



College of Engineering Pune

(An Autonomous Institute of the Govt. of Maharashtra)

ONE YEAR FULL TIME POST GRADUATE DIPLOMA

IN

EMBEDED SYSTEMS FOR INTERNET OF THINGS

(PGDESIoT)

Join exciting world of creating innovative edge solutions!!!

ABOUT COEP:

College of Engineering, Pune (COEP), established in 1854, is a highly revered engineering and technology institute. The institute is distinguished by its commitment to finding solutions to the



significant predicaments of the day through advanced technology. The institute has a rich history and dedication to the pursuit of excellence. COEP offers a unique learning experience across a spectrum of academic and social backgrounds. With a firm footing in truth and humanity, the institute gives an understanding of both technical developments and the ethics that go with it. The curriculum is designed to enhance academic experience through opportunities like internships, study abroad programs and

research facilities. The hallmark of COEP education is its strong and widespread alumni network, consistent support of the industry and the camaraderie that the institute shares with several foreign universities. The institute is consistently ranked amongst the top technical colleges in India on various judging parameters and its alumni have contributed the lion's share in the development of national infrastructure.

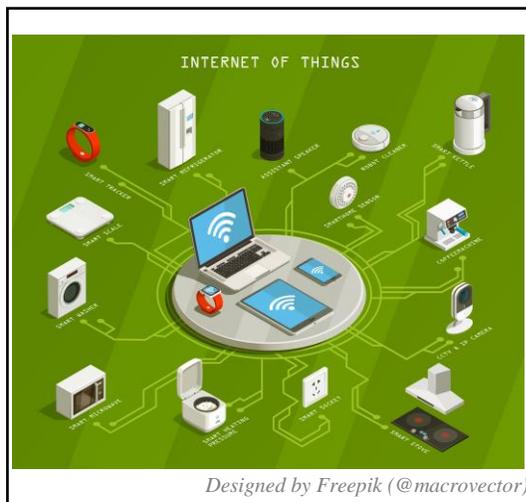
ABOUT ELECTRONICS AND TELECOMM DEPT:

Established in 1948, the department has always remained at the forefront in producing quality engineers who have brought great laurels to the institute, society, and nation at large. The department has a tradition of attracting the topmost merit students at UG from across the state and is a favored destination of PG students after the IITs. The department offers excellent infrastructure and resources in the form of knowledgeable faculty, well-equipped laboratories. The stakeholders viz. faculty, UG/PG students and research scholars are working in research areas related to cutting edge technologies such as VLSI and Embedded Systems, Communication Networks, Computer vision and Pattern Recognition, Signal Coding and Communication, Power electronics and EMI/EMC, Multidimensional and Multimedia Signal Processing and Optical communication. The department is involved in several technical and co-curricular activities encouraging students to broaden their horizons of thoughts, innovate, ideate, and execute towards demonstrable outcomes. Moreover, it maintains a great rapport with industries and R&D organizations.



About the PG Diploma Embedded Systems for IoT:

The tech world has been going through unprecedented changes in the last few years. Big companies in Software, Operating System providers have entered the HW market through their own branded products. These companies are looking at increased business from the consumer and the actions that the consumer carries out in the internet leading to tremendous growth in the embedded markets. Some of the trends that can be seen in the embedded system design markets are as follows: Increased use of multi-core processor platforms, Connectivity is driving security needs in the devices, and Demand for Video processing. These trends demand a new level of expertise in providing these solutions which is addressed in this PG diploma.



This is the SECOND batch of ONE-YEAR FULL-TIME PG diploma offered by the department. It aims to make learners recognize importance of Embedded systems and IoT applications in

various fields. It showcases and imitates sample demo projects on specific applications in industrial automation, smart cities, connected vehicles, and home automation etc., to name a few. It certainly shall provide an exhaustive and state-of-art knowledge of Embedded System Design, Debugging and Deployment to the participants with equally balanced skills on Tools and Platforms towards building IoT prototypes for various applications. The four months internship and industry sponsored project is an embedded part of curriculum and will be executed with the help of our renowned Industry partners, in the domain of the program. These features shall undoubtedly provide opportunity to work with domain experts in the field for live ongoing projects which would prove crucial to realize dream of aspirants – either to grab lucrative placements or venture into startups.

