**UAV Basic Flight Skill 3**

**- In-Flight UAV Orientation with Head Oriented Towards the PIC -**

**Objective:** To teach the novice student first-time flying skills when operating any team sUAV

**Discussion topics:**

* The differences on how the UAV moves when the UAV is oriented away from or facing the PIC
* Setup of launch/landing area
* Knowledge of orientation of UAV
* Communications with visual observers
* Use of FPV view for approach and landing

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Student exercises:**

* Setup launch/landing pad(s)
* Place UAV in center of launch pad
* Takeoff and bring UAV up to 6 feet AGL
* Check both joy sticks for proper control of the UAV
* Have student make sure the UAV is oriented away from the PIC
* Have the student fly the UAV up to a safe altitude approximately 30 feet AGL
* Using the screen data, have the PIC fly away to a distance of 50 feet
* Have the student note the drone heading by the using the screen
* Have the student yaw left 180 degrees (the head of the UAV should be facing the PIC
* Have the student tell the amount of battery life (and flight time)left
* Have the student fly the UAV left a short distance (note the UAV moves in the opposite direction)
* Have the student fly the UAV right a short distance
* Have the student note the UAV head orientation on the control screen
* Have the student return to home while maintaining the UAV head towards the PIC
* Land the UAV on its landing pad facing away from the pilot

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Common mistakes:**

* Improper setup of UAV orientation on the launch pad
* Unable to rotate the UAV
* Unable to have the UAV make slow, controlled movements left, right, forward and backward
* Failure to communication and coordinate with visual observer
* Failure to land the UAV in any orientation other than pointing directly away from the pilot
* Failure to land completely on the landing pad

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Completion standards:**

* Student launches drone to 6 feet AGL
* Student flies up to and maintains 30 feet AGL
* Student successfully moves UAV left and right
* Student yaws the UAV 180 degrees
* Student demonstrates the ability to read the information on the controller screen
* 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 – with head pointing away from the pilot