2026 CONTEST PRE-TECH & FLIGHT CERTIFICATION

University: _____

Inspector (Print Name): _____

Inspector Affiliation: ☐ **Faculty Advisor** ☐ **Non-Student Pilot**

1. Systems

Pass / Fail	Verify that the receiver(s) is powered by a **separate** NiCad, NiMH, or LiPo battery with an accessible switch **EXTERNAL** to the aircraft. ***NOTE:*** *If a Battery Elimination Circuit (BEC) exists on the Speed Controller, it* ***MUST*** *Be disabled.*
Pass / Fail	Verify all components are adequately secured to the vehicle and all permanent fasteners are tight and have either safety wire, thread locker (Loctite™), or nuts/screws with a mechanical interference fit such as nylon inserts or patches or self-locking threads. Clevises on flight controls must have an appropriate mechanical locking device to prevent their disengaging in flight.
Pass / Fail	Verify all control rods are of the proper gauge/strength and are securely attached to control horns.
Pass / Fail	Verify all control horns are properly secured to the control surfaces. Commercially available control horns **MUST** be installed per manufacturer's instructions. (NOTE: Control horns may not be adhered to film surfaces.)
Pass / Fail	Verify control surfaces and wing-surfaces are of adequate flutter & aero-elastic resistance

2. Propulsion System

Pass / Fail	Verify all propeller(s) and hub/pitch mechanism(s) are commercially available and verify their mounting integrity.
Pass / Fail	Verify all propulsion is provided by an unmodified commercially available electric motor.
Pass / Fail	Verify a **blade-style** fuse holder is connected to the **positive (+)** battery terminal of each propulsion system. - A propulsion system is defined as 1 Battery, 1 Fuse, 1 or more ESCs, and 1 or more Motors.
Pass / Fail	Verify the fuse holder is located on upper surface of aircraft, a **minimum** of 6" ahead of a pusher propeller or behind a tractor propeller, and is externally mounted and accessible such that the fuse may be installed and removed without removal or opening of any cover(s).
Pass / Fail	Verify all connections are fully insulated (shrink-wrap preferred) and no wires are visible.

3. Propulsion Battery (check all flight packs to be used)

Pass / Fail	Verify ALL propulsion packs are of the same chemistry. Circle one of the permissible options below: *Nickel-Cadmium (NiCad)* *Nickel-Metal-Hydride (NiMH)* *Lithium Based*
Pass / Fail	Verify all propulsion packs are commercially available and **labeled by the manufacturer** with 1) manufacturer name, 2) Voltage, 3) Discharge C-Rating, and 4) Capacity (must be less ≤ 100Wh). Label info must not be obscured/covered. - If multiple propulsion packs are used in a single mission, they must be identical and ≤ 100Wh combined.
Pass / Fail	Verify that only 1 battery pack may be connected to each propulsion system. No batteries may be connected in Parallel or Series.
Pass / Fail	Verify each battery pack is properly shrink wrapped over its entirety and all contacts and external connectors are insulated.
Pass / Fail	Verify all packs may be properly secured within the air vehicle.
Pass / Fail	Verify arming fuse does not exceed minimum of **100 amps** OR the Lithium battery discharge limit. Lithium battery Discharge Limit (mAh x C-Rating/1000): _____ - If packs used for different missions have different discharge rates, each pack must have its own corresponding arming fuse up to 100 amps each.

4. Tip Test

Pass / Fail	Verify aircraft in MGTOW configuration is **< 55lbs.**
Pass / Fail	Verify aircraft has a CG Mark for each possible mission configuration, and that CG marks are correct & reasonable.
Pass / Fail	Have students lift the aircraft configured in the MGTOW condition from the wingtips at the appropriate CG mark. All other parts of the aircraft must not be supported, and structural integrity must be maintained without **ANY** damage.

5. Radio Range Check and Failsafe Validation

- The Vehicle must be controlled by a commercially available Radio-Controlled Transmitter (Tx) and Receiver (Rx) that can support the required failsafe requirements listed below. The failsafe must automatically engage upon loss of Tx signal.

