



Techniche

The annual Techno-Management Festival
IIT Guwahati

Internship & Training Program

Electrical Vehicle & HEV



Certification 2-8 Weeks / 30-40 Hours

Job oriented exhaustive program

Internship & Training Program

Make Projects & Get Trained

Official Partner



Edu-Vitae
Services

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About Edu-Vitae Services

Edu-Vitae Services (Run by IITians & Industry Experts) is a renowned provider of education and training programs, with a global presence. We offer a wide range of courses and training opportunities in the areas of computer science and IT, animation and multimedia, and soft skills, as well as engineering and advanced technology. Our programs include workshops, internships, corporate training, certificate courses, and faculty development programs, all designed to meet the needs of students, professionals, academic institutions, and industry. Our reputation as one of the top technology training providers in India is a testament to our commitment to helping our clients acquire the skills and knowledge they need to succeed in their careers.

Our Clientele/Collaborations

Some of the **top** institutions and corporates where directly/indirectly we already felt our presence are given below:

Indian Institute of Technology, Kanpur

Indian Institute of Technology (Banaras Hindu University), Varanasi

Indian Institute of Technology (ISM), Dhanbad

Indian Institute of Technology, Jodhpur

Indian Institute of Technology, Bhubaneswar

Indian Institute of Technology, Guwahati

Indian Institute of Management (IIM), Indore

Indian Institute of Management (IIM), Lucknow

National Institute of Technology, Surat

IISc, Bangalore

Chandigarh University

Design Innovation Centre, Department of Applied Arts (Visual Arts), Banaras Hindu University, Varanasi

Madan Mohan Malaviya University of Technology, Gorakhpur

Maharaja Agrasen Institute of Technology, Delhi

Thapar Institute of Engineering & Technology, Punjab

Kendriya Vidyalaya, India

DAV School, India

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Industry/Corporate/Startups

Rabbixel

CreativeHatti

F1 Digitalis

MapsCrew

Accenture

Capgemini

.....

and many more tech & non-tech colleges/universities/institutes/schools & startups/companies across India and globe.

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Achievements & Milestones

- ✓ Our alumni / students are working in top notch company of India & MNCs **VMware, Infosys, Cognizant, CGI, Fidelity, Razorpay, EXL, CARS24, Tata Steel, NVIDIA, MyKaarma, Oyo Rooms, Samsung, Walmart Labs, L&T, JIO, Citibank, TCS, Accolite, BNY Mellon**, and many more.
- ✓ Conducted a number of workshop/training/internship programs in many colleges/universities/schools of India like **IITs, NITs, IISc & other prestigious colleges & universities** of India & with the corporate industry too.
- ✓ Trained many college/university/school students, some of them have created a milestone for **Edu-Vitae Services** by meeting with **Shri Narendra Damodardas Modi** (Prime Minister of India) related to some robotics projects.
- ✓ Collaborating with Industries / Corporates / Startups to provide them hiring services (helping them to **hire fresh trained talent with us**).
- ✓ Signed MOUs / worked with top notch colleges / universities / schools like **Techkriti IIT Kanpur, Technex IIT (BHU) Varanasi, Wissenaire IIT Bhubaneswar, Techniche IIT Guwahati, Concetto IIT (ISM) Dhanbad, Pravega IISc Bangalore, IGNUS IIT Jodhpur, Ranbhoomi IIM Indore, MMMUT Gorakhpur, NIT Surat, Chandigarh University** and many other colleges / universities / schools for professional / industry ready skills training / workshop / internship programs.

Prerequisites

Participants from Diploma/Btech/Mtech/Phd 1st year/ 2nd year / 3rd year / 4th year of ME/EE/Mechatronics/Other related branch/stream will get more benefit after joining this program and other interested students can also participate in that as per their requirement.

What is required before joining this training program?

Here's the checklist

1. A laptop with Microsoft Windows (7 or later) configuration along with smartphone as per need/requirement.
2. Laptop Charger/Adapter for charging purpose.
3. USB Mouse for designing purpose (if required).
4. Internet Connectivity (Typically to be able to do video call / conferencing, if the program is in online mode)
5. Notepad & Pen/Pencil for important notes.

