



ENGAGE IN THE **WORLD OF DRONE**

A dynamic drone workshop



ABOUT WORLD TRADE CENTER PUNE:

World Trade Center Pune (WTC Pune), an affiliate of World Trade Centers Association (WTCA) spread over 330 cities in 130 countries. WTC Pune is a definitive address for international businesses in India. With an unparalleled network reach, we are a global facilitator that offer businesses a strategic mix of opportunities to grow. Our objective is to serve as a major catalyst for local trade and business development at a global level. We achieve this by cultivating a pipeline of trade-ready firms in India and also maximize Foreign Direct Investment opportunities by providing companies, exploring opportunities in the region, with a multitude of value-added services to help them make strategic and better informed decisions.

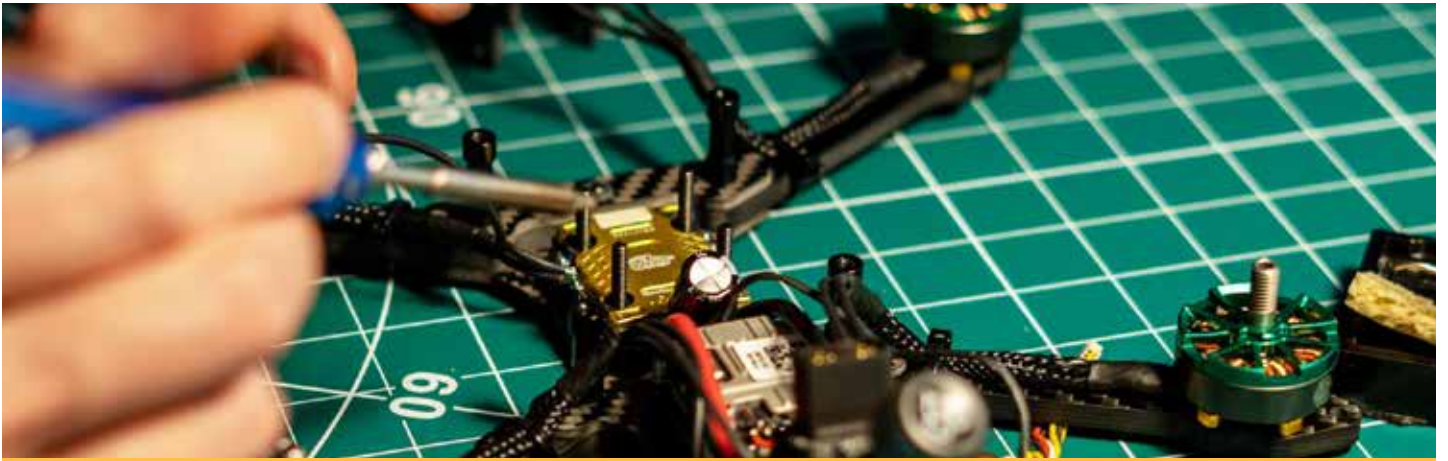
ABOUT WORLD TRADE CENTER PUNE ACADEMY:

The Education Arm of World Trade Center Pune is established with the aim to provide high quality education of international standards throughout life. We at WTC PUNE focus to provide breakthrough opportunities to passionate students in emerging industries. We present students and professionals with educational opportunities to expand their expertise and skills related to trade and commerce. We also conduct seminars, interactive sessions, workshops and certification courses in order to bridge the gap between knowledge and skills.

ABOUT BERRY AVIONICS:

Berry Avionics designs, develops, manufactures, assembles, sells, and leases high performance unmanned aerial vehicles and offer services related to their products. They emphasize performance, attractive styling, and the safety of our users. They look to develop fully auto-pilot technology for improved safety. Furthermore they are involved in to training programs related to Drones and Robotics.






4-DAY DRONE WORKSHOP

DRONE FOR STEM

OVERVIEW

This drone workshop is an excellent opportunity to learn valuable skills in STEM, which are in high demand in today's job market. Participants will have the chance to develop problem-solving abilities, enhance their teamwork skills, and improve critical thinking. The program provides insights into drone technology, which will help prepare students for their future careers. The experience not only builds self-expression and confidence but also emphasizes the importance of safety guidelines. Moreover, it's a fun and unique learning experience that can broaden horizons and inspire new interests while exploring the different modes of drone flight and practice basic and advanced flight maneuvers.

