



## Hybrid E-Bike Design And Manufacturing

Duration:- 4 Weeks

### **Course Content**

#### **Introduction**

- ⇒ Basic Of Electric Vehicle
- ⇒ Basic of Designing

#### **Advanced Solidworks**

- ⇒ Basic Engineering
- ⇒ Sketch
- ⇒ Constraints
- ⇒ 3D modeling
- ⇒ Assembly Drafting
- ⇒ Fit and Roughness
- ⇒ Sheet metal Operations
- ⇒ Unfold Drafting

#### **Concepts Of Electric Vehicle**

- ⇒ Introduction to basic Electric Vehicle
- ⇒ Electric Vehicle Battery
- ⇒ Motors
- ⇒ Controllers
- ⇒ Battery Management System
- ⇒ EV Charges



### **Basic MATLAB & Simulink**

- ⇒ Introduction to MATLAB
- ⇒ Scripting in MATLAB
- ⇒ Advanced Scripting Functions
- ⇒ Introduction to Simulink
- ⇒ Model Wind Turbine In Simulink

### **Two Wheeler Technology**

- ⇒ Ergonomics and Basics of Motorcycle
- ⇒ Carburetor
- ⇒ Transmission System
- ⇒ Electrical Circuit
- ⇒ Electronics and FI
- ⇒ Periodic Maintenance and Service of bikes

### **Advanced Electric Vehicle**

- ⇒ Hybrid Engines
- ⇒ Energy Storage System
- ⇒ Power Transmission System
- ⇒ Motor Technologies
- ⇒ Electrical & Electronics System

### **Manufacturing Of Hybrid Electric Vehicle**

- ⇒ JC Making
- ⇒ Front Wheel and suspension Assembly
- ⇒ Rear wheel and suspension assembly
- ⇒ Electronics and engine Assembly
- ⇒ Transmission System



- ⇒ Motor Assembly
- ⇒ Engine Assembly
- ⇒ Motor & Engine Coupling
- ⇒ Battery BMS Assembly
- ⇒ Wire Harness & testing
- ⇒ Finishing

## **Projects**

- ⇒ Complete Hybrid E-Bike Design in Solidworks
- ⇒ Manufacturing E-Bike

