

Techno Hub PCB & Circuit Design





About Course



Types of PCB design

Printed circuit board (PCB) design brings your electronic circuits to life in the physical form. Using layout software, the PCB design process combines component placement and routing to define electrical connectivity on a manufactured circuit board.

Types of PCB design

1. Single-Sided PCBs.
2. Double-Sided PCBs.
3. Multilayer PCBs.
4. Rigid PCBs.
5. Flex PCBs.
6. Rigid-Flex PCBs.

Where is PCB commonly used?

Communications: Smartphone's, smart watches, tablets, and radios all utilise PCBs as a foundation for the product. Computers: Home desktop PCs, workstations, laptops, and satellite navigation have PCBs at their core. Most devices with screens and peripheral devices also have circuit boards within them.

How many types of PCBs are there?

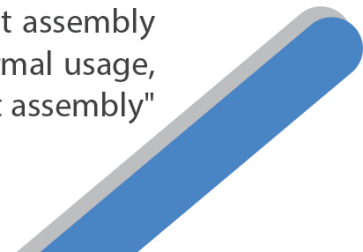
Learn all about Different Types of PCB (Printed Circuit Board) – Single Sided PCB, Double Layer PCB, Multilayer PCB, Rigid PCB, Flex PCB, Rigid-Flex PCB. Learn all about Different Types of PCB (Printed Circuit Board) – Single Sided PCB, Double Layer PCB, Multilayer PCB, Rigid PCB, Flex PCB, Rigid-Flex PCB.

What is PCB design used for?

Printed circuit board (PCB) design brings your electronic circuits to life in the physical form. Using layout software, the PCB design process combines component placement and routing to define electrical connectivity on a manufactured circuit board.

What is PCB design called?

A PCB populated with electronic components is called a printed circuit assembly (PCA), printed circuit board assembly or PCB assembly (PCBA). In informal usage, the term "printed circuit board" most commonly means "printed circuit assembly" (with components).



COURSE CONTENT

Module 1: Introduction

- ✓ Introduction to PCB and Circuit Design
- ✓ Importance of PCB and Circuit Design
- ✓ History & Timelines of PCB and Circuit Designs
- ✓ Different types of PCB

Module 2: Fundamentals of Electronics Frame

- ✓ Building a Simple 5 Volt Power Supply Circuit
- ✓ Building a Simple 12 Volt Power Supply Circuit
- ✓ Building a Simple 9 Volt Power Supply Circuit
- ✓ What are Resistors
- ✓ How to do Colour Coding in Resistors ?
- ✓ Concept of Serial and Parallel Resistance .
- ✓ Calculations on how to choose the right resistors based on size, length and breadth.
- What are Capacitors
- ✓ How do Capacitors work ?
- ✓ Capacitors for Signal Transmission .
- ✓ Storing Current using Capacitor .
- ✓ Difference between resistors and capacitors
- ✓ Relations between Resistors and Capacitors

Module 3: Mosfets

- ✓ Introduction to Mosfets .
- ✓ Importance of Mosfets in Circuit Design
- ✓ How Mosfets changed world and electronics .
- ✓ Using Mosfets as a transformer .
- ✓ SMD Version of Mosfets .
- ✓ Difference between working of Mosfets based on SMT and Regular Version .

Module 4: Transistors

- ✓ Introduction to Transistors .
- ✓ Importance of Transistors .
- ✓ Different Types of Transistors based on Material Physics
- ✓ SMT Version of Transistors
- ✓ Signal Transmission using Transistor
- ✓ Sending Messages using Transistor
- ✓ Coding and Decoding messages sent and received by Transistors
- ✓ Using Transistor as a Amplifier
- ✓ Using Transistor to store energy

Module 5: Light Emitting Diode (LEDs)

- ✓ Introduction to LED .
- ✓ Categories of LED .
- ✓ Concept of Semiconductors and Material Science with respect to LED .
- ✓ Chasing LED Circuit
- ✓ Dancing LED Lights Circuit
- ✓ Introduction to Rectifier
- ✓ Using DC Current LED with AC Current using Rectifier
- ✓ Concept of 555 Timer IC
- ✓ Making a Timer LED Circuit with 555 Timer

Module 6: Designing a PCB

- ✓ Introduction to PCB Designing
- ✓ Installation and Setup of PCB and Circuit Design Software
- ✓ Different Software for PCB and Circuit Design
- ✓ Different formats of PCB and Circuits in output of Software
- ✓ Designing different types of Circuits on Software

Module 7: Printing & Making a PCB

- ✓ Introduction to different types of material for circuit boards .
- ✓ Selecting the right material board for printing circuit .
- ✓ Concept of Chemical Etching .
- ✓ Science behind Chemical Etching .
- ✓ Solder Masking of PCB .
- Importance of Solder masking of PCB .
- ✓ Printing Circuit Board on PCB Printing Machine .

Module 8: Large Scale Printing

- ✓ Business industry of PCB and Circuit Design and Printing .
- ✓ How to print customized circuits on a large scale .
- ✓ Commercial Viability of Customized Circuits Business

The written course content is only a highlight we provide much more than mentioned .

