

Campbell PD
Drone/SUAS Basic Operator/New Equipment Orientation Course-8 Hours

Course Description:

During this 8 Hour Class, Public Safety staff will be provided with relevant information and regulations in sUAS Basic Operation, new equipment orientation and experience hands on instruction and skills building exercises.

Course Activities:

In this 8 hour course, several learning activities will be utilized, such as hands training with the departments new equipment, and skills building.

Assessment of Student Learning:

- I. Introduce key terms
 - a. Definitions
 - i. Drone vs. sUAS (Small Unmanned Aircraft System) vs. UAV (Unmanned Aerial Vehicle)
 - ii. Pilot in Charge (PIC)
 - iii. Visual Observer (VO)
 - iv. Crew Resource Management (CRM)
 - v. Certificate of Authorization (COA)
 - vi. Part 107 (14CFR part 107 Remote Pilot Certification)
 - b. Understanding of roles within a UAS program/flight operations
 - i. Program Manager
 - ii. Program Coordinator
 - iii. Pilot in Command (PIC)
 - iv. Visual Observer (VO)

- II. Small Unmanned Aircraft System (sUAS)
 - a. Introduction to new policy, waivers and UAS equipment and manufactures
 - i. New CPD policy review
 - ii. New CPD FAA waivers
 1. Tactical Beyond Visual Line of Sight jurisdictional waiver
 2. Tactical Beyond Visual Line of Sight blanket "G" airspace CONUS waiver
 - iii. Skydio2
 1. Set up and flight operations
 2. User interface
 3. Optical camera operations
 4. Video streaming
 - iv. Autell Evo II
 1. Set up and flight operations
 2. User interface
 3. DJI Crystalsky monitor
 4. Thermal camera operation

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- 5. Optical camera operations
 - 6. Lighting kit
 - 7. Live Deck video streaming
 - v. DJI Mavic Air 2
 - 1. Set up and flight operations
 - 2. User interface
 - 3. Optical camera operations
 - 4. Drop kit
 - 5. Speaker
 - 6. Indoor lighting kit
 - 7. Vide Streaming
 - b. Extra charging HUB
 - c. Batteries
 - i. Precautions
 - ii. Fireproof cases
 - d. Carrying case
 - e. Lighting
 - f. Landing pad
 - g. Larger monitors
 - i. Rapid response ground station
 - h. Mobile connectivity
 - i. Hotspots
- VIII. Flight operations, what you need to know
- a. Mission Approval
 - i. How do you get it?
 - b. Who's in charge of Flight Operations (PIC)
 - c. Risk Assessment
 - i. What you need to consider
 - 1. Weather, Rain, Wind,
 - 2. Visibility
 - 3. Lighting
 - 4. Pilot judgment
 - 5. Other hazards
 - a. Radio interference from wifi
 - b. Magnetic interference
 - c. KP Index
 - d. Received Signal Strength Indication RSSI
 - e. High voltage wires
 - f. Altitude concerns
 - g. Obstacle height
 - 6. Restricted areas
 - a. Airports
 - b. Freeways (discussion)
 - c. National Parks

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- d. Crew Resource Management (CRM)
 - i. PIC
 - ii. VO
 - iii. Who's watching the PIC's back
 - iv. Additional personnel discussion
 - e. Flying under Part 107
 - f. Airspace approval
 - i. Restricted
 - ii. Unrestricted
 - iii. NOTAM (Notice To Airman) filed through flight services
 - iv. Part 107, LANNC System Low Altitude Authorization and Notification Capability (Air Map app), (UAS Side Kick app)
 - g. Night Flight Procedures can I fly under my COA or Part 107
 - i. Required training
 - ii. Required lighting
 - iii. What constitutes night (Civil Twilight)
 - h. Emergency Procedures
 - i. Lost Link procedures
 - ii. Fly away procedure who to notify
 - i. Keeping pilot flight logs
 - i. Documentation
 - ii. Software accounts
- IX. Flight Operations
- a. Mission Approval
 - i. How do you get it?
 - b. Who's in charge of Flight Operations (PIC)
 - c. Risk Assessment
 - i. Legal Liabilities
 - d. Crew Requirements
 - i. Write into Policy and Procedures
 - e. Weather Conditions
 - i. Have documentation
 - f. Altitude Restrictions
 - g. Night Flight Procedures
 - i. Required training
 - ii. Required lighting
 - iii. What constitutes night (Civil Twilight)
 - h. Emergency Procedures
 - i. Lost Link procedures
 - ii. Fly away procedure who to notify
 - i. After Flight Procedures
 - i. Flight Log Software
 - i. Safety Drone
 - ii. Paper Log
 - iii. Evidence handling

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- X. Legal issues
 - a. 4th amendment case law
 - i. Katz v. United States, 389 U.S. 347, 351, 353 (1967)
 - ii. United States v. Karo, 468 U.S. 705, 714–15 (1984)
 - iii. California v. Ciraolo, 476 U.S. 207, 213–14 (1986)
 - iv. Florida v. Riley, 488 U.S. 445, 450–52 (1989)