ISIE Drive Your Dreams INDIA
IMPERIAL SOCIETY OF INNOVATIVE ENGINEERS

06 MONTHS

ONLINE PROGRAM

PROFESSIONAL MASTER CERTIFICATION

EV POWERTRAIN ARCHITECTURE and ENERGY STORAGE SYSTEM

Certified By:

ASDC AUTOMOTIVE SKILLS DEVELOPMENT COUNCIL

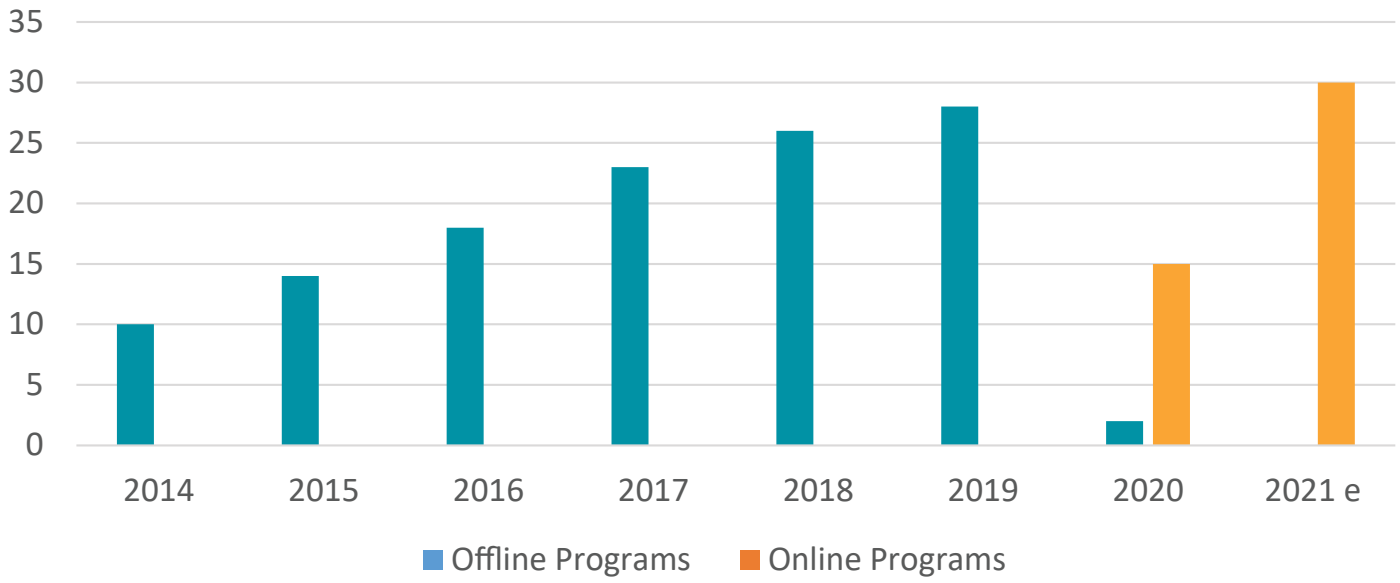
SMEV SOCIETY of MANUFACTURERS of ELECTRIC VEHICLES

ABOUT ISIEINDIA

ISIEINDIA is the most popular and favorite E-mobili-ty Motor sports, Education and Research Publication organization in India among engineering institutes and green energy research organization. ISIEINDIA has become one of the epicenter of green energy concept development in India. We are motivating people (Engineers + Future Engineers) to work on New and Renewable Sources of Energy. We provide the platform to new start-ups, Innovative ideas and passionate people, who really want to contribute to society.

We are giving our innovative services to more than 50,000 + peoples. Our services and product have been appreciated and noted by delegates from 22 countries. We are an associate member of FMSCI. We have been awarded by National Youth Award by Ministry of Youth Affairs, and recommended by Ministry of New and Renewable Energy. ISIEINDIA is the 1st society in India which is motivating engineering students to work on commercial green Mobility.

Program Delivered



The Skill Development Cell of Imperial Society of Innovative Engineers was established in 2015. Since, then we have delivered training in multiple domains of engineering such as - automobile, electric vehicle, computer science, electrical, electronics, etc. Since, its inception we have skilled and re-skilled more than 2.5 lac youths and professionals, helping them launch into a successful career in their desired domain.

