ARIES

Aerobot Research and Innovative Engineering Solutions LLP

DRONE ENGINEERING
TRAINING PROGRAM

Admission Brochure
2025-26

AEROBOTLABS.COM

Launch Your UAV Engineering Career with Aerobot Labs

Design | Build | Automate | Lead the UAV Engineering Frontier

Aerobot Research and Innovative Engineering Solutions LLP presents an intensive, industry-ready Drone Engineer Program designed for aspiring UAV engineers, makers, tinkerers, and tech-driven professionals. From airframe design to autonomous flight scripting, gain hands-on experience and become a certified expert in the rapidly evolving drone ecosystem.

Master the Future of Flight: Drone Engineering Starts Here

Course Duration: 30 days (Full-Time) | Eligibility: 12th pass with excellent skills, Diploma & BE Holders in Technical Fields

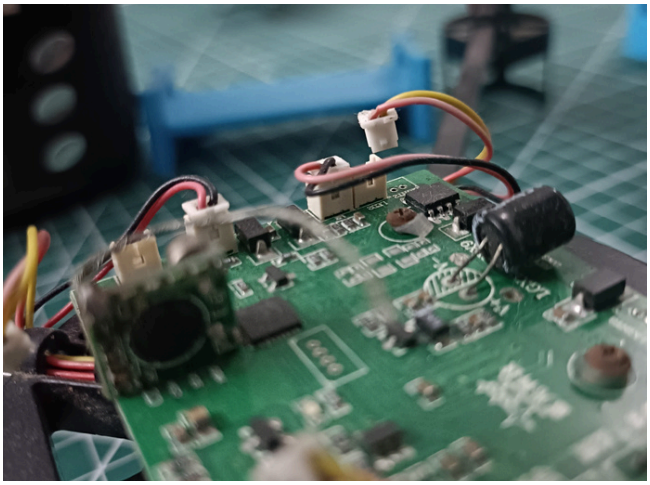
Certification: Aerobot Labs Certified Drone Engineer

What You'll Learn:

- Understand UAV systems and DGCA regulations
- Build and integrate drone hardware
- Configure flight controllers and tune performance
- Automate missions with Python and MAVLink
- Integrate payloads, troubleshoot, and deploy projects

Certification and Outcome:

Upon completion, you'll be awarded the Aerobot Labs Drone Engineer Certificate, validating your skills in UAV design, integration, and programming. You'll be equipped to enter roles in drone R&D, manufacturing, automation, agriculture, GIS mapping, surveillance tech, and aerospace startups.



Why Choose Aerobot Labs for Your Drone Engineering Training?

Aerobot Labs is a pioneer in UAV training and innovation, offering:

- A comprehensive 55-hours curriculum covering both theory and real-world builds
- Training on Pixhawk, Raspberry Pi, Jetson Nano, and other cutting-edge platforms
- A hands-on learning model: build two drone models + a final industry-use case project
- Expert mentorship from drone engineers and RPTO-certified trainers
- Access to advanced tools: CAD, Simulators, Soldering Labs, GCS, and 3D printers

Career Support and Opportunities

Graduates of this program become job-ready for positions in:

- UAV Manufacturing & Assembly
- Drone R&D & Product Design
- Field Engineering for Agriculture, Defense, and Logistics
- Startups, Drone-as-a-Service (DaaS), and Surveying Firms
- Freelance Drone Solution Building & Consulting

Course Duration & Syllabus

- **Total Duration: 1 Month (55 Hours)**
- **Mode: Online Theory, On-Campus Practicals.**

Training Schedule

Core Modules	Module Highlights
Module 1	Introduction to Drones
Module 2	Drone Rules, Safety & Airspace
Module 3	Drone Hardware & Power Systems
Module 4	Flight Control & Automation
Module 5	Smart Sensors & Edge Hardware
Module 6	Embedded Systems & IoT
Module 7	Robotics & Drone Integration
Module 8	Drone Telemetry & IoT
Module 9	Aerial Survey & Industry
Module 10	Drone Assembly (Practical)
Module 11	Controller Setup (Practical)
Module 12	Troubleshooting (Practical)
Module 13	Project

Syllabus Overview

1. Introduction to Drones

- UAV Basics & Classifications
- History & Evolution of Drone Technology
- Drone Applications (Agri, Infra, Emergency, etc.)
- Case Study: Drone Use in Agriculture & Surveillance

2.Drone Rules, Safety & Airspace

- DGCA Drone Rules 2021 & Airspace Zones
- NPNT, UIN, Remote Pilot Certification Overview
- SOPs, Safety Checklists & Compliance

3.Drone Hardware & Power Systems

- Drone Frame, Propellers & Aerodynamics
- Motors, ESCs & Thrust Calculations
- Batteries, Power Distribution & Safety

4.Flight Control & Automation

- Flight Controllers (Pixhawk Overview)
- Sensors: IMU, GPS, Compass, Barometer
- Flight Modes, Failsafe & RTL
- Ground Control Software (Mission Planner)

