

# Chassis System Basics

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## Learning Made Simple, Visual, and Interactive

The THORS Chassis System Basics course explains the various architectures of a chassis system in a vehicle. This course provides a highly interactive learning experience on the different materials, mounting methods, and types of chassis systems used in vehicles. The principles behind how the chassis system operates and interacts with other systems are also covered.

Credit Hours **2**

## Learning Objectives

- Identify the different chassis system architectures.
- Compare the different materials used for different types of chassis systems.
- Explain the mounting methods used for chassis system components and other vehicle components.
- Understand the design variables and their importance in a chassis system.
- Understand how other vehicle systems interact with the chassis system.

## Table of Contents

### I. Chassis System Architectures

- **Unibody**
  - Unibody Components
    - Pillars
    - Beams
    - Panels
  - Unibody Materials
  - Unibody Mounting Methods
  - Unibody Types
    - Space Frame
    - Monocoque
- **Body on Frame**
  - Body on Frame Materials
  - Body on Frame Mounting Methods

### I. Chassis System Architectures (Cont.)

- Body on Frame Types
  - Channel Frame
  - Tubular Frame
- **Unibody with SubFrame**
  - Unibody with Subframe Materials
  - Unibody with Subframe Mounting Methods
  - Unibody with Subframe Types

### II. Chassis System Design Principles

- **Chassis System Design Variables**
  - Center of Gravity and Roll Axis
  - Wheelbase
  - Trackwidth

### II. Chassis System Design Principles (Cont.)

- Gross Vehicle Weight
- Force
- Materials variables
- **Chassis System Design**
  - Suspension System
  - Steering System
  - Braking System
  - Powertrain System