SINCE 2015

2.5 LAC+

YOUTHS AND PROFESSIONALS

TRAINED

ABOUT PROGRAM

Professional Master Certification Programs is Job Oriented program with 6 months of duration. These programs have been designed in order to make you employable and help you achieve that dream job. The courses under this program covers the in depth understandings of the topics covered, with 20+ case studies with mini and major projects.

The lectures will be provided on our Online platform, which can be accessed at any time as per your convenience. On each weekend we will be having a Live doubt clearing session in order to clarify your doubts, to help you gain better understanding of the subject.

We at ISIEINDIA believe that any lesson learnt is not useful unless you get to apply it in real time. Thus we have placed mini projects through out the course to help you get a proper understanding of the subject. The mini project will be briefed at the beginning of the subject and by the end of it you would have to submit the project. Apart from the mini projects you will also be provided with a major project that you would have to submit at the end of the course.

- Placement Assistance
- Industry Oriented Curriculum
- Live Industrial Projects
- Industrial Experts
- Live Doubt Sessions
- Globally Valid Certificate
- No Cost EMI
- Offline Classes

SKILL YOURSELF ANYTIME, ANYWHERE

With quality content delivered at your screen, you can up-skill yourself anytime, anywhere. It could be during evening coffee, at night before bed, morning tea, during daily transit, you choose when to learn.

www.isieindia.com elearning@isieindia.com +91-7428723984 | +91-9971621588

EV POWERTRAIN ARCHITECTURE and ENERGY STORAGE SYSTEM

In the age of development when the demand for electric vehicles is growing rapidly in the market, the need for jobs will also increase in the near future in the EV domain. The growing demand means continuous increase in production and continuous increase in production means the demand for good skilled engineers will also increase. As per the recent reports of a government organization, the Indian government is going to invest a much larger amount of money in the EV sector in near future which will lead to an increased large number of jobs in the market. The EV Market is projected to generate about 5.8 million jobs in upcoming time, as per the report by Reuters.

In order to be able to fulfill that demand our engineers and graduates would have to be well equipped with knowledge and skill in compliance with Electric Vehicle, and with the Govt. pushing the idea of Make in India, we must have the ability to work on the EV components at R&D level and help achieve the goal.

Keeping this in mind, our experts from the industry have come forward to help us design this upcoming course- Electric Vehicle Architecture Design and Selection.

The course will start with the EV industry perspective in the market through the rise and fall of the electric vehicle industry and followed by the futuristic growth of EV industry in India. Followed by the motor design and selection parameters used in the electric vehicle industry,accompanied by various recent case studies of challenges being met.

The course will be helpful in understanding the battery pack design and EV charging technique used in the electric vehicle. This will majorly benefit the aspiring engineers, professionals looking for job change and the entrepreneurs looking to make a change in this direction.

The course is fully Online mode, with live lectures and doubt clearing sessions and it includes 06 modules for the 170 learning hour. The course includes 20 assignments in total and it also includes assessments after completion of each module, based on which you will be provided with a global certificate.

COURSE DETAILS

06 SUBJECTS

170 LECTURE HOURS

20+ CASE STUDIES

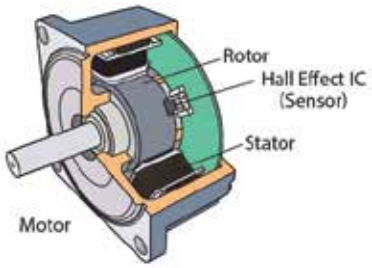
01 PROJECT

Subject	Units
Electrical Machines Design and Industry Prospects	About EV Industry and Market Study Electric Vehicle Powertrain Selection Electrical Machines in EV Electrical Machine Design and Simulation Energy Consumption of an EV – Model Based Simulation
Battery Pack Design & Selection	Cell Types and Characteristics Cell Sorting and Assembly Battery Pack Design Battery Safety and Testing Range of an EV – Model Based Simulation
BMS and BTMS	Introduction to BMS BMS In Li-Ion Batteries Introduction to BTMS Thermal Loading Heat Management
Control Methods	Control Systems and Types Power Electronics and Motor Drives EV Powertrain Tuning Traction Motor Drive Circuit Control Unit of an EV and Communication
EV Charging	EVSE Systems and Types Battery Charging Characteristics Charging Protocols Charging Systems and Integration Charging Station and Challenges
Homologation and Testing	Introduction to Homologation and Testing CMVR Types Approval Electrical Machine – Tests and Approval Battery Pack – Types and Approval EV Charging Types and Approval

MAJOR CASE STUDIES

EV Operating Cost and Infra Challenges

Perform basic calculations pertaining to various challenges faced by the industry in terms of - cost, charging, battery pack size, etc. to understand the on ground scenarios. These will be accompanied by market data and studies to give a wider perspective and view into the industry.