Course Structure

Sr. No	Course Title	Course Type	Credits	Duration
Trimester 1				
1	Deep Dive in C and C++	Core	4	15 weeks
2	System Design with ARM Microcontrollers	Core	3	
3	IoT Communications and Protocols	Core	4	
4	Device Driver Development for Sensors and Actuators	Core	4	
5	Enhancing Communication and Soft Skill	HSMC	2	
Trimester 1 - Credits =17				
Trimester 2				
6	Software Tools and Programming in IoT	Core	4	15 weeks
7	Data analytics and Cloud Computing	Core	4	
8	Embedded OS and Debugging Techniques	Core	4	
9	Linux in Embedded Systems	Core	4	
Trimester 2 - Credits =16				
Trimester 3				
13	IoT: Industry Project	Core	12	15 weeks
Trimester 3- Total Credits =12				
Course Total Credits			45	45 weeks

Faculty:

In-house faculty as well as renowned and experienced experts from Industry/ R & D organizations will be involved in the teaching-learning process of the entire program.

Industry Partners:



Information to the Candidates:

Eligibility Criteria:

- B.E/ B. Tech. from circuit branches such as Electronics/ Electronics and Telecommunication /Electronics and Communication Engineering/ Computer/ Information Technology/ Electrical/ Instrumentation/ Mechatronics/ Any other circuit allied branches.
- Masters in Science (MSc) (Electronics/ Computer/ IT or Equivalent), Masters in Computer Applications (MCA), Masters in Computer Science (MCS).
- Bachelors in Science (BSc) (Electronics/ Computer/ IT or Equivalent), Bachelors in Computer Applications (BCA) / Bachelors in Computer Science (BCS).
- Freshers and Candidates with prior work experience both can apply.
- Those appearing for their Final year degree examination may also apply. On selection, such candidates will have to fill a Notarized undertaking on Rs. 100/- Non-Judicial stamp paper and submit it to **PGDESIoT** office at the time of payment of Program Fees.

Course Fees:

- Course fees are mentioned on Institute's website, and it is to be paid ONLINE at the time admission.

Selection Criteria for the admission:

- Candidates shall be admitted as per the selection procedure mentioned on the Institute's website.

Total Number of Seats:

Total Number of seats for the program is **30**.

Address for the Communication:

PGDESIoT Admissions

Department of Electronics and Telecommunication
Engineering, College of Engineering Pune - [COEP].
Wellesely Road, Shivajinagar, Pune
MAHARASHTRA, India. - 411005

Cell No/WhatsApp No: +91 99708 58564/
+91 75072 51410

Telephone: +91-20-2550 7525/7555

Fax: +91-20-25507299

Email Id: pgdiot@coep.ac.in

URL:

pgd admission.coep.org.in/pgadmission/

Student Testimonials



"The teachers conducted the program with due diligence, overcoming the challenging situation of Covid-19. My understanding of the IoT domain is improved significantly after joining the program. At internship, I do new tasks frequently. This enables applying the concepts that I learned during the class room sessions. Thank you CoEP for the opportunity"

-Rahul Bari

"I studied many fundamental concepts in this program. I am grateful to the CoEP for giving me an opportunity to learn from expert professors. Each faculty member assisted me in resolving various issues. In the internship program, I am learning from professionals and starting with the basics in active projects. At internship, I can relate many topics discussed by the teaching faculty during Trimester I and II"

-Vaishnavi Padwal



"I was inspired by the opportunity to study in COEP, with the help of their faculty and facilities, to explore different avenues of the current shift in technology. Personally, subjects from the first two semesters like 'Embedded Coding', 'IoT Communication Protocols', 'Data Management & Analytics', 'Cloud Computing' and 'Software Tools for Programming in IoT' guided me the most. Apart from help provided with curriculum, we were also motivated to explore different projects and research being undertaken at COEP"

-Amartya Ravi

"I joined this program to gain practical knowledge in embedded system development. The course content was at par with what we require in the industry. The faculty was very supportive and guided us to acquire new skills. The methodology of teaching was practical oriented which gave us the idea that how embedded systems can be developed."

-Ananya Kukreti





"I experienced, practical oriented sessions, vivacious staff, incredible amenities and well oriented lab. I learnt various skills through industrial visits and live projects. As an intern, I am exploring trending features and amazingly new ventures. Best part is COEP has consonant relations with various industries, which turns out to be bliss for students. I am glad to be part of this course and I believe this journey is perfect example of satisfaction towards one's dream. "

-Chetan Mirje

"This one-year PGD program was great, especially the offline period. Practical demonstrations and industrial visits were quite beneficial in understanding the current embedded requirements. I was initially skeptical of the course topics, but now that I've completed my internship, I see why each subject was critical to working on an end-to-end IoT project. During the course, our brilliant COEP teachers taught all of these topics, and I am grateful to them."

-Sakshi Kulkarni



"The teachers conducted the program with due diligence, overcoming the challenging situation of Covid-19. My understanding of the IoT domain is improved significantly after joining the program. At internship, I do new tasks frequently. This enables applying the concepts that I learned during the class room sessions. Thank you CoEP for the opportunity."

-Aishwarya Lahane