COURSE DETAILS

3 Months

Fees - 29,000 RS

- ✓ Kit will be provided but you can not take it home after completion of course.
- ✓ Live field internship
- ✓ Major project development
- ✓ Write & Publish Research Paper in International Journal
- ✓ Paper presentation in National/International conference.

6 Months

Fees - 45,000 RS (with Kit)

- ✓ You can take your kit home
- ✓ Live field internship
- ✓ Major project development
- ✓ Write & Publish Research Paper in International Journal
- ✓ Paper presentation in National/International conference.
- ✓ 1 month revision course anytime in 2 years

No extra charges will be taken for the mentioned services apart from the course fees. We are here to help students, not to eat their money, we want to promote technology education .

COURSE DETAILS

Delivery of the Course :

- **Online Mode**

If the student is unable to reach our location , we will deliver the course in an online mode. The student will get his / her kit by courier and the rest of things will remain the same.

- **Offline Mode**

Techno Hub Laboratories will not deliver the course by displaying slides on a power point presentation. Techno Hub Laboratories has a state of the art Laboratory which is equipped with latest equipments, so the student will do the entire course hands on which will make a student unstoppable in the industry.

COURSE DETAILS

Scheme for students with financial issues:

There are some students who are unable to do courses like these due to financial issues, so for them we have a scheme that will help them to pursue these courses and make their career.

- **Course Loan**

We will offer a course loan with 0 interest which the student can repay after the completion of the course , this loan scheme is applicable for both 3 months as well as 6 months courses . No interest will be charged when the student comes to repay the loan . For more information please call or whats app on our helpline +91 9997030409 .

- **Equal Monthly Installments**

Apart from the loan scheme we also have a system of equal monthly installments (EMI) . In this the student with a very minimum down payment can pay an equal amount per month for a duration of 3 months or 6 months . No interest will be charged on the EMIs . This scheme is applicable for both the 3 months and 6 months course . For more information please call or whats app on our helpline +919997030409 .

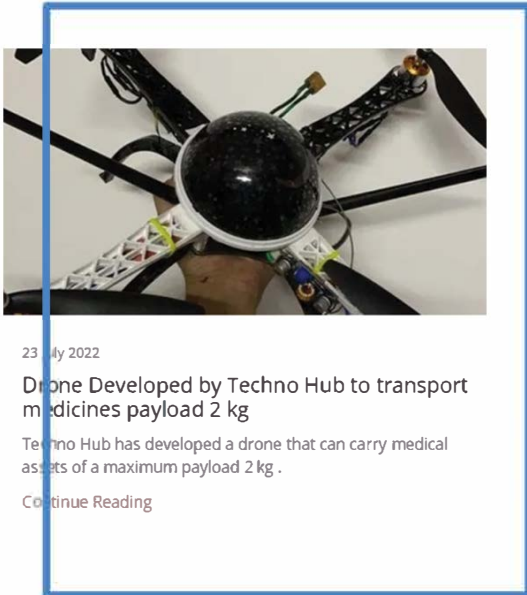
- **Course Group Mutual Funds**

In this scheme, if a students come in a group , like in a group of 3 students or 5 students or 10 students, then based on the size of the group there will be exclusive discount per student. This scheme is applicable for 3 months and 6 months course. For more information please call or whatsapp on our helpline +919997030409 .

Note : We are always there to help students and build a better future .

Why learn from us?

Techno-hub laboratories is a recognized woman led start-up based in Uttarakhand. Education, Environment and Technology are our focus areas. We have a core team of young professionals who are committed to quality and excellence. We have been engaged in conducting a lot of online professional courses around our core areas of expertise. We have a large number of technology experts from Industry as well as academia associated with us to make these workshops really effective.



23 July 2022
Drone Developed by Techno Hub to transport medicines payload 2 kg
Techno Hub has developed a drone that can carry medical assets of a maximum payload 2 kg .
Continue Reading



13 July 2022
Techno Hub wins SDG - 9 Award by CM Pushka Singh Dhama Ji
Centre for Public Policy and Good Governance (CPPGG), Department of Planning, Govt. of Uttarakhand in collaboration with UNDP Organised Uttarakhand's First SDG Goalkeeper awards. The intend of this initiative is to recog...
Continue Reading

Our founder director Dr. Reema Pant brings about 30 years of experience in the field of teaching, learning and research. The core group and advisers of Techno-hub are distinguished academicians, industry experts, and nationally and internationally renowned people of repute.

Techno Hub Laboratories is recognized by Startup India , Startup Uttarakhand . Techno Hub Laboratories has won the SDG – 9 Goalkeeper by Government of Uttarakhand for Industry and Innovation excellence .



Interested to Joining Register Now !

Features

- ✓ Professional Mentor
- ✓ High Quality Courses
- ✓ Teams and Training Room
- ✓ Modern Learn Methods

+91 9084687772




Techno Hub Training & Internships



**CONTACT
US!**

 C 27 THDC Colony , Near JP Badminton Academy ,
Dehradun – 248001 , Uttarakhand .

 +91 9084687772

 <http://techno-hub.org/>
info@techno-hub.org
siddharthmadhav@techno-hub.org .

   @technohublaboratories