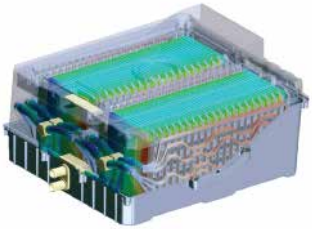


BLDC vs PMSM vs Axial Flux Motors

Different motor options available and their comparative study with respect to important decisive parameters as - cost, efficiency, performance, size, etc. Understand which one would be better for your vehicle and what different scenarios can be considered for different prototypes or models.

EV Charging Station and Cost

What are the different ways of charging the vehicle. If you are someone planning for charging setup as entrepreneur/ govt employee/ a corporate professional, this case study will give you insight into how charging can be different for different setups.



Battery Pack Thermal Management

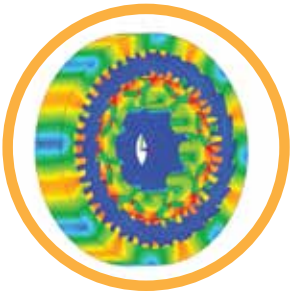
Battery pack thermal management strategy and methods used in different vehicles as per the applications. The optimization on the basis of cooling efficiency, of the system and power management.

CASE STUDY

The course is filled with case studies at every unit, explaining real world scenarios and their solutions. The studies mentioned above are the major case studies, associated with which are multiple minor case studies to help you gain more insight into the industry,

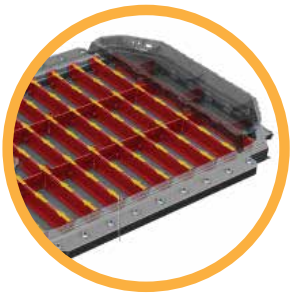
PROJECTS

CHOOSE ANY ONE PROJECT



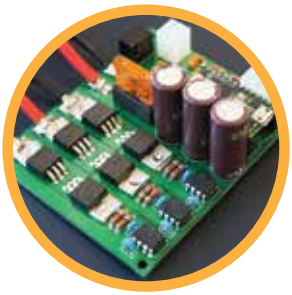
BLDC Motor Design

By using Motor-Cad Software Design Tools, Design & submit 2D Axial & Radial Motor with Specific Stator, Rotor, Winding Pattern, Winding Material Parameters. And Draw Torque , Back Emf, current losses , BH Steel Curves for the same



CAD Modelling of Different Battery Pack

Designing battery packs with different cell compositions and suggesting different CAD models for each cell chemistry. Calculation of number of cells in a battery pack.



Design the Controller of BLDC Motor

Suggest the MATLAB model of a 3 phase BLDC motor and evaluate the performance under different load conditions. Components used while modeling must follow industrial standards and should be available for manufacturing purposes.

ELIGIBILITY

- **Graduates/ Post Graduates**
- **Industry Professionals**
- **Entrepreneurs looking for Startups**

PAYMENT OPTIONS

NO COST EMI

On following Banks Credit Card -

- **American Express**
- **Yes Bank**
- **Standard Chartered Bank**
- **RBL Bank**
- **IndusInd Bank**
- **CITY Bank**
- **Axis Bank**
- **ICICI Bank**
- **Kotak Bank**
- **HDFC Bank**
- **Bank of Baroda**

