

**INDUSTRY 4.0
AUTOMOTIVE**



DG
DIYGURU.ORG



ASDC

Certified Electric Vehicle Design & Development Training Program Program with Placement Assistance

Onsite - Classroom | 2 Months

Course content approved by National Education Alliance for
Technology (NEAT) AICTE, Govt. of India



From Left to Right, Mr. Avinash Kumar Singh, CEO - DIYguru; Mr. Nageshwar Singh, Managing Director, DIYguru; Mrs. Khushbu Singh, Add. Director, DIYguru; Buddha Chandrasekhar, CCO, NEAT, AICTE; Prof. Anil Sahasrabudhe, Chairman, AICTE. Dr. M.P. Poonia, Vice Chairman, AICTE; Rajive Kumar, Member Secretary, AICTE. in the center, attending the MOU ceremony live is Shri Ramesh Pokhriyal, Honorable Minister of Education, Government of India,

DIYguru is an online maker's learning platform in Future Mobility & Transportation with the aim of helping individuals develop their professional potential in the most interactive and simulated learning environment. Online education is a fundamental disruption that will have a far-reaching impact in the ongoing industry 4.0 revolution for automation, designing, analysis and product development. At DIYguru, we are on a mission to upskill a million people by 2025. We are taking a blended learning approach of leveraging content, technology, marketing, and services to offer quality education at scale in partnership with corporates & academics through a rigorous & industry-relevant program.

Based on our market research and conversation with the industry, we have identified Electric Vehicle as one of the Future Mobility sectors with critical supply demand imbalance. Our vision is to design and deliver a quality Program in Electric Vehicle Engineering to drive the growth of the sector and make India a global hub for Electric Vehicle Engineers.

If you are reading this, you may wish to accelerate your career in Electric Vehicle Technology and explore Business Opportunities in E-Mobility. With DIYguru, we promise to equip you with the perfect mix of business acumen and technical capabilities to help you achieve exactly the same.

We started back in 2016, with a small student base of 10, and 3 member team but because of constant support and feedback on improvising the quality and standard of our courses from 120+ corporates and 50,000 + students worldwide, we are now at this stage as the industry leader in E-Mobility upskilling. I would like to personally thank corporate team of Bosch, Hyundai, Maruti, TATA Power, ASDC, NITI Aayog, & KPMG to help us achieve this feat.

AVINASH KUMAR SINGH
FOUNDER & CEO
DIYGURU

WHY ELECTRIC VEHICLE-WORKSHOP WITH DIYGURU & ASDC?



CERTIFICATE FROM DIYGURU

Earn a reputed certification from
DIYGURU



CAREER OPPORTUNITY

Get access to career coaching
services where our experts will assist
and guide them on the right track.



HANDS-ON PRACTICAL TRAINING

live training with hands-on
experience to retrofit a petrol engine
vehicle to an electric vehicle from the
scratch.



INTERNSHIP OPPORTUNITY

One student from each department
will get an internship opportunity
with the core team at DIYguru.



PLACEMENT SUPPORT

Students appearing for the Workshop
will get placement support through
our Job Portal of DIYguru.



LIVE SESSIONS & DOUBT CLEARING CLASSES

Live sessions conducted by experts
with doubt clearing sessions by
faculties during workshop.

SAMPLE CERTIFICATE



REAL-WORLD PROJECT FROM INDUSTRIES



DIYGURU HANDS-ON TRAINING

The workshop is designed by the experts in the Electric Vehicle industry primarily for the students to equip themselves with the right set of skills required in the industry. The workshop will be executed by the professionals and in the presence of our DIYguru experts and within the standard safety measures. The workshops are not only emphasized on hands-on expertise, but it also focused on giving an opportunity to the students to work on a live project comprising of L1 or L2 vehicles at the end of the Ten-day workshops.



SCOPE OF EV RETROFITMENT

As per the reports by Institution of Engineering and Technology, there are about 71% of engineering students that lack the industry specific skills and therefore a mismatch for the positions in the organization. Addressing this necessity of the hour, the experts at DIYguru brought the DIYguru's Workshops.

The workshop is curated in a manner to provide the much-needed practical exposure to the students which will not only make them industry ready, but also instill the entrepreneurship spirit among the students.

