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INNOVATIONS FOR SUSTAINABLE MOBILITY

AUTOMOTIVE CAN PROTOCOL BOOTCAMP

CAN IMPLEMENTATION IN ELECTRIC AND AUTONOMOUS VEHICLES

Course Preview

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This Bootcamp is a 10-hour real-time learning program ideal for beginners in the automotive software development space focused on Controller Area Network (CAN) communication protocol.

IEEE will be providing PDH/CEU certificates for all the participants who successfully complete this program.

Learn how CAN works in electric and autonomous vehicles, from the basics of developing the CAN application software using MBD methodology, serial decoding using USB oscilloscope, decoding CAN bus data using DBC files, and real-time CAN-based calibration of the torque-speed maps.

Domain Focus

VEHICLE COMMUNICATION NETWORK

COURSE TITLE

Automotive CAN Protocol Bootcamp

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Course Outline

CAN Implementation in Electric and Autonomous Vehicles

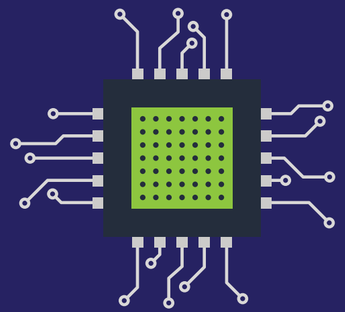
MODULE 1

Introduction to controller area network (CAN) and CAN 2.0 specifications

MODULE 2

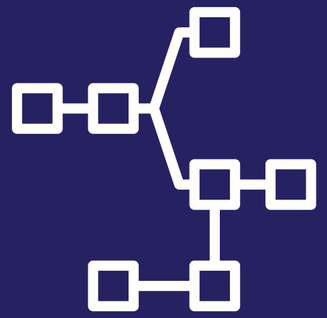
Understanding DBC (database CAN) files & multiplexing in CAN

MODULE 3



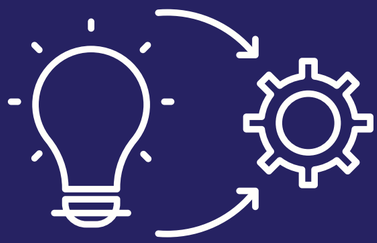
Introduction to Raptor, NXP libraries and FreeMaster for software flash & calibration over CAN

MODULE 4



Developing CAN application software for Dorleco and Bosch VCU in MATLAB-Simulink

MODULE 5



Understanding higher-level communication protocol (J1939) for commercial vehicles

Key Takeaways

IEEE CERTIFICATE

Take a quiz and successfully complete this program to get valuable Professional Development Hours (PDHs) under your belt.

COURSE MATERIAL

Take home all of the lecture notes, assignment solutions, Simulink model and relevant reference material.

LEARN ONE ADVANCED AUTOMOTIVE CONCEPT

Learn vehicle communication networks following standard automotive software development practices

LIVE DEMO OF HOW CAN PROTOCOL WORKS

Get to watch how CAN protocol works through a live calibration demonstration on a vehicle control unit

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Prerequisites

MATLAB

On-ramp:
https://in.mathworks.com/learn/tutorials/matlab-onramp.html

SIMULINK

On-ramp:
https://in.mathworks.com/learn/tutorials/simulink-onramp.html

STATEFLOW

On-ramp:
https://in.mathworks.com/learn/tutorials/stateflow-onramp.html

CONTROLS DESIGN

On-ramp:
https://in.mathworks.com/learn/tutorials/control-design-onramp-with-simulink.html

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Key Pointers

MINIMUM QUALIFICATION

Background in Mechanical/ Electrical/ Electronics/ Computer Engineering

METHOD OF DELIVERY

The program will be delivered completely online via zoom sessions

MATLAB/SIMULINK

License NOT required for the completion of this program

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Got questions?