- Wallets
- Credit/ Debit Card
- Net Banking
- EMI

CERTIFICATE

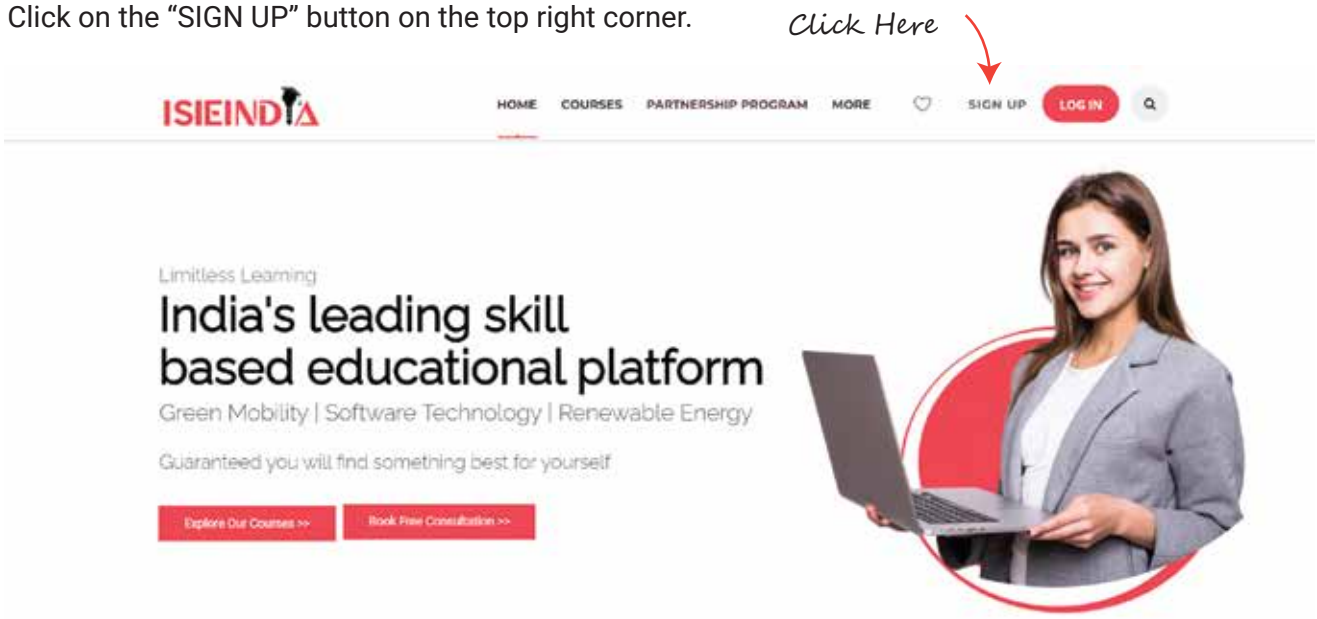
ISIEINDIA GLOBAL CERTIFICATE

ASDC CERTIFICATE

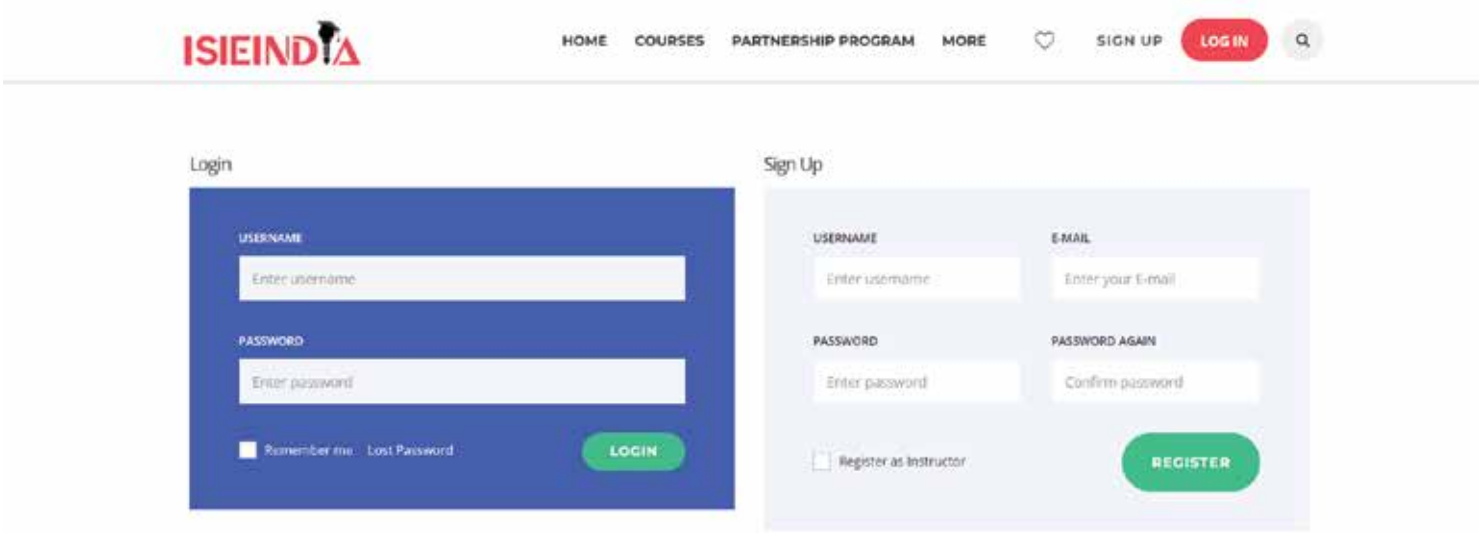
HOW TO ENROLL

STEP 1 - Sign up/ Register Yourself

