing
- Steady state analysis
- Suspension tests, K&C analysis
- Tire tests
- Interfacing with Simulink
- Real-time simulation

CUSTOMIZATION
- Configuring template-based models
- Constructing user-defined templates
- Modeling beyond templates
- Incorporating user defined components in existing templates
- Managing signal flow using the signalBus
- Incorporating custom tire models
- Custom road and ground definitions
- Custom experiments

WHO SHOULD ATTEND?

The course is for users who wants a comprehensive introduction to the Dymola Vehicle Dynamics Library. Previous knowledge about Dymola corresponding to Dymola Introduction Course, Part I is assumed.

WHAT IS THE VEHICLE DYNAMICS LIBRARY?

The Vehicle Dynamics Library is a Modelica library for modeling, simulation and analysis of vehicle dynamics. It is available for Dymola and CATIA.

DAY 1
- Overview of VDL and its contents
- Setting up full vehicle experiments
- Constrained testing and export

DAY 2
- Configuring template-based models
- Modeling beyond templates
- Custom models

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Modelon is the leading provider of modeling and simulation solutions based on Modelica technology.