



COEP Technological University

(formerly College of Engineering Pune)

Department of Mechanical Engineering

Offers

**One Year Full Time Post Graduate Diploma in
Electric Mobility (PG-DEM)**



In Association with



About the Course

- Mobility with internal combustion engines (ICE) has been the backbone of the Industrial Revolution. With Electric Mobility, we are moving towards the future with immense technological opportunities. Due to fossil fuels depletion and environmental pollution, electric mobility has become an unavoidable part of the energy transition from ICE to Electrical. With opportunities come challenges; there will be fundamental changes for the user's vehicle manufacturers, governments and policymakers.
- The first step in facing technological challenges and exploiting opportunities is to learn. understand the technology. The one-year Post-Graduate Diploma in Electric Mobility (PG-DEM) is a course for those who want to prepare for exciting careers in future mobility solutions. The course is designed for fresh graduates and experienced professionals working in the industries.
- The course includes classroom lectures, video lectures, presentations and tutorials, all reinforced with practical's on state-of-the-art EV infrastructure. You will be exposed to current developments in ELECTRICAL VEHICLE technology, charging issues, and government policies through case studies and real-world projects. One of the prime objectives of the course is to create innovators in the field of electric mobility, and accordingly, the spectrum of learning is vast that goes from fundamentals to advanced technology.

About COEP Tech.

- College of Engineering, Pune (COEP), chartered in 1854 is a nationally respected leader in technical education. The institute is distinguished by its commitment to finding solutions to the great predicaments of the day through advanced technology. The institute has a rich history and dedication to the pursuit of excellence.
- COEP Technological University is the torch bearer of Engineering education in Pune and India. The professionals of ARAI and the faculty of COEP Tech. Univ., together with other institutes and industries in India, will develop you for upcoming challenges and opportunities in the transition from ICE Mobility to Electric Mobility.
- The hallmark of COEP Tech education is its strong and widespread alumni network, support of the industry and the camaraderie that the institute shares with several foreign universities. The institute is consistently ranked amongst the top 20 technical colleges in India and its alumni have contributed a lion's share in development of national infrastructure.

Department of Mechanical Engineering

- The Department of Mechanical Engineering was established in the year 1912. Department has strong industry-institute collaboration and developed state of art laboratories supported by industries such as Danfoss, Eaton, Forbes Marshall, Kirloskar, Altair etc. The department has well-equipped laboratories such as Danfoss center of excellence Refrigeration and Air Conditioning, Micromachining, Steam Engineering, Fluid Power and Fluid Machinery, Fuel testing, IC Engines, Laser and Combustion, PIV, Design and Optimization Lab, etc.
- At present, the department offers Graduate, Post Graduate and Doctorate degree courses. It is highly reputed for producing eminent engineers as professionals, researchers and entrepreneurs. Many of its alumni occupy key positions in industries and institutions in India as well as in abroad. The department is proud to be collaborated with well-known industries in the sector.
 - PG programs in Thermal and Design started in 1961
 - First PhD awarded in 1974
 - M-Tech (Automotive Technology) started in 2010 in collaboration with ARAI Pune
 - Center of Excellence in “Smart Renewable Energy System” under TEQIP-II : 2014
 - Full-time Post Graduate Diploma In Electric Mobility (PG-DEM): August 2019

What you will learn?

- Develop an in-depth understanding of electric vehicles
- Deep dive into the major aspects of electric vehicles - fundamentals, trends and technology outlook of mobility
- Advance your understanding of design, analysis and development of electric vehicles
- Energy storage systems such as Lithium-Ion batteries, Superchargers and Fuel Cells
- Powertrains and controls in EV
- Thermal management and mechanical design of EV components and systems
- International standards, government policies and regulations for electric mobility
- Explore opportunities in the fast-evolving EV
- Create sustainable, high-performance mobility models
- Empower you to design requirements and challenges of the present and future mobility solutions

About PGDEM

Faculty:

In-house as well as renowned and experienced faculty from the industries, R&D organizations and other reputed institutes will be involved in teaching-learning process of the entire program.

Eligibility Criteria:

Engineering Graduate in Mechanical / Electrical / Electronics and Telecommunications / Instrumentation / Automobile and all allied branches

Selection Criteria for Admission:

Written Test / Interview

Total Number of Seats:

Total Number of seats for the program is **40**

Course Fees:

Rs. 1,75,000/- (Rupees One Lakh Seventy Five Thousand only) for full course

Course Commencement Date: First week of August 2024

Admission Dates

Proposed dates for admissions process of PGDEM 2024-25.

Activity	Date
Online Form Uploaded On	
Last Date to apply Online	
Online Technical Interview – I	
Provisional Merit List – I	
Online Technical Interview – II	
Provisional Merit List – II	
Last date to pay Program fee	
Program Commencement	

For more details click on : [PG Diploma – COEP Technological University \(COEP Tech\)](#)

Syllabus

Trimester I						
Sr. No.	Course Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	PGEM1	Bridge Course a) Fundamentals of Automotive Electrical and Electronic Systems (for Mechanical group) b) Fundamentals of Automotive Mechanical Systems (for Electrical group)	3	0	0	3
2	PGEM2	Applied Mathematics	2	1	0	3
3	PGEM3	EV System Design and Architecture	3	0	0	3
4	PGEM4	Energy Storage Systems for Electric Vehicles	2	1	0	3
5	PGEM5	EV Motor Drives and Power Electronics	2	1	0	3
6	PGEM6	Lab 1	0	0	4	2
7	PGEM7	Mini Project 1	0	0	4	2
		Total	12	3	8	19
		Total Academic Engagement and Credits	23			19

Syllabus

Trimester II						
Sr. No.	Course Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	PGEM8	Vehicle Dynamics and Traction Systems	2	1	0	3
2	PGEM9	Sensors and Controls in Electric Vehicles	2	1	0	3
3	PGEM10	IOT for Electric Vehicles	3	0	0	3
4	PGEM11	Elective 1	2	0	0	2
5	PGEM12	Elective 2	2	0	0	2
6	PGEM13	Lab 2	0	0	4	2
7	PGEM14	Mini Project 2	0	0	8	4
		Total	11	2	12	19
		Total Academic Engagement and Credits	25			19

Syllabus

Trimester III						
Sr. No.	Course Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	PGEM14	Industrial In-Plant Training (15-18 Weeks)	0	0	0	12
		Total	0	0	0	12
		Total Academic Engagement and Credits	0			12
Course Total Credit						50

Fee Structure

**Address for
Communication**

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Thank You