Training Deliverables & Takeaways

Every participant will get

- ✓ Industry Ready Curriculum
- ✓ Interactive & Doubt Session (online & offline)
- ✓ Certification Program
- ✓ Mini & Major Projects
- ✓ Career Guidance
- ✓ Projects Based Learning

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Course & Content

All of the sessions will be practical oriented, so it will be really great if participant(s) can look on the syllabus which we are going to cover during training days.

ELECTRIC VEHICLE & HEV

Electric Vehicle training courses are provided for various specializations in the industry. Almost all learning programmers are usually theme based and provide certification in a specific EV trade. In order to get the maximum outcome from an Electric Vehicle course in India one should know what kind of specializations are available in this field. It has been found that the following specializations currently have the highest scope of development in the electric and hybrid vehicle industry for the next few years.

Session #1

Introduction to Hybrid Electric Vehicles

- History of hybrid and electric vehicles
- Social and environmental importance of hybrid and electric vehicles
- Impact of modern drive-trains on energy supplies
- Motion and dynamic equations for vehicles
- Propulsion requirements for vehicles
- HEV architectures

Session #2

Hybrid Electric Drive-trains

- Vehicle power source characterization,
- Transmission characteristics,
- Mathematical models to describe vehicle performance
- Basic concept of hybrid traction,
- Introduction to various hybrid drive-train topologies,
- Power flow control in hybrid drive-train topologies,
- Fuel efficiency analysis

Session #3

Electric Drive-trains

- Basic concept of electric traction,
- Introduction to various electric drive-train topologies,
- Power flow control in electric drive-train topologies,
- Electric power analysis
- Electrical machines for EVs and HEVs
- DC-DC Converters
- Boost and Buck-Boost Converters
- Multi Quadrant DC-DC Converters

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Session #4

Electric Propulsion unit

- Introduction to electric components used in hybrid and electric vehicles,
- Configuration and control of DC Motor drives,
- Configuration and control of Induction Motor drives,
- Configuration and control of Permanent Magnet Motor drives,
- Configuration and control of Switch Reluctance Motor drives,
- Drive system efficiency

Session #5

Energy Storage

- Introduction to Energy Storage Requirements in Hybrid and Electric Vehicles,
- Battery based energy storage and its analysis,
- Fuel Cell based energy storage and its analysis,
- Super Capacitor based energy storage and its analysis,
- Flywheel based energy storage and its analysis,
- Hybridization of different energy storage devices

Session #6

Sizing the drive system

- Matching the electric machine and the internal combustion engine (ICE),
- Sizing the propulsion motor,
- Sizing the power electronics,
- Selecting the energy storage technology,
- Communications,
- Supporting subsystems

Session #7

Energy Management Strategies

- Introduction to energy management strategies used in hybrid and electric vehicles,
- Classification of different energy management strategies,
- Comparison of different energy management strategies,
- Implementation issues of energy management strategies

Session #8 & #9

Electric vehicle charging arrangement

- Electric vehicle charger
- Electric vehicle charger technology
- The EV charging station architecture
- EV chargers and portfolio management
- EV charging and the grid
- Smart grid and EVs

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Additional Objectives and Outcome of the Training:

- Analysis of hybrid vehicles
- Analysis of electric vehicles
- Understanding the use of Simulation software
- Do the simulation of Hybrid vehicle with MATLAB
- Demonstrate, the skill for Engine simulation software's and Hybrid vehicles simulation software's
- Have hands on experience for Engine simulation and Hybrid /Electric vehicle simulation

Disclaimer

Please make sure that this training/internship will be organized by Edu-Vitae Services, it is to note that if any IIT/NIT/Organization is EVS partner then it's responsible for providing certification to attending students/professionals, marketing, publicity and rest operations, scheduling, payment processing, training, content development etc. will be taken care by Edu-Vitae Services. All of the matters/disputes related to internship/training/workshop needs to be addressed to Edu-Vitae Services team only. See our terms and conditions on www.eduvitae.co.in and fees once paid is non-refundable and non-transferrable. Company reserves full right to withdraw any offer/discount anytime without any prior notification, also it's important to understand that center & batches date of internship can be changed as per requirements in India.

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