OFFICIAL RULES FOR THE

2016 TULSA ENGINEERING CHALLENGE

Sponsored by the Tulsa Engineering Foundation

PAPER AIRPLANE COMPETITION
DURATION OF FLIGHT CATEGORY

OBJECTIVE

Design, document, fabricate (or fold), and flight-test a "paper" airplane to demonstrate maximum duration of flight.

COMPETITION ENTRY REQUIREMENTS

Each registered entrant (individual or team) may submit one (1) aircraft into a fly-off competition for maximum duration of flight. Each registration form must be accompanied by a drawing or sketch of the aircraft design to be submitted. The design documentation should also include either a brief list of the materials used or, at least, the name of the material option used (from the list of three choices shown below). All entries will be verified against the registered Design Documents prior to acceptance for flight-testing.

MATERIAL OPTIONS:

Single-sheet Paper

One sheet of paper, not larger than 11 x 17 inches (27.9 x 43.2 cm). It is NOT required that the entire sheet be used. The paper may be of any weight (tissue, newspaper, gift wrap, copier paper, etc.) up to (and including) index card or manila folder stock. NO corrugated cardboard or poster board is to be used.

Adhesives

White glue and scotch tape. Masses of tape or glue are NOT to be used for added weight.

Paper Clips (maximum of three), standard office size (No.1, 1.25 inches long).

Double-sheet Paper

Two sheets of paper, each not larger than 8.5 x 11 inches (21.6 x 27.9 cm). It is NOT required that the entire sheet be used. Each sheet of paper may be of any weight up to (and including) standard light, single-ply poster board. NO corrugated cardboard, foam board, or heavy poster board is allowed.

White glue and scotch tape. Masses of tape or glue are NOT to be used for added weight.

Paper Clips (maximum of three), standard office size (No.1, 1.25 inches long).

Single-sheet Foil

One sheet of aluminum foil, not larger than 11 x 17 inches (27.9 x 43.2 cm). It is NOT required that the entire sheet be used. The foil should