Modeling Driveline Systems with Simscape

Prerequisites

MATLAB Fundamentals , *Simulink for System and Algorithm Modeling*, and*Modeling Physical Systems with Simscape*

Day 1 of 1	
Introduction to Vehicle Modeling	**Objective:** Create and analyze vehicle body and tire models under various terrain, wind, and friction conditions. Vehicle body modeling Friction, wind, and terrain effects Sensing physical quantities Dividing model and measurements
Braking Systems	**Objective:** Model vehicle braking systems with built-in blocks and custom Simscape language components. Simscape Driveline brake blocks Measuring wheel quantities Custom brake model
Transmission Mechanisms	**Objective:** Build and test mechanical power transmission systems in Simscape Driveline. Actuating models with power sources Building driveline mechanisms Creating a multispeed transmission
Multidomain Drive and Control	**Objective:** Connect mechanical automotive models to other physical domains in Simscape and create realistic closed-loop control strategies. DC motor drive PWM actuation Closed-loop speed control