



**Energy Security Agency**

PO Box 642  
Lewis Center, OH 43053

## Electric Vehicle Safety Technician Schedule

This will be a two-day class from 08:00 am to 05:00 pm each day. The class participants will be divided into two groups. On Day 1 Group 1 will complete the EV & Li-ion Safety track and Group 2 will complete the Battery Pack Removal & Handling track. On Day 2 Group 2 will complete the EV & Li-ion Safety track and Group 1 will complete the Battery Pack Removal & Handling track.

<b>Day 1</b>	<b>EV &amp; Li-ion Safety</b>	
	08:00 am - 10:00 am	Lecture
		■ Hazard Recognition Review
		■ Intake processing
		■ Risk Assessment ESA processing
		■ Safety Tools
		■ Vehicle Movement
		■ Hazard Management
	10:00 am - 11:00 am	Lecture
		■ Site Safety
		■ System Assessment
		■ Safety Assessment
		■ Storage Requirements
	11:00 am - 12:00 am	Lecture
		■ Storage and Packing Considerations
		■ Battery Assessment
		■ Battery Destination Determinations
		■ Environmental Considerations
		■ Post Incident Environmental Considerations
	12:00 pm - 01:00 pm	Lunch Break



	01:00 pm - 02:00 pm	Practical Lab: Hazard Management
		■ Hazard Identification Lab
		■ Thermal Runaway Behavior
		■ Firefighter Operations
		■ Battery Blanket Application
		■ Submersion Application
		■ TIC and Gas Detection Operations
	02:00 pm - 03:00 pm	Practical Lab: Site Safety
		■ Storage Solutions
		■ Code Compliance
		■ Safety Response Procedures
		■ Water Collection
		■ Water Sampling
		■ Battery Isolation and Storage Protection
	03:00-04:00 pm	Lecture
		■ Site Safety Planning
		■ Emergency Response Planning
		■ Dismantling Protocols
		■ Environmental and Storage Planning
	04:00-05:00 pm	Practical Lab: Li-ion Battery Movement and Packaging
	5:00 PM	End of Day

<b>Day 2</b>	<b>Battery Pack Removal &amp; Handling</b>	
	08:00 am - 05:00 pm	
		Description of Course Agenda on Page 3



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## Battery Pack Removal & Handling Outline

### Understanding High Voltage Systems and Li-ion Batteries

**Scope of Training:** This module covers basic concepts about Lithium-ion batteries and electric vehicles.

**Terminal Learning Objective:** The student will gain a basic understanding of xEVs, Lithium-ion batteries, and their foundational design and operational principles.

**Enabling Learning Objectives:**

- Explain the use of a multimeter.
- Explain Ohm's law.
- Describe a certified disconnecting procedure.
- Understand the measurement of the absence of voltage.
- Explain the importance of PPE.
- Understand the basic types of EV battery technology.
- Describe the basic chemistry of EV batteries.
- Understand the types of vehicles including PHEV, HEV, and EV.
- Explain the basic design and operation of xEVs.

### EV & Hybrid Battery Removal

**Scope of Training:** This module will train the technicians to remove the Battery safely.

**Terminal Learning Objective:** The student will gain the required knowledge and skills to safely remove the High Voltage Battery:

**Enabling Learning Objectives:**

- Explain how to disconnect a live vehicle and bring it into a safe state.
- Explain the safe high voltage battery removal process.
- Explain how to perform insulation-resistant testing in open batteries.
- Explain how to use a two-pole voltage tester.
- Understand the operation of the HV battery contactor.
- Perform the removal of battery coolant.
- Explain diagnostic methods on HV batteries.