1. Click on the “SIGN UP” button on the top right corner.



2. Enter your details in the “Sign Up” panel and click on “Register”.

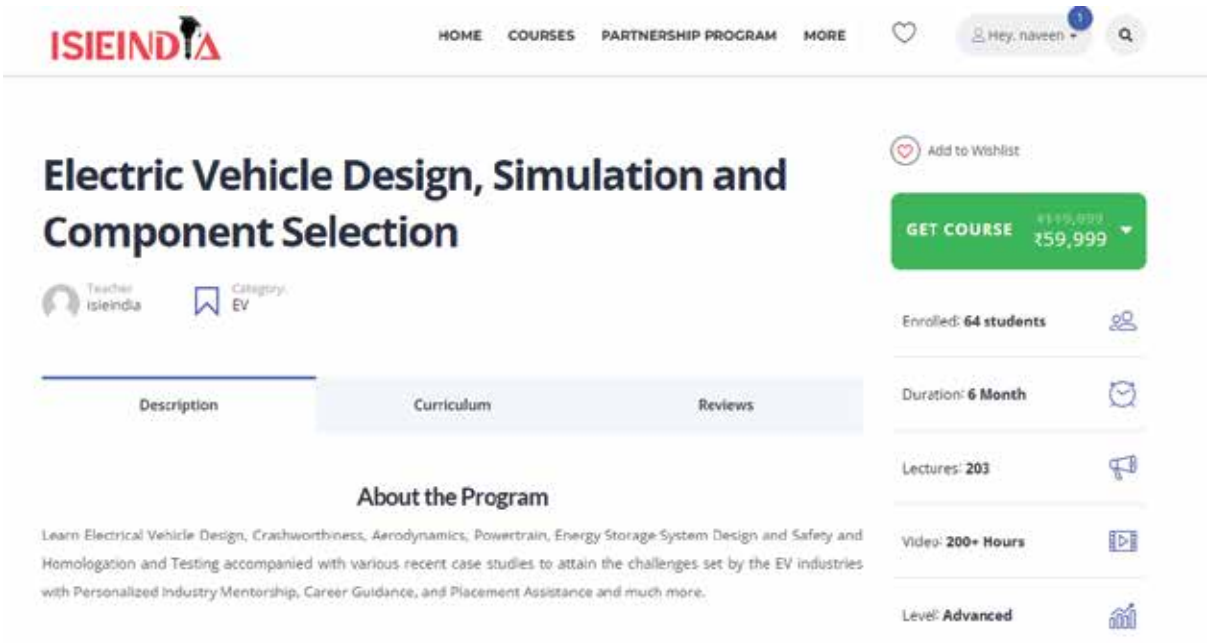


STEP 2 - Browse and Buy Course

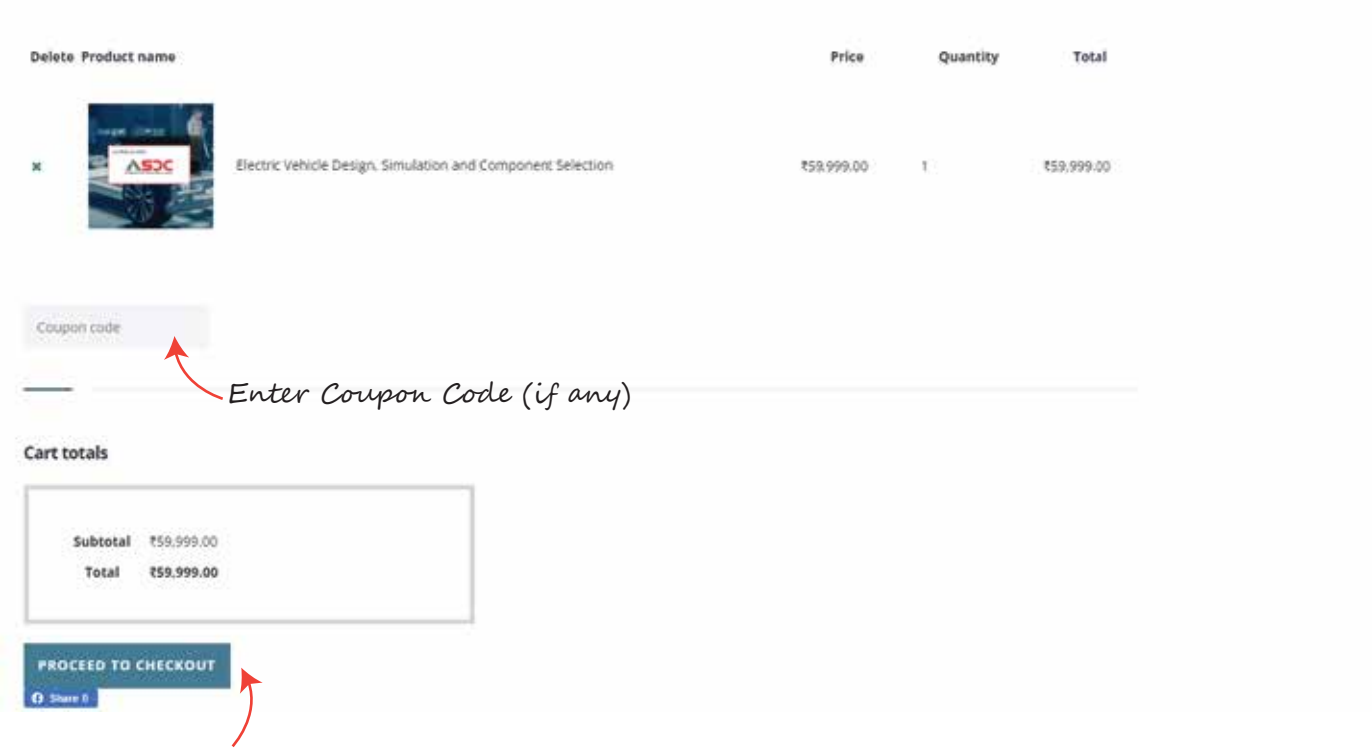