5.Smart Sensors & Edge Hardware

- IoT Concepts for Drones & Robotics
- Sensors: IMU, Ultrasonic, Gas, Thermal
- ESP32 & Raspberry Pi Architecture
- Practical: Sensor Interfacing & Visualization

6.Embedded Systems & IoT

- ESP32 Programming (Arduino Basics)
- Wi-Fi, BLE Communication
- MQTT, HTTP & Cloud Connectivity
- Practical: Live Telemetry Dashboard

7.Robotics & Drone Integration

- Motors, Drivers & Control Logic
- Sensor Feedback & Fusion Concepts
- Robotics Integration with Drones
- Practical: Obstacle Avoidance Logic

8.Drone Telemetry & IoT

- Live Telemetry Concepts
- GCS & Cloud Integration
- Data Logging & Alerts
- Practical: Telemetry Visualization

9.Aerial Survey & Industry

- Survey Concepts & Mission Planning
- RTK / PPK Basics
- Infrastructure, Mining & Emergency Use
- Case Study: Construction Monitoring

10.Drone Assembly (Practical)

- Frame Assembly & Component Mounting
- Motor, ESC & Power Wiring
- Soldering, Safety & Best Practices

11.Controller Setup (Practical)

- Pixhawk Wiring & Configuration
- Sensor & ESC Calibration
- Failsafe & Parameter Tuning

12.Troubleshooting (Practical)

- Motor & ESC Fault Diagnosis
- GPS, Compass & Vibration Issues
- Battery & Power Failures

13.Project

- Full Airframe Assembly
- Student-Led PID Tuning
- Maiden Flight & Data Log Analysis

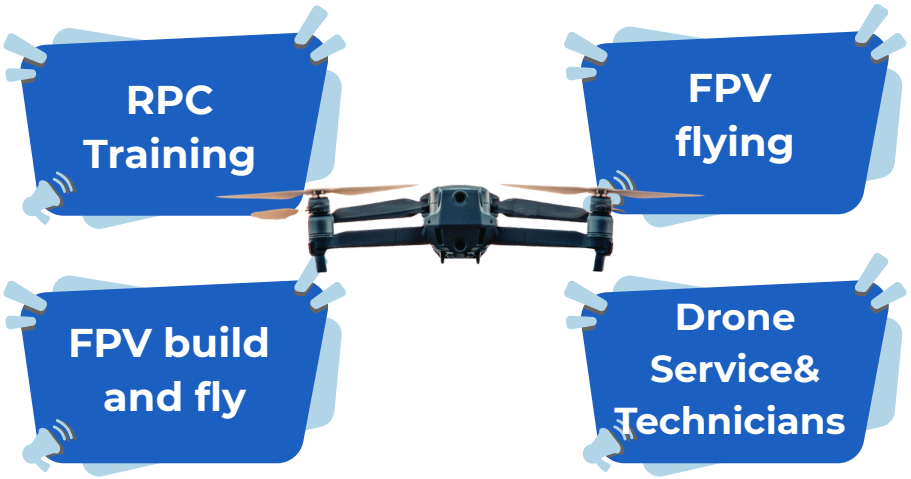
Drone Training Program

About Our Training

Our Training Programs are Designed to provide hands-on experience in drone flying, building and maintenance

- **Practical drone flying session**
- **Fpv Drone operations**
- **Drone assembly & maintenance**
- **Real-time Field Practice**

Available Courses



Accommodation

Accommodation Available

- **Comfortable Stay**
- **Basic Facilities**
- **Training centre Nearby**

Training Features

- **Hands On Training**
- **Real Drone Flying Pratice**
- **Industry Expert Trainers**
- **Certification Provided**

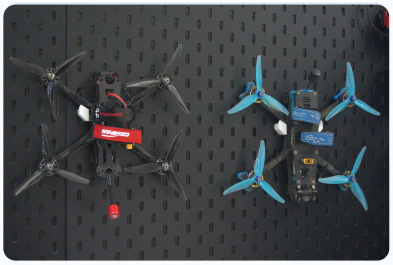
Related Courses

Advance Your Skills

Aerobot Labs is not only an RPTO for basic drone pilot licensing; we also offer advanced training programs and workshops to cater to specialized interests in the drone field. After completing your Remote Pilot Certificate, you may consider these additional courses to further expand your skill set.

After certification, explore:

- DGCA-Certified Drone Pilot Training Program
- FPV Drone Build & Pilot Training
- Agri-Drone Training: Drone spraying, crop imaging & smart farming



Beginner

10 Lessons 2 Students

FPV Drone Build & Pilot Training

Our FPV Drone Pilot Training Course is a flight-focused program that trains you to master real-time control.

Beginner

5 Lessons 20 Students

DGCA-Authorized Drone Pilot Training Course (Small Category)

Get DGCA certified with our Drone Training Course — covering flight ops, safety, and hands-on piloting.

Intermediate

10 Lessons 4 Students

Agri Drone Operations Course

Learn precision spraying, mapping, and field monitoring in our Agri Drone Operations Course etc.

ARIES

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