WRITE TO

info@dorleco.com

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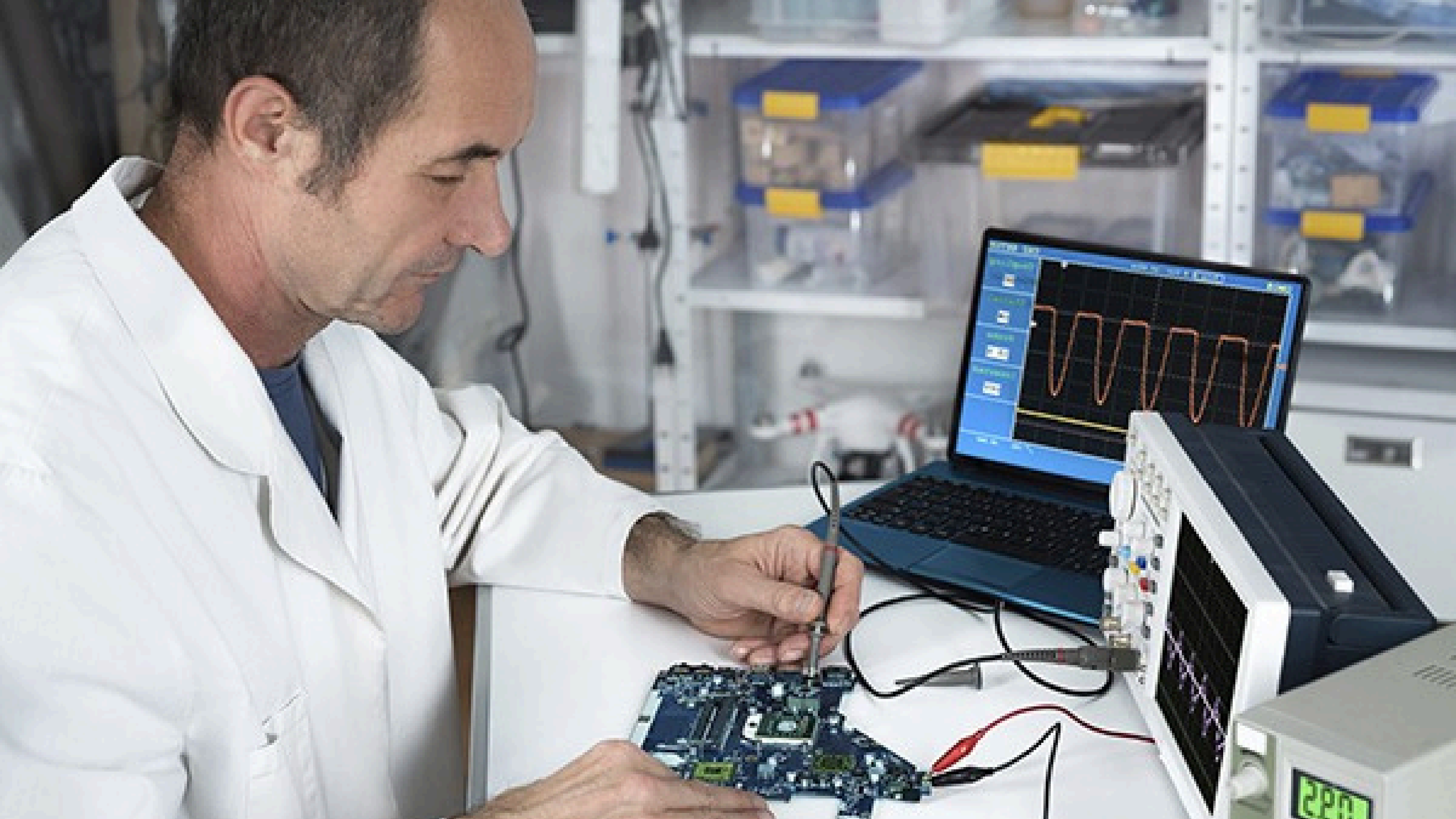
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