COEP Technological University

(COEP Tech)

A Unitary Public University of Government of Maharashtra

w.e.f 21st June 2022

(Formerly College of Engineering Pune)

ONE YEAR FULL TIME POST GRADUATE DIPLOMA

IN

EMBEEDED SYSTEMS FOR INTERNET OF THINGS

(PGDESIoT)

Join exciting world of creating innovative edge solutions!!!

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ABOUT COEP:

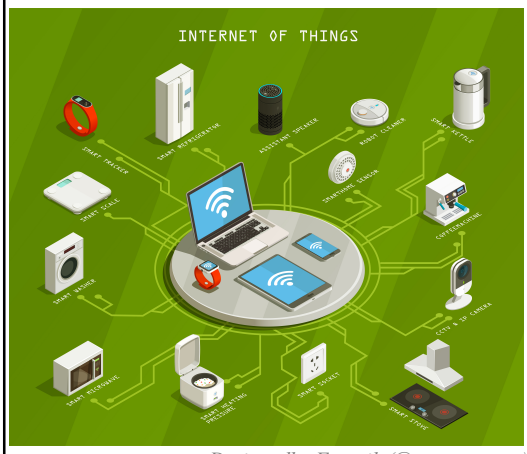
COEP Tech is a Higher Educational Institution named: "COEP Technological University", which is an autonomous institute of Government of Maharashtra established in 1854 to provide instruction and research in various branches of engineering and technology for the advancement of learning and dissemination of knowledge in such branches. 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, importunate 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 and its alumni have contributed the lion's share in the development of national infrastructure.

ABOUT CENTER OF EXCELLENCE IN SIGNAL AND IMAGE PROCESSING (COE S &IP):

Centre of Excellence in Signal & Image Processing **(CoE-S&IP)** is an R & D establishment of all circuit branches of the institute, with **Department of Electronics and Telecommunication** driving the whole initiative. The Centre, funded by MHRD-World bank under TEQIP-II, has an objective of pursuing fundamental and applied research & development across wide spectrum of Signal Processing applications. State-of-art facility in terms of equipment/systems has been created. The Centre has mandated itself to produce tangible research outcomes of international standards, with social relevance, thereby creating long-lasting footprint in the domain. The major areas of research are Multimedia - Multidimensional Signal Processing spanning from text, document, through speech, audio, image and video signals, Signal Analysis and Decision support systems for biological/biomedical, Automotive / industrial and metallographic signals

About the PG Diploma Embedded Systems for IoT:

The tech world is 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.



Designedby Freepik (@macrovector)

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/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).
- Fresher's 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 **40**.

Address for the Communication:

PGDESIoT Admissions
COE S & IP, COEP Technological University - [COEP Tech] Pune. Wellesely Road, Shivajinagar, Pune MAHARASHTRA, India. - 411005

Cell No/WhatsApp No: +91 99708 58564/ +919422128579
Telephone: +91-20-2550 7525/7555
Fax: +91-20-25507299
Email Id: pgdiot@coeptech.ac.in
URL:www.coep.org.in/content/postgraduate diplomaprogram

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"

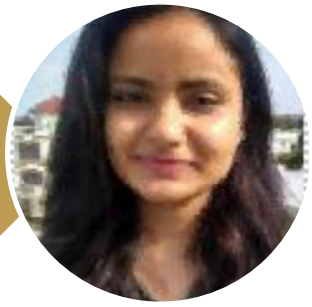
-Vaishnavi Padwal

"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

Eligibility Criteria for PGDESIoT Course 2023-24

- B.E/B. Tech. from circuit branches such as Electronics/ Electronics and Telecommunication /Electronics and Communication Engineering/ Computer/ Information Technology/ Electrical/ Instrumentation/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.

  On selection, such candidates will have to fill a Notarized Undertaking on Rs.100/- Non-Judicial stamp paper **(Click hereto download the matter of Undertaking-I)** stating that: His/her admission to PGDERP 2023-24 course is on provisional basis and the admission will be confirmed only after producing the passing certificate and the mark sheet (meeting the eligibility criteria) of qualifying degree examination from the concerned University on or before 15th November 2023, failing which the admission will stand cancelled and there will be no refund of the course fee paid to COEP Technological University, at the time of joining the PGDERP Course. No certificate / grade sheet will be issued by COEP Technological University for partial/ incomplete education of PGDERP Course.

Selection Process for PGDESIoT Course 2023-24

- Apply online for PGDESIoT course by filling the Online ApplicationForm.
- Selection Process for the PGDESIoT course includes two rounds of interviews:
    1. First round - Personal Interview will include screening and document verification. (Offline/ Online)
    2. Second Round – Technical Interview (Offline/ Online)

- Candidates will be informed about the Schedule of the offline appointment for the First Round via email a week prior to the actual Interview date and the list will also be displayed on the website.
- After completion of First Round of Interviews, Shortlisted Candidates Listwill be displayed on website who will have to appear for the Second and Final Round of Online/Offline TechnicalInterview on the scheduled date and time that will be displayed on the website.
- Provisional Merit list will be displayed on website after the conduction of the Second Round of the selection process i.e., Online/Offline Technical Interview.
- Candidates whose namesare displayed in the Provisional Merit list can pay the PGDESIoT Course Fees and confirm the admission for PGDESIoT 2023-24 batch.