

UAV Safety Checklist

Required Persons:

- **Pilot:** in charge of flying the UAV with either the remote or Ground Control Station (GCS)

- **Dr. Adams or Anton**
 - Dr. Adams' Cell: 615.519.5573
 - Dr. Adams' Office: 615.322.8481
- **Pedestrian Monitors:** two people who monitor nearby pedestrians and direct them to outside of the coned in area

- **Safety:** In charge of this checklist and that all protocols are followed. Also watches Pilot and make sure no mistakes are made

Equipment Checklist:

- | | |
|---|---|
| <input type="checkbox"/> UAV | <input type="checkbox"/> Tent Spikes |
| <input type="checkbox"/> Battery (charged to 16.8V) | <input type="checkbox"/> Hammer or wood block |
| <input type="checkbox"/> Remote Control | <input type="checkbox"/> Telemetry for Computer |
| <input type="checkbox"/> Orange and Yellow Cones | <input type="checkbox"/> Computer |
| <input type="checkbox"/> Tethering System | <input type="checkbox"/> Electrical Tape |
| <input type="checkbox"/> Tether Rope (tied at 50') | <input type="checkbox"/> First Aid Kit |
| <input type="checkbox"/> Multimeter | |

UAV Preperation:

- ☐ Propellors checked for chips
- ☐ Landing gear in good condition
- ☐ All wires plugged in securely
- ☐ Battery charged and checked with multimeter
 - 16.8 Volts
- ☐ All components secured
 - Battery
 - Nook System
 - WiFi Antenna
 - Propellors
 - Cameras
 - Lidar
 - Mechanism Plate
 - Actuator
- ☐ All screws and wires in good condition
- ☐ Apply pressure on arms to check for loose components
- ☐ Remote
 - Battery Charged to 8v and remote shows fully charged
 - All levers in neutral (zero) position
 - All trims in neutral position

Enviroment:

- ☐ Wind Speed is < 10 MPH
 - Use the windmeter to determine current speed
 - Monitor throughout flight if a gusty day
- ☐ No obstacles in coned off area
- ☐ Notify Campus Police
 - 615.322.2745
 - They need to know when, where, and how long you will be flying
 - If the VUPD seems confused, mention that Capt. Thomas is familiar with Dr. Adams' project

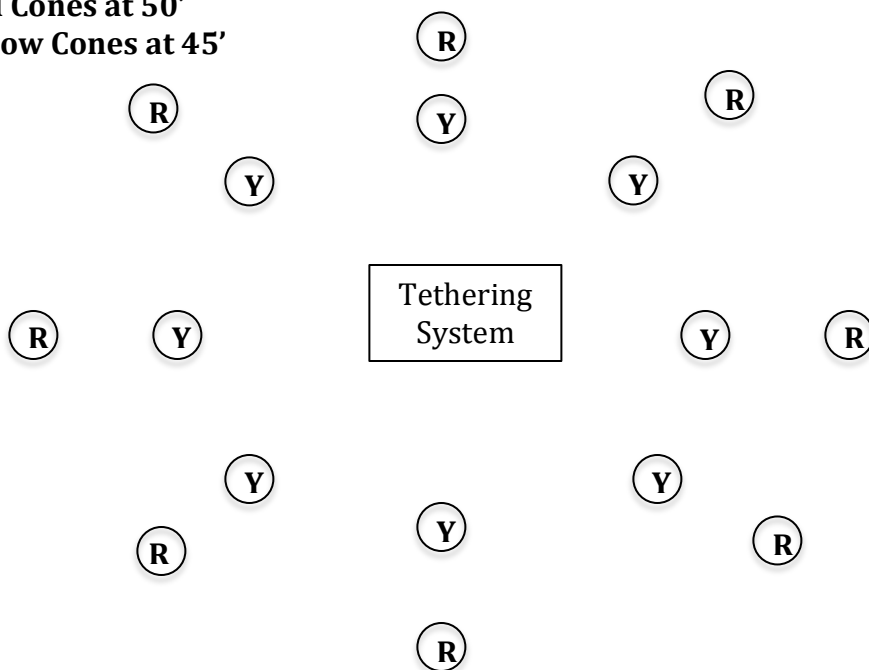
- As back-up: Capt. Corwin Thomas
 - 615.456.8817

