



Raptor Systems Basic Training

Raptor Systems Basic Training is a 2-day course designed to expedite the new user onboarding process through an in-depth introduction to Raptor Development tools, general embedded systems, and model-based controls engineering. The class is hands-on and project-based, allowing users to gain familiarity with the Raptor Platform by building, deploying, calibrating, and refining a real-world control application.

Disclaimer: This is a typical agenda for this course. The time allocated to each topic is an estimate, and timings will vary from class to class as we adjust the depth of each section to meet the individual needs of the participants.

9:00AM

Introduction

- What is a Real Time System
- New Eagle Background

9:15AM

Raptor Systems Overview - Raptor Platform in eMBD

- Raptor Platform in eMBD
- Raptor Hardware Components
- Raptor Software Components
- Raptor System Application Development Process
- *Exercise 1: Flashing 1st Application to ECU*

11:15AM

Morning Break

11:25AM

Software Installation

- Compatibility & Installation
- License Viewer
- Raptor Configuration Editor

11:55AM

Lunch

12:40PM

Raptor - Cal & ECU Fundamentals

- Operating Principles & File Types
- Features & Calibration Workflow
- Raptor Controller Basics
- *Exercise 2: Raptor-Cal Handling*

2:45PM

Afternoon Break

2:55PM

Introduction to Raptor - Dev

- Raptor System Algorithm Workflow
- Model Preparation for Raptor Libraries
- Top Level Raptor Definition Blocks
- Raptor Adjustment, Measurement, Override Blocks
- Building the Application: RPG file
- *Exercise 3: Kit Setup, Simple Model Build & Flash*

5:00PM

Day 1 Class Ends

**9:00AM****Raptor - Dev Libraries**

- Timed Trigger, Application Monitoring, Tool Chain Definition Blocks
- Raptor IO, Table Axis, Interpolation Blocks
- Signal Characterization & Basic Control Strategy
- *Exercise 4: EV Project - Controls*
- PID Control
- *Exercise 5: EV Project - Controls with PID*

10:50AM**Morning Break****11:00AM****Fault Management**

- Fault Basics
- Raptor Fault Operation & Workflow
- Raptor Fault Blocks
- *Exercise 6: EV Project - Faults*

12:30PM**Lunch****1:30PM****CAN Communication**

- CAN Basics
- Raptor CAN Blocks
- *Exercise 7: Throttle Project - CAN*

3:30PM**Afternoon Break****3:40PM****Data Storage**

- Storage Types
- Data Store, Data Read, Data Write Blocks
- *Exercise 8: Data Storage*
- Contacting Support

5:00PM**Day 2 Class Ends**