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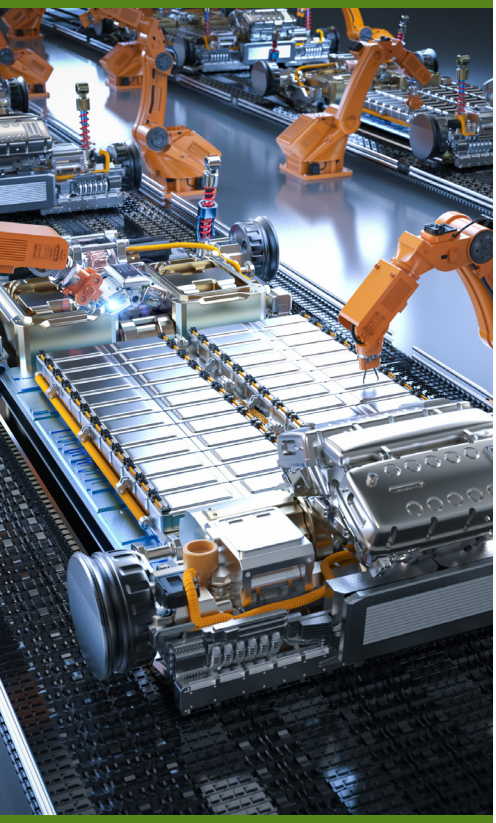
Master EV – **High Voltage, Thermal & Battery Systems** with Certification Program

Full Access to i GET IT's Complete Electric Vehicle Training Library

Earn an Individual Certificate for Each Topic Completed!



EV ESSENTIALS

- Introduction to Electrification in Mobility
- History of EVs and Battery Technology
- Core EV Components
- EV vs. ICE Powertrain Comparison
- Cost and Weight in EV Powertrains
- Functions of EV Components in Different Vehicle Types
- OEM Supply Chain Strategies
- Hybrid Electric Vehicle Architectures
- Electric Vehicle Architectures
- Well-to-Wheel Energy Efficiency of EVs & HEVs

25+ Hours of Learning

EV ENERGY STORAGE SYSTEM

- Energy Storage Requirements for Conventional and Electric Vehicles
- Characteristics of Automotive Energy Storage Systems
- Low Voltage Architectures in Modern Vehicles
- Battery Requirements for xEVs
- Construction and Operation of Energy Storage Systems
- Failure Modes and Challenges in Energy Storage
- Comparison of Energy Storage Systems
- Technology Roadmap for Automotive Energy Storage

30+ Hours of Learning

THERMAL MANAGEMENT SYSTEMS

- Introduction to Thermal Management in EVs
- Fundamentals of Heat Transfer and Thermodynamics
- Thermal Management of EV Batteries
- Motor and Power Electronics Thermal Management
- Cabin Climate Control in EVs
- Thermal Management System Components and Design
- Advanced Cooling and Heating Technologies
- Safety Considerations in Thermal Management
- Thermal Management for Fast Charging
- Case Studies and Industry Applications
- Future Trends in EV Thermal Management

40+ Hours of Learning

500+ Courses

100+ Assessments

200+ Hours of training

Engaging Video Training with Hands-On Projects

Skills-Based Learning Framework

Module Assessments

Flexible Learning Path

Expert Instructors

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BATTERY PACK DESIGN

- Guidelines for Designing a Battery Pack System
- Packaging the Battery Pack into Electric or Hybrid Vehicles
- Foundation for Electric Vehicle Battery Systems
- Understanding Battery Cell Chemistries for EV Applications
- Criteria for Selecting and Sizing Battery Cells
- Comparing Battery Types for Safety and Performance
- Mechanical and Electrical Packaging in Battery Packs
- Battery Pack Design Considerations for Thermal Management
- Application of Adhesives, Sealants, and Heat Transfer Materials
- International Standards for EV Battery Packs
- Design Considerations for Battery Recycling and Reuse
- Case Studies of Battery Packs from OEMs
- Recent Innovations in Battery Pack Design
- Technology Roadmap for Battery Pack Evolution
- Comprehensive Understanding of EV Battery Pack Systems

38+ Hours of Learning

BATTERY MANAGEMENT SYSTEMS

- Introduction to Battery Technology
- Battery Pack Architecture
- Battery Monitoring and Control
- State-of-Charge (SoC) Estimation
- State-of-Health (SoH) Assessment
- Cell Balancing
- Thermal Management
- Safety and Fault Diagnosis
- Communication and Networking Protocols
- BMS Integration and Testing

40+ Hours of Learning

HV VOLTAGE SYSTEMS IN EV

- In-depth Understanding of HV Systems in EVs
- Advanced Concepts in HV Systems
- Safety Considerations for HV Systems
- Cutting-edge HV Technologies
- Expertise Development in HV Systems for EVs

43+ Hours of Learning

500+ Courses

100+ Assessments

200+ Hours of training

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