

COEP Technological University Department of Mechanical Engineering





1-Year Full Time Post Graduate Diploma in Electric Mobility

in collaboration with

The Automotive Research Association of India (ARAI), Pune, India

ABOUT THE COURSE:

Automotive Industry is currently going through paradigm shift towards Electrification. With Electric Mobility, we are moving towards the future with immense technological opportunities. With opportunities come challenges; there will be fundamental changes for the user's vehicle manufacturers, governments and policymakers. Vehicle technology will become truly interdisciplinary.

The first step in facing technological challenges and exploiting opportunities is to learn, understand the technology. PGD-EM is an apt course for those who wish to dive into exciting careers in future mobility solutions. The course is designed for fresh graduates and experienced professionals working in industries. The professionals from ARAI and faculty of COEP together with eminent resource personalities, will prepare the students for upcoming challenges and opportunities in transition from ICE mobility to Electric Mobility.

The course includes class room lectures, video lectures, presentations and tutorials, which are all reinforced with practicals on ARAI's the state-of-the-art Centre of Excellence in E-Mobility. Students will be exposed to current developments in EV Technology, charging issues, government polices through case-studies and real world projects.

Place of Study/Project :-

COURSE DETAILS:

Trimester I

- **Bridge Course**
- Fundamentals of Automotive Electrical & Electronic Systems (for Mechanical group)
- Fundamentals of Automotive Mechanical Systems (for Electrical group)
- **Applied Mathematics**
- EV System Design and Architecture
- **Energy Storage Systems for Electric Vehicles**
- **EV Motor Drives and Power Electronics**
- Lab 1
- Mini Project 1

Trimester II

- Vehicle Dynamics and Traction Systems
- Sensors and Controls in Electric Vehicles
- **IOT for Electric Vehicles**
- Elective 1
- Elective 2
- Lab 2
- Mini Project 2

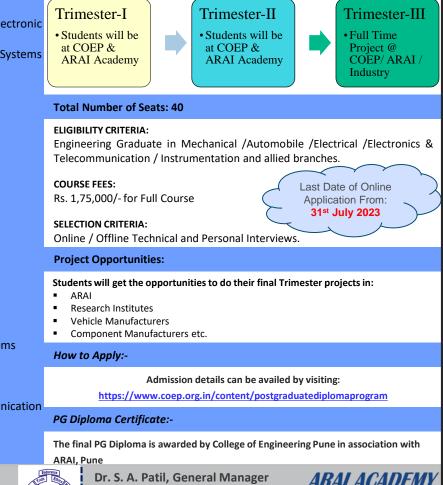
Trimester III

Full time Project

Elective Courses (Elective 1 & 2):

- Thermal Design and Management of EV Systems
- Safety and Automotive Standards
- **Energy Management and Vehicle Integration**
- **Advance Electric Drives**
- Embedded Systems and In-Vehicle Communication Protocols
- FEM and CFD for Electric Vehicles
- **Design Validation Process**

Prof. M. R. Nandgaonkar (Coordinator), Professor, Department of Mechanical Engineering COEP Technological University (COEP Tech.) Ph: 02025507917 / +91 98501 74795 Email: mrn.mech@coep.ac.in www.coep.org.in



Dr. Y. K. Bhateshwar (Coordinator), **ARAI Academy** Taluka Khed, Pune-410501.

ARAI ACADEN cellence in Education

ARAI FID, Plot No. B-16/1, MIDC, Chakan, Ph: 02135-396662/73, Email: sapatil.pga@araiindia.com www.araiindia.com | academy.araiindia.com

Student Helpdesk Number: 02135-396686