Transmitter Frequency Band used (circle one): 72 MHz 900 MHz 2.4 GHz

- With one member holding the aircraft, the operator (pilot) must perform a range check **per the instructions of the radio manufacturer.** Note: team must know how to perform this range check at the DBF flyoff.
- Always ensure the propeller area is clear before installing fuse and/or advancing the throttle.

Pass / Fail	Start by turning on the radio system with fuse(s) pulled. Cycle throttle; verify no engine/prop movement/propulsion and verify all other controls work properly.
Pass / Fail	Verify the BEC has been eliminated by installing the fuse(s), turning the RX switch off, and demonstrating that the transmitter does not command the aircraft.
	Pull the fuse(s), turn RX switch back on.
Pass / Fail	Verify the area is clear and install the fuse. Apply 1/4 power, have the pilot check the following responses:

☐ Right Roll	☐ Left Roll	☐ Right Yaw	☐ Left Yaw
☐ Nose Up	☐ Nose Down	☐ Throttle cutoff	☐ Throttle back to ¼

(with throttle remaining at ¼ power)
Verify Lost-Link Failsafe works properly by turning off the Transmitter(s):

☐ Throttle closed	☐ Full up elevator	☐ Full right rudder	☐ Full right aileron	☐ Full flaps down (if applicable)

6. Configuration

Pass / Fail	Verify the airplane configuration matches the configuration provided in the Stand Alone Configuration Drawing in accordance with the rules and FAQ.

7. Mission Compliance

Pass / Fail	Verify wingspan does not exceed 5 feet.
Pass / Fail	Verify that the airplane carries a minimum of 3 passengers in a single passenger compartment on a single plane parallel to the horizontal plane while in flight. Each passenger must be loaded individually.
Pass / Fail	Verify that all passengers are fully restrained in a vertical and upright orientation and are prevented from moving during all phases of flight, including landing.
Pass / Fail	Verify the passenger compartment is accessed by one or more doors or hatches for loading and unloading of passengers. The door(s) allows access only to the passenger compartment, and not to the cargo bay(s) or other internal sections of the airplane. Each door or hatch must remain rigidly attached to the airplane when opening and in the open configuration.
Pass / Fail	Verify that the airplane carries a minimum of 1 piece of cargo.
Pass / Fail	Verify the cargo is carried in a separate cargo bay(s) that is either in front of, behind, or below the passengers. The airplane may have multiple cargo bays, but each cargo bay must be separated from the passenger compartment and other cargo bays by a solid bulkhead or floor.
Pass / Fail	Verify the cargo bay(s) are accessed by a door or hatch for loading and unloading of cargo. The door or hatch allows access only to the cargo bay(s), and not to the passenger bay(s) or other internal sections of the airplane. Each door or hatch must remain rigidly attached to the airplane when opening and in the open configuration.
Pass / Fail	Verify the cargo is restrained to prevent movement during all phases of flight, including landing. There are no restrictions on touching other cargo, other parts of the airplane, orientation, etc. If a cargo holding fixture is implemented, it may be removed from the airplane for loading and unloading cargo.
Pass / Fail	Verify the banner has a minimum length of 10 inches and a maximum aspect ratio (length/height) of 5 (for the required minimum length of 10 inches, the required minimum height is 2 inches). Verify that the banner has the team's university name or logo on both sides.
Pass / Fail	Verify the banner is compactly stowed externally to the airplane for take-off, does not interfere with any flight or control functions while stowed, and does not touch the ground during take-off.

8. Flight Validation

Pass / **Fail** The competition aircraft has flown a complete successful flight including a minimum of:

- Ground take-off meeting all requirements outlined in the contest rules.
- Minimum flight pattern demonstration, which requires a 180° turn to the left or right, followed by a 360° turn in the opposite direction of the first turn, followed by a 180° turn in the same direction as the first turn, while maintaining altitude and adequate control of the vehicle.
- Landing within a designated area with no damage to aircraft.

Certification

My signature below certifies that:

- **Every Pre-Tech item on this form has been verified as "Pass".**
  *Note: If any Pre-Tech item(s) was previously marked "Fail", the change to "Pass" for each failed item must be separately **confirmed and initialed** by the pre-tech inspector in order for this form to be valid.*

- **The competition airplane has successfully completed the flight validation requirements.**

Inspector Signature: _____

Date of inspection: _____