TRAINING CURRICULUM

WEEK 1

1) Introduction to Automobiles

- Layouts (Front Engine, Mid-Engine, Rear Engine)
- Different Automotive Systems and Power flow for 2W and 4W
- Types of Chassis
- Lighting, Wiring Harness, Switches, Connectors, etc.
- Wheels and Tires (Specifications and Types)

2) Introduction to Electric Vehicles

- Layouts of Electric Vehicles
- Different EV Systems and Power flow in Electric Vehicles
- History of Electric Vehicles
- Electric 2 Wheelers in Indian Market.
- **Introduction to Batteries, Motors, and Controllers**

3) Practical 1. Walkthrough different Electric 2 wheelers

4) Practically showing each component discussed in the Theory session.

5) Dismantling of Existing ICE 2-Wheeler

6) Batteries

- How Li-Ion batteries work
- Form Factor
- Types of Li-Ion Batteries
- Sourcing Li-Ion batteries
- Cell ratings
- Combining Li-Ion batteries to make a battery pack
- Basic Battery Specification Sheet
- Calculations for Electric 2W Battery Pack
- Handling, Safety and Storage of Li-Ion Battery

7) Battery Management Systems

- Why would battery need BMS?
- Advantages and Disadvantages of BMS
- Connecting a BMS
- Role of Battery Balancers

WEEK 2

1) Practical

- Choosing appropriate cells
- Physically holding cells together
- Joining cells in series and parallel
- Cell level fuses
- Volume calculations
- Making different battery shapes
- Cell matching ,Cell alignment and containment in volume
- Connecting Charge and Discharge wires
- Connecting balance wires

Perform quality and performance checks

2) Electric Motors

- Choosing the right motor
- Basic Terms related to motor
- Types of Motor
- Calculation of Horsepower
- Calculation of Full Torque load

3) Motor Controller

4) Types of Controllers

5) Practical-

- Assembly of Motor with differential
- Harness connections
- Controller connections

WEEK 3

1) Charging Systems

- Methods of charging
- Battery discharging cycle
- Battery charging cycle
- Ideal battery charger

2) Converters

- Types of Converters

3) Practical

- Charging Discharging of cells, Spot welding.
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WEEK 4

1) Electrical Systems and Wiring Systems

- Electrical Safety
- Electrical System Components- Main Circuit Breaker, Main Contactor, Safety Fuse, Electrical wiring diagram
- Lighting and Braking System

2) Practical

- Lighting connections, Braking system assembly, and testing.

WEEK 5

1) Alternative Sources for Powering the vehicle

2) Wind Energy

3) Solar Energy

4) Fuel Cells

5) Super Capacitors

WEEK 6

1) Practical-

- Charging Discharging of cells,
- Making Modules using Cells, Spacers, and Spot welding.
- Assemble of Modules for battery Pack,
- Connections of BMS
- External connections
- Charging of Battery.

WEEK 7

1) Practical

- Fitting Battery in Vehicle
- Testing of vehicle components

2) Revising all the things done since Day 1 to 7

WEEK 8

Project on -Retrofitting of an Existing E-bike

DIYGURU E-MOBILITY PROGRAMME DETAILS

Batch Details

Duration of the training programme is 2 months, with classes being conducted everyday for 2 Hrs.

- Location: DIYguru E-Mobility COE, GL Bajaj Institute of Technology and Management
- Date : 15th April to 15th June 2022
- Admission Test: 1st April 2022

Placement Support

The training is designed by the experts in the Electric Vehicle industry primarily for the students to equip themselves with the right set of skills required in the industry. The training will be executed by the professionals and in the presence of our DIYguru experts and within the standard safety measures. Candidates will be evaluated on the basis of attendance, sincerity in the class, knowledge of subject and expertise of electric vehicle obtained during the training. DIYguru will provide a min. of two companies to the candidates for attending the interview and receive placement.

Admission Requirements

Students are required to have min. educational qualification of Senior Secondary examination, with ITI / Diploma, Polytechnique, undergoing or completed B.Tech. in Mech. / Electrical / Electronics / Computer Science as the added advantage for selection into the programme.

Admission test will evaluate the candidate on the basis of aptitude and automotive knowledge.

Fee structure

Registration Fee: 5,000 INR (Refundable in case of non-selection after the admission test)

Training Fee: 20,000 INR + GST (Registration fee will be adjusted into the total training fee upon selection in the training programme.)

For further details, call us at +91 7428 989898 or contact:



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