

Amkatro

PCB Design Course

From Schematic to Manufacturing

Online
Live

Engineer-Level

Who Is This Course For?

Students

Freelancers

Fresh graduates

**Embedded system
developers**

Makers

**Anyone who wants to
design and manufacture
real PCBs**



Why Are PCBs Important?

01

Used in every modern device

02

Reliable, compact, and manufacturable

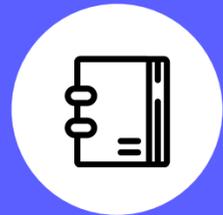
03

Easier debugging and long-term stability

04

Required skill in embedded systems, robotics, IoT, and hardware engineering





The PCB Design Workflow

01

Requirements definition

02

Schematic design

03

Component libraries

04

PCB layout

05

Routing

06

DRC checks

07

Production files (Gerbers)

08

Manufacturing + Assembly





Software We Use: KiCad

Why KiCad?

- Free and open-source
- Industry-grade
- Powerful 3D viewer
- Cross-platform (Windows, Mac, Linux)



What You Need for This Course



Laptop (8GB RAM or more preferred)



KiCad (latest version)



Internet connection

Not required but helpful

Basic electronics: Ohm's Law, resistors, capacitors

Basic programming (Arduino or STM32)



Course Roadmap

1. Introduction to PCB Design

Fundamentals, workflow, KiCad basics

2. Schematic Design

Symbols, libraries, connections, design rules

3. PCB Layout

Placement, routing, clearances, Gerbers

4. STM32 Hardware Design

Power, clocks, reset, interfaces, schematic

5. High-Speed Routing

USB, SPI, clocks, impedance, diff pairs

6. Manufacturing Process

DRC, Gerbers, ordering, fabrication steps

7. ESP32 IoT Board Design

Power, antenna rules, schematic, layout



What you will Build

Power module

**Sensor interface board
with stm32 MCU**

**Final professional
boards ready for
production**

**ESP32 main board
(with USB-to-serial)**

Logistics

Format

- Live sessions
- Online (Zoom Platform & recorded)

Schedule

- Session duration: 2.5hours
- Total sessions: 16

Start Date

- Start date will be announced once the group is complete.

Confirmed participants will be notified first.

COURSE PRICE & PAYMENT

1. CHOOSE YOUR TRACK

Standard Track: For professionals and graduates.

Pay in Full:
12,000 DA

OR

Pay in Installments:
15,000 DA total.

Student Track (Limited Seats): For verified current students only.

10,500 DA

Requires valid Student ID.

Full payment only (no installments)

COURSE PRICE & PAYMENT

2. INSTALLMENT BREAKDOWN

- Registration: 2,000 DA (Secure your seat).
- Session 01: 6,500 DA.
- Session 08: 6,500 DA.

Installments apply to the Standard Track only.



HOW TO REGISTER

01

Read this PDF carefully

02

Confirm your seat

Pay a 2,000 DZD seat reservation
Contact us for payment details

03

Fill the registration form
Contact us to send you the form link

04

Receive confirmation message

05

Join the course group
Get added to the official course group
Remaining payment completed in 3 installments during the course

Contact

WhatsApp / Facebook / Instagram

WhatsApp: [+213540401638](https://wa.me/213540401638)

