

QUAD COPTER

Course Name: QUAD COPTER

Certification: BY UVSofts Technologies Pvt. Ltd.

COURSE CONTENT:-

- + Embedded Systems Design.
- + Introduction to Controllers and Embedded Systems Design.
- + Working Principle.
- + Constructional Concepts.
- + Quad copter Frame.
 - Materials used
 - Designing concepts
 - Hands on designing
 - Developing of quad frame models
 - Types of frame structures & consequences
- + 2.4 GHz Radio Communications.
 - Radio Transmitter
 - Transmitter controls
 - Controls corresponding to Stabilization techniques
 - Power limitations
 - Types of power sources
 - Frequency Selection
 - Antenna arrangement
 - Coverage considerations
 - Orientations of Quad in terms of coverage distance
 - Radio Receiver
 - Number of channels
 - Effective utilization of channels
 - Connection consideration of various configurations
 - Consequences of reception beyond coverage area
- + Multi Rotor Stabilization Controller.
 - Considerations & Concepts of Stability
 - Component Explanation of the board
 - Basic layout of board
 - Operation of Gyroscopes

- Microcontroller operation
- Variations in output of ESC
- Gain Potentiometers
- ISP Flashing Techniques

Electronic Speed Controller (ESC).

- Speed control Techniques
- Ampere Rating of ESC
- Input supply considerations
- Data Signaling to ESC
- Battery elimination operation of ESCs
- Choosing right ESCs for the right application
- Constructional ideas of building your own ESC
- Programming ESC

BLDC Motors.

- Wide varieties of motors
- Difference of a Normal DC motor and BLDC motor
- Applications of BLDC motors
- Advantages of BLDC motors
- Driving a BLDC motor
- Characters, Commutation, Analysis & Evaluation methodsSpeed calculation

Propellers.

- Construction of Propellers
- Types of propellers
- Suitable propeller for right application
- Parts of a propeller

Construction of Quadcopter.

- Components Identification
- Complete Assembling

Simulation of flight in FMS

Flying precautions

Flying Session