After Login. Click on - Browse Course -> Professional Master Certification Program -> EV

1. Visit the course page and click on learn more.

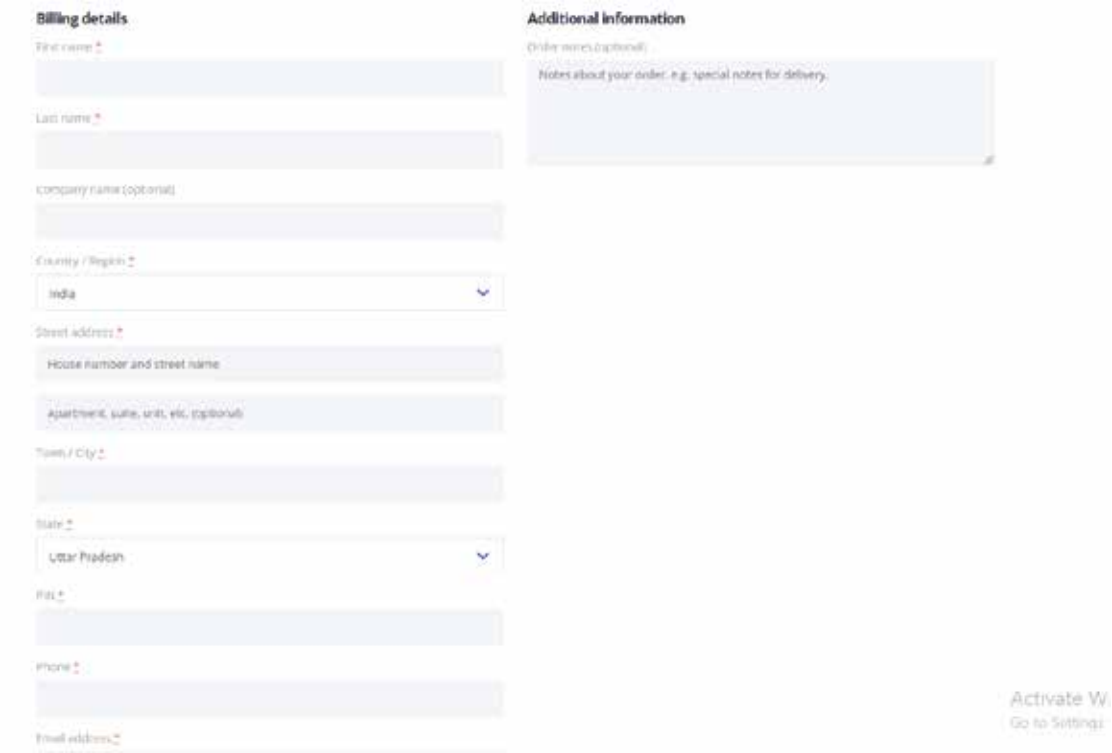
2. Click on “Get Course” to checkout.



