**UAV Basic Flight Skills 6a and 6b**

**- Box/square pattern with nose of sUAV pointing away from pilot and towards -**

**Objective:** To teach the student basic l flight skills when operating any team sUAV

**Discussion topics:**

* Capabilities and limitations of the joysticks
* Setup of launch/landing area
* Capabilities and limitations of UAV obstacle avoidance systems
* Knowledge of orientation of UAV
* Communications with visual observers
* Use of FPV view for approach and landing

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**Student exercises:**

* Setup launch/landing area
* Set up 4 parking cones in a square 25 (twenty five) feet apart
* Setup of UAV orientation (always facing away from the pilot)
* Takeoff, function check and bring UAV up to 6 feet AGL
* Flight by visual line-of-sight keeping the UAV pointing away from the pilot
* Navigate clock wise around the cones in a box pattern for four sides or one orbit
* Communicate and coordinate with visual observer
* Land the UAV on its landing pad facing away from the pilot

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**Common mistakes:**

* Improper setup of UAV orientation and anti-collision lighting
* Unable to determine orientation and control at distance
* Unable to utilize FPV and telemetry to locate launch/landing area
* Failure to maintain situational awareness of aircraft and hazards
* Failure to communication and coordinate with visual observer
* Failure to understand visual camera limitations
* Failure to land the UAV in any orientation other than pointing directly away from the pilot

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* Student launches drone to 6 feet AGL
* Student performs a clock wise orbit (see attached drawing #1) with UAV orientated **away** from the pilot at all times
* Student performs a clock wise orbit (see attached drawing #2) with UAV oriented **towards** the pilot at all times
* Student understands the use of the both sticks to control the flight
* Student maintains control of aircraft during flight and maintains orientation based on VLOS and FPV
* Student communicates and coordinates with the visual observer
* Student is able to approach the launch/landing area and prepare for landing with proper orientation

 **Drawing #1**

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 **X**

 **Pilot stands here**

 **Drawing #2**

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 **X**

 **Pilot stands here**