RESOURCES

- Drones (quadcopters, hex copters, FPV drone) - One per group of students, depending on the number of participants and the availability of equipment.
- Drone components (motors, propellers, flight controller, batteries, etc.) 
- Tools and safety equipment (screwdrivers, pliers, wire strippers, safety goggles, etc.)
- Mission Planner software - used for drone mission planning and programming.



The specific resources required may vary depending on the camp's location and the number of participants.

TRAINING DETAILS

Day 1 (3 HOURS)

Introduction to Drone Technology

- Welcome to the World of Drones: A Beginner's Guide
- The History and Evolution of Drone Technology
- Regulations of DGCA & Civil Aviation requirements (CAR)
- The Fundamentals of Drone Flight: Physics, Aerodynamics, and Control
- Drone Maintenance and Safety: Best Practices and Precautions

Day 2 (3 HOURS)

Explore the Engineering of Drones

- Overview of Quadcopters, Hex copters and FPV drones
- Overview of Drone Components and Functionality: From Propellers to Flight Controllers
- Advanced Drone Design: Materials, Structures, and Aerodynamics
- AERODYNAMICS
 - Controlling the motion of flight
 - Elevator | Pitch
 - Ailerons | Roll
 - Rudder | Yaw
- The Axes of flight
- Take-off flight & landing
- Maneuvers, turns & circuit pattern
- Hands-On Activity: Building a Customized Drone from Scratch
- Hands-On Activity: Drone Inspection and Maintenance

Day 3 (3 HOURS)

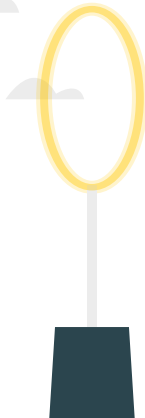
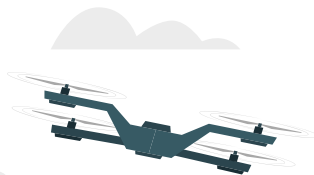
Programming and Mission Planning

- Overview of Mission Planning Software: Capabilities and Applications
- Hands-On Activity: Programming and Mission Planning for Manual Flight
- Learn how to Calibrate the Electronic Speed Controllers, Inertial Measurement Units, etc.
- The Sky's the Limit: Understanding Different Modes of Drone Flight
- Hands-On Activity: Introduction to Drone Flying and Basic Flight Maneuvers

Day 4 (3 HOURS)

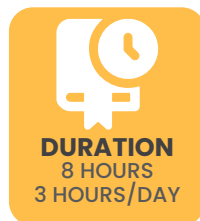
Applications, Future of Drone Technology & Flying lessons

- Applications of Drones in Industry: Agriculture, Construction, Mining, and More
- The Future of Drone Technology: Opportunities and Challenges
- Hands-On Activity: Advanced Drone Flight Maneuvers and Obstacle Course
- Soaring with Confidence: Putting Your Drone Flight Skills to the Test - Practical flying test
- Wrap up, Distribution of certificates and conclusion of training



LEARNING OUTCOMES

- Understand the historical development of unmanned aerial vehicles
- Guidelines of drone flying in India
- Structure of unmanned aerial vehicles
- Different drone parts and their contribution for successful flight operation
- Types of drone circuits /electronic parts
- Learn the criterion for the selection of various drone materials
- Make their own drones
- Gain expertise in drone frame material selection
- Perform drone maintenance and understand its challenges
- Learn about assembly modelling tools
- Gain operational knowledge of any drone
- To fly their drones with full knowledge of different legal limitations



BERRY AVIONICS



CONTACT

Suseela Krishnan

suseela@wtc-pune.org
+91 98508 68555

Sukhda Vaishampayan

sukhda@wtc-pune.org
+91 98900 88564