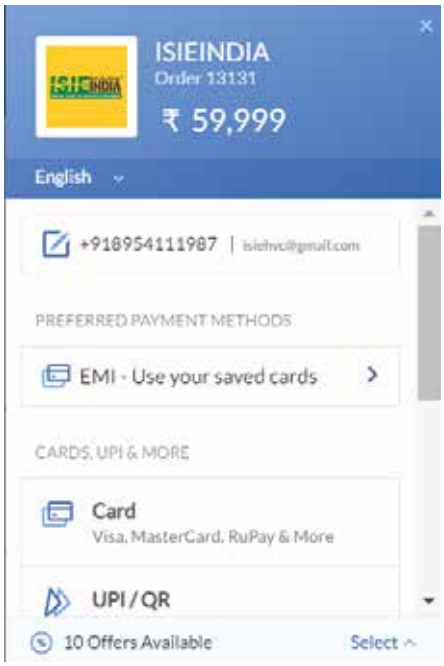
3. Enter Coupon Code if you have any. Click on “Proceed to checkout”.



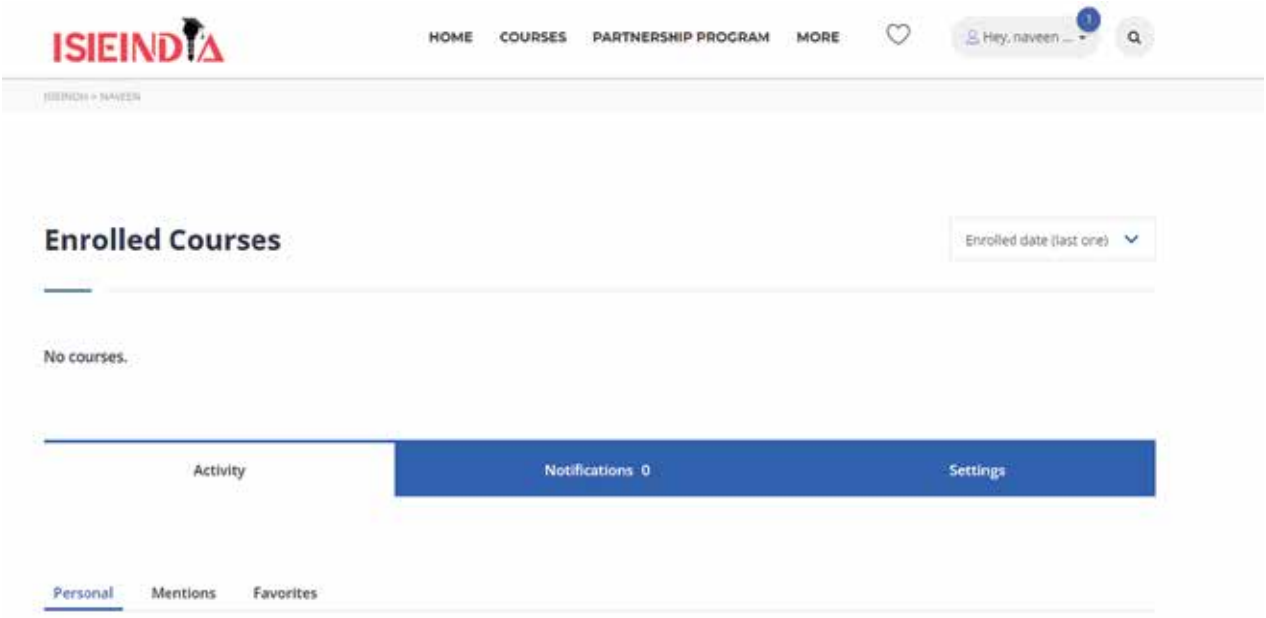
4. Update the billing details".

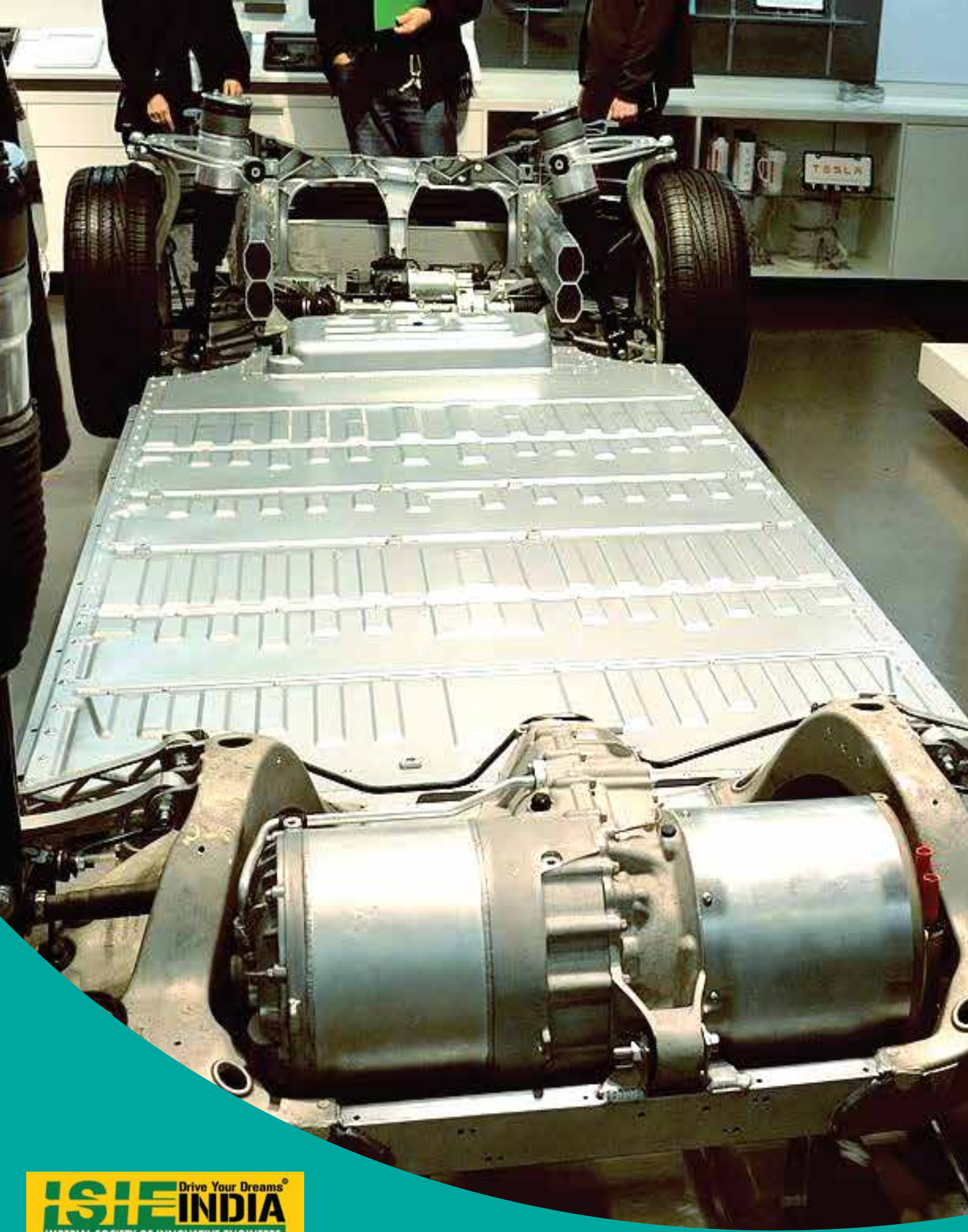


5. On the payment page choose the mode of payment, and proceed with payment.



6. Go to My Account -> Enrolled Courses -> Select the course and UP-SKILL Yourself.





ISIE INDIA
Drive Your Dreams®
IMPERIAL SOCIETY OF INNOVATIVE ENGINEERS
National Youth Award Winner 2015-16, Ministry of Youth Affairs, GOI

\isieindia

\ISIEINDIA-Imperial Society

www.isieindia.com

elearning@isieindia.com

+91-7428723984 | +91-9971621588