Arnkatro

IoT Engineering with ESP32.

From Sensors to Cloud Systems

Build connected systems for industry, agriculture, and smart devices

Online

Live

Engineering-Oriented

Almikatro Engineering Learning Path

From foundations to real engineering systems.

01

Engineering Fundamentals

Build the core foundations required for modern engineering systems.

02

IoT Systems Engineering (ESP32)

Connect embedded systems to networks and cloud platforms.
Applications: smart agriculture, monitoring systems.

03

Embedded Systems Engineering (STM32)

Control sensors, actuators, and machines using real-time firmware.
Applications: robotics, machines, instrumentation.Bio-tech

04

Hardware Development (PCB Design)

Transform prototypes into real electronic products.

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IoT SYSTEMS ACROSS ENGINEERING

IoT SYSTEMS ACROSS ENGINEERING

Industry

- Machine monitoring

Agriculture

- Smart irrigation
- Environmental sensors

Biotech / Lab

- Measurement devices
- Data acquisition

IoT / Smart Devices

- Connected sensors
- Edge systems

IoT connects physical systems (sensors and machines) to cloud platforms for monitoring and control.

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WHY THIS PROGRAM?

Many IoT courses teach WiFi + dashboards.
Real IoT systems require:

- System architecture
- Reliable communication
- Cloud integration
- Secure device control

This program trains you as an IoT Engineer, **not a hobbyist.**

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THE ALMIKATRO DIFFERENCE

This is NOT just an IoT program

01

Architecture-First Development

02

Reliability & Security Engineering

03

Real Cloud Integration

04

Portfolio-Ready Deployment

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WHAT YOU WILL BUILD

Practical implementations

- WiFi-connected ESP32 systems
- MQTT publish/subscribe networks
- Sensor-based monitoring nodes
- Cloud dashboards (ThingsBoard / Node-RED)
- Remote device control systems
- 1 complete IoT engineering project

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WHO SHOULD JOIN?

Who this program is for

- Electronics & Embedded Engineers
- Automation / Robotics Engineers
- Computer Science Students

- Agriculture & Environmental Engineers
- Biotech / Laboratory Engineers

- Engineers building connected sensor systems

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Course Roadmap

1. IoT Engineering Foundations

Industrial IoT architecture principles & design workflow.

5. Cloud & Dashboards

Real-time telemetry visualization & cloud dashboards.

2. ESP32 Networking & FreeRTOS

Embedded WiFi with FreeRTOS multitasking systems.

6. Device Control Logic

Stable bidirectional device control logic.

3. MQTT Communication Systems

Reliable publish-subscribe networking with MQTT protocol.

7. Security & Reliability

Secure connected device engineering practices.

4. Sensor Data Acquisition

Structured embedded sensing systems & data acquisition.

8. Final Engineering Project

Complete IoT system deployment architecture.

Final Project: Smart IoT System

Smart agriculture

What You Need for This Course

Laptop (8GB RAM or more preferred)

ESP-IDF

Internet connection

🟦 Required Background

- Basic C/C++ knowledge recommended.
- Engineering mindset required. No prior IoT experience needed.

What You Need for This Course

🧠 Phase 1 Simulation (Required at Start)

- Wokwi online simulator (Free)
- ESP32 simulation
- No hardware required in the first phase

✔️ Industry-style workflow: simulate → validate → build

🔧 Phase 2 Hardware Kit (Required Later)

- ESP32 Dev Board
- Breadboard & jumper wires
- LED + resistor
- Push button
- Potentiometer
- BME280

💰 Approximate cost: ~6000DA

♻️ One-time investment, reusable for future projects

📦 How to Get the Hardware

- ✅ Contact us for the official course hardware pack

Logistics

Format

- Live sessions
- Online (Zoom Platform & recorded)

Schedule

- Duration: 6–8 Weeks | 30 Hours
- Level: Engineering-Oriented

Start Date

- 25 March

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COURSE PRICE & PAYMENT

1. CHOOSE YOUR TRACK

***Standard Track:** For professionals and graduates.*

Pay in Full:
15,000 DA

OR

Pay in Installments:
18,000 DA total.

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

13,500 DA
Requires valid Student ID.
Full payment only (no installments)

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COURSE PRICE & PAYMENT

2. INSTALLMENT BREAKDOWN

- Registration: 2,000 DA (Secure your seat).
- Session 01: 8,000 DA.
- Session 08: 8,000 DA.

Installments apply to the Standard Track only.

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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

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