- ☐ Notify Life-flight
 - 615.322.3211
 - They need to know when, where, and how long you will be flying
- ☐ First Aid Kit from UAV Lab

Tethering System:

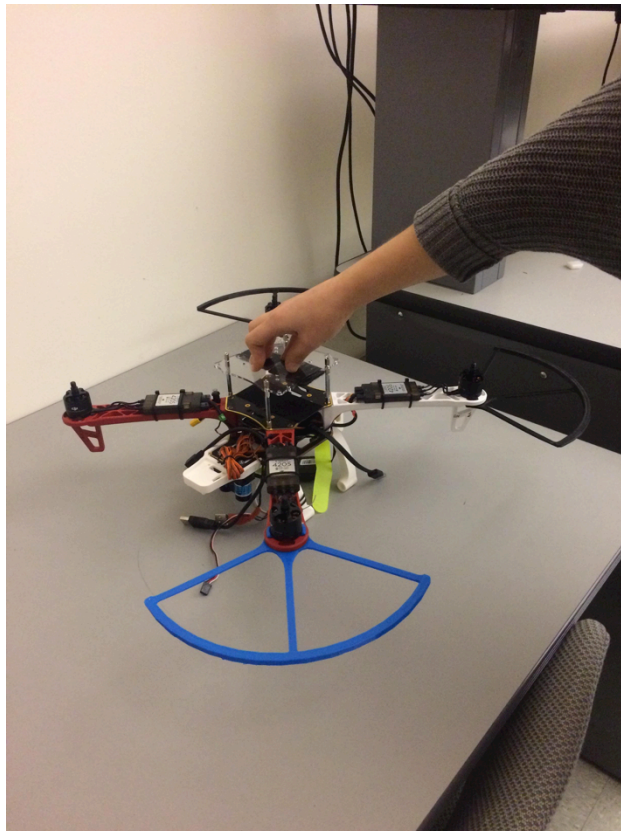
- ☐ Placed on level Ground
- ☐ Rope checked for frays
- ☐ Tent spikes in metal bracket and firmly secured to ground
- ☐ Cones put out as shown below

R: Red Cones at 50'
Y: Yellow Cones at 45'



UAV Turning On:

- ☐ UAV Securely connected to tethering system
- ☐ Remote turned off
- ☐ Hold UAV from the top w/ arm straight down
 - See picture below
- ☐ Connect battery
- ☐ Ensure lights and audible tones are correct
- ☐ Power NUC
- ☐ Hold down safety switch for 2 seconds



UAV Flight:

- ☐ All persons outside of cones and remain outside of cones
- ☐ Battery is checked after each flight
 - Do not fly if battery is lower than 50%
 - Need to land if GCS shows battery level is below 50%
- ☐ Turn remote on or connect ground control station
 - Send arm command or use remote to arm
 - To arm with remote, move throttle lever down and to the right and wait for the pixhawk to flash
 - Yell "Clear"
 - For first flight
 - Use remote
 - Slowly throttle up while listening to UAV for any abnormalities
- ☐ Landing
 - Disarm UAV
 - To disarm with remote, move throttle lever down and to the left and wait for the pixhawk to flash
 - Yell "Disarmed"
 - Hold UAV down from the top w/ arm straight down
 - Hold down safety switch for 2 seconds
 - Unplug battery
 - Check for any signs of damage or wear
 - Inspect Propellers
 - Loose Wires
 - Everything still secured
- ☐ If there is a crash
 - Turn remote off or send kill command from GCS
 - Hold UAV down from the top w/ arm straight down
 - Unplug battery
 - Check for damage

When finished flying for the day, remove from tether and remove battery from UAV