

Wheels in Motion Workshop

EV Skills Training L1 with Cert



Hosted at: Linn-Benton Community College July 14-18, 2025

Dates: July 14-18, 2025 (starts at 8:30 AM daily)

Location:

Host Site Contact:

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Linn-Benton Community College
Advanced Transportation Tech Center (ATTC)
2000 W. Oak St Lebanon OR 97355

Automotive Building "A"
Room ATA-112



Accommodations (5-10 minutes from training site)

Best Western Premier Boulder Falls Inn

505 Mullins Drive
Lebanon, Oregon 97355 USA
Phone: (541) 451-1000
Website: [Link](#)

Valley Inn Motel

2885 S Santiam Hwy 20
Lebanon, Oregon 97355
Phone: (541) 258-8184
Website: [Link](#)



Lowest Rate: \$161.00/night+tax (as of Jan 2025)



Lowest Rate: \$94.00/night+tax (as of Jan 2025)

On Line Enrollment

\$2,690 Enrollment Cost includes training, lunch and snacks

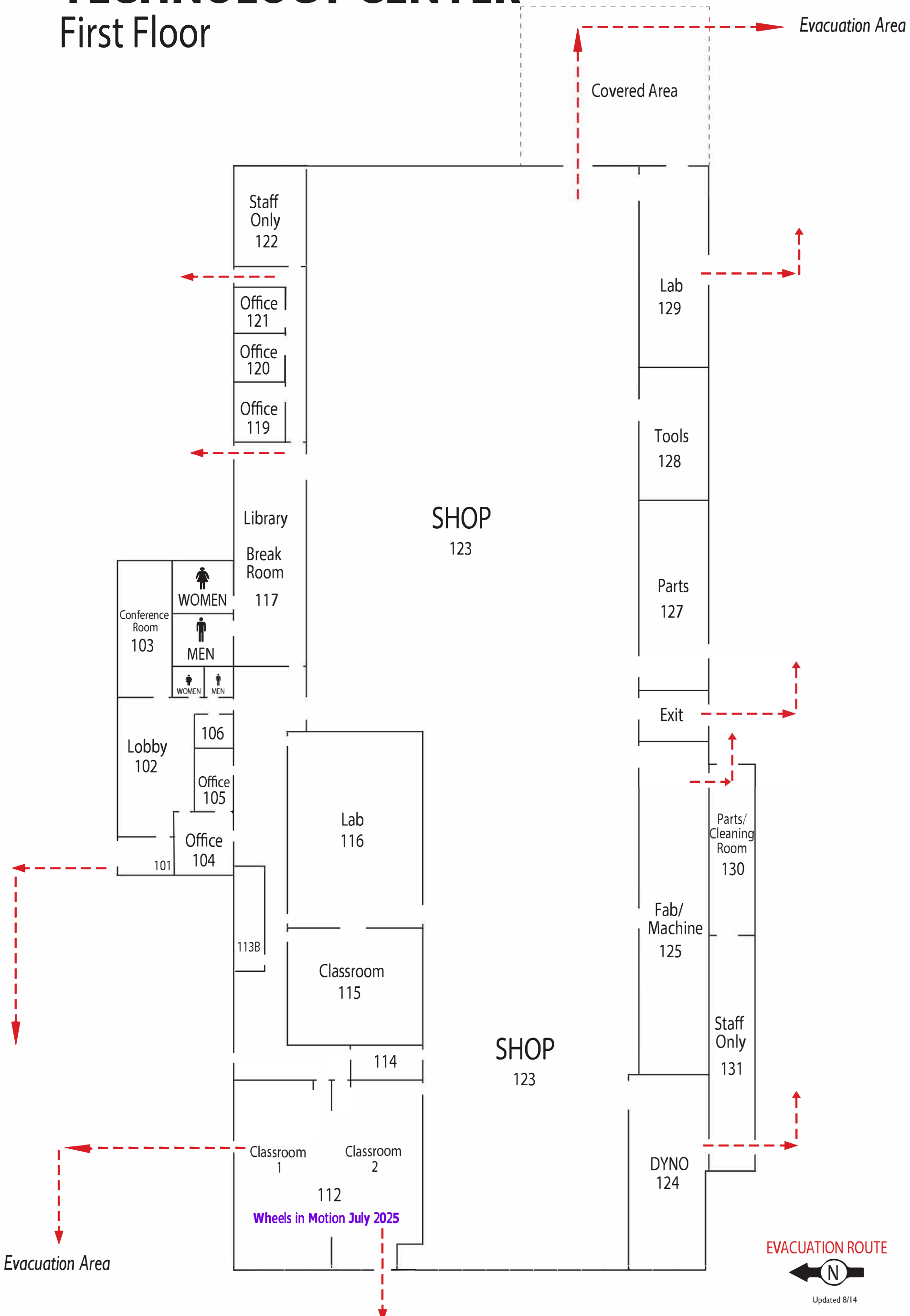
[CLICK HERE to Enroll](#) (OR) scan QR Code



email: wheelsinmotion@futuretechauto.com

ADVANCED TRANSPORTATION TECHNOLOGY CENTER

First Floor



EVACUATION ROUTE





5-Day EV SKILLS TRAINING WITH CERT WORKSHOP L1

Days 1-3: HV Systems SOH & Performance Testing Instructor: Dr. Mark Quarto

This area of the workshop covers how to test and diagnose the major High Voltage (HV) systems and components that are high probabilities areas for failure. The HV testing and diagnostics will focus on the systems/components using few special tools, scan tool, service information, and critical techniques to quickly test and service the problem. Learning the areas identified in this course will quickly add services that can be performed by technicians to identify and solve HV systems or components problems and solve customer complaints. Also covered are Electric Vehicle Supply Equipment (EVSE) and Battery Electric Vehicle (BEV) charging systems. EVSE charge levels, types, and connections will be reviewed. This course includes minimal lectures and is filled with demonstrations as a significant percentage of this training is dedicated to hands on lab-shop exercises on live vehicles.

Day 1 includes:

- Introduction and overview to HEV-BEV Technologies and Systems
- High Voltage Safety Systems and PPE Overview
- Identify Centralized vs. Decentralized Systems for Testing and Diagnostics
- How to Disable the HV System to perform de-energized tests
- Vehicle Isolation Fault System – Using Scan Tools and Vehicle Diagnostic System to locate and repair an Isolation Fault in a Drive Motor/Generator, Power Inverter Module, A/C Compressor/Heat Pump, DC-DC Converter, HV Battery Pack or, HV Cables
- Insulation Testing of HV Components – Using Insulation Tester & Service Information to properly perform Insulation Tests on HV components
- Inspection and Cleaning/State-of-Health (SOH) Inspection and Cleaning of the Battery Pack Cooling System – using typical tools found in the shop to perform SOH tests and maintain the Battery Pack Cooling System
- Drive Motor/Generator Testing Using Insulation Meter & Milliohmeter – perform two of most important tests on a Drive Motor/Generator to confirm an underlying failure modes.

Day 2 includes:

- HV Battery Pack Stress Testing – Most HV Battery Packs will cause fuel economy, low power or reduced range long before a MIL is illuminated. Using a Scan Tool or BATTSCAN Battery Tester, perform a Stress Test on the HV Battery (by using a specified drive cycle) to determine its SOH and if removal is needed for further service.
- Regenerative and Base Brake Test – Learn how to bypass the Regenerative Braking System (i.e., electric braking system) to test the vehicle base brake system to reduce testing & diagnostic time.
- HV Battery Pack Scan Tool PIDs and Output Function Tests – Identify Scan Tool PIDs and Special (Output) Functions to monitor the condition and perform tests on the HV Battery Pack System.
- Drive Motor/Generator SOH Testing – Using a special tool, perform 8 different tests in under 2 minutes on a Drive Motor/Generator Rotor and Stator to determine SOH and identify any potential looming failure modes.

Day 3 includes:

- DC-DC Converter Testing – Using a 12V Battery Load Tester, Amp Clamp, and Oscilloscope, DC-DC Converter tests are performed to determine its SOH and ability to provide electrical power to vehicle 12V loads
- Basic Electric Vehicle Supply Equipment (EVSE) system operation
- Charger types and charge levels
- AC and DC charging
- Common EVSE charge cable connectors
- Calculating charge rate and time
- Proximity Pilot circuit operation
- Control Pilot circuit operation
- Vehicle on-board chargers
- Diagnosing “no-charge” concerns

Days 4 and 5: Maintenance Services Instructor: Russ Hutton

Our hands on focused training event for technicians, service advisors, and service managers includes available maintenance services that can be performed on Hybrid Electric Vehicles (HEV) and Battery Electric Vehicles (BEV or EV) electrified. This event will target both technical and non-technical areas and presented as a “technician to technician” format. All the services discussed will not require the vehicle to be in a “safe” condition (i.e., vehicle disabled, and MSD removed, or Low Voltage Safety Switch opened, etc.). All services discussed can be performed without additional equipment or special tools required. This is hands-on focused and includes the following topics. **As part of the workshop, participants will be provided an HEV/EV Maintenance Program Template that can be utilized as a great starting point and is customizable.**

Day 4 – Systems Overview, Inspections, and More

- Overview of Hybrid Electric Vehicle (HEV) & Battery Electric Vehicle (BEV) Systems
- The difference in the inspection process for HEV vs BEV vehicles
- What services to look for on an EV vehicle
- Using a general inspection process template on live vehicles
- Maintenance intervals and services (what to look for and when to recommend)
- How to perform, and the simplicity of performing, the OEM recommended maintenance services.
- The benefits of providing the services
- Basic Diagnostics on systems (non-High voltage diagnostics)

Day 5 – Maintenance Services

- DVI (digital vehicle inspection)- Building inspections within your DVI system
- Review of Day 1 information and shop exercises
- Monitoring the entire maintenance process (flow) when an HEV/BEV vehicle is brought in by a customer for service:
 1. **Service Advisor** (front counter): Customer Vehicle Assessment and Advisement
 2. **Technician:** Perform Services and Inspections
 3. **Service Advisor:** Recommended repairs or service and scheduling
- Creating shop policies and procedures (both general and safety)
- Adopting HEV & BEV Services in Your Shop
 - If your shop has an HEV & BEV program and *it's not working*: Initiate discussions with the store manager, service advisors and technicians to acquire feedback on *why it's not working*
 - **Key for Success:** Everyone in the shop must be on-board with an HEV/BEV maintenance and repair program if it is to be successful: Are they?
- Other services that may be overlooked

At the conclusion of the 5-day Workshop, each participant will receive a link to complete an online Exam to earn their EV Skills Certification powered by FutureTech-QTS.

Events Scheduled Each Year, for more Information contact:

Email: wheelsinmotion@futuretechauto.com Ph: 702-570-3140