

ELECTRIC VEHICLES FUNDAMENTALS

Certification

**AS OF 2022, THERE WERE NEARLY 20 MILLION ELECTRIC VEHICLES (EV)
ON THE ROAD AROUND THE WORLD***

To help meet the growing demand for EVs and battery-operated devices, SME is introducing its first Electrification Certification, Electric Vehicles Fundamentals, to increase talent in the EV industry. This credential is designed for entry-level positions in the areas of automotive assembly and production for electric vehicles. The EV Fundamentals will also provide the necessary skills for individuals with no background in vehicle production and assembly or for individuals who have experience in this area but need to tailor their knowledge to the EV market. The credential is ideal for high school and college students, dislocated workers, under-employed individuals, veterans, at-risk youth, and others who are seeking new employment in a new, fast-growing industry.

NEED HELP PREPARING?

The online classes from Tooling U-SME cover topics agreed upon by manufacturing experts as being relevant for foundational EV knowledge across a wide-range of industries. The information is presented in an engaging and interactive format for maximum effectiveness, and pre-and post tests measure a student's increased knowledge. Classes are self-paced, typically taking 60 minutes to complete, and can be completed in just a few weeks (typically less than one month). They are conveniently accessible anytime, anywhere on desktops and laptops, and on tablets and phones with the Tooling U-SME app.

*Alliance for Automotive Innovation's 2022 Industry Report

BUILD A COMPREHENSIVE FOUNDATION OF KNOWLEDGE

This program focuses on the fundamentals of electric vehicles required as a starting point for any career pathway a candidate may pursue in the field of EV:

EV Production and Assembly	Robotics
Safety	Electrical Units
Quality	Power Sources and Variables
Measurement	Battery Components and Management
Math Fundamentals	Fundamentals of Electric Mobility
Blueprint Reading	

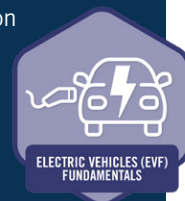
EARN A NATIONALLY RECOGNIZED CERTIFICATION

The SME Electric Vehicles Fundamentals (EVF) is focused on the fundamentals of Electric vehicles. The credential can help individuals begin a lifelong career in a growing industry where there is opportunity for advancement and good-paying jobs.

sme.org/EVF

GAIN VISIBILITY WITH A DIGITAL BADGE

Upon passing the certification exam, individuals will earn a digital badge, providing enhanced opportunities to share their qualifications and get discovered by employers.





ELECTRIC VEHICLE FUNDAMENTALS EXAM PREPARATION CLASSES

- High Energy Batteries
- Lithium Ion Battery Handling & Safety
- Intro to Electric Vehicle Charging
- Introduction to Electric Mobility
- Overview of Electric Vehicle Components
- Lockout/Tagout Procedures
- SDS and Hazard Communication
- Hazardous Materials Handling
- Bloodborne Pathogens
- Fire Safety and Prevention
- Ergonomics
- Arc Flash Safety
- High Voltage Safety
- Machine Guarding
- Light Curtains Overview
- Lean Manufacturing Overview
- Quality Overview
- Blueprint Reading
- Basic Measurement
- Nondestructive Testing
- Inspecting with CMMs
- Introduction to CMM Arms
- Introduction to Laser Trackers
- Structured Light 3D Scanners
- 3D Laser Scanners
- Intro to OSHA
- 5S Overview
- Cell Design and Pull Systems
- Metrics for Lean
- Total Quality Management Overview
- Value Stream Mapping: The Current State
- Value Stream Mapping: The Future State
- Continuous Process Improvement: Managing Flow
- Continuous Process Improvement: Identifying and Eliminating Waste
- Personal Protective Equipment
- ISO 9001: 2015 Review
- IATF 16949:2016 Overview
- Quality and Customer Service
- Intro to Adhesive Bonding
- Intro to Coating Composition
- Introduction to Assembly
- Abrasive Finishing Processes
- Electrical Units
- Safety for Electrical Work
- DC Power Sources
- Battery Selection
- Introduction to Mechanical Systems
- Introduction to Fluid Systems
- Introduction to Welding
- Introduction to Welding Processes
- Overview of Soldering
- Introduction to Automation
- Introduction to Additive Manufacturing
- Additive Manufacturing Safety
- The Basic Additive Manufacturing Process
- Additive Manufacturing Methods and Materials
- The Additive Manufacturing Supply Chain
- Design for Additive Manufacturing
- Additive Manufacturing Materials Science
- Additive Manufacturing as a Secondary Process
- Introduction to Robotics
- Robot Safety
- Robot Application
- Robot Axes and Pathways
- Introduction to Collaborative Robots
- Introduction to Smart Manufacturing
- Introduction to the Industrial Internet of Things
- Introduction to Digital Twin
- Essentials of Communication
- Conflict Resolution Principles
- Conflict Resolution for Different Groups
- Team Leadership
- Managing the Diverse Workplace
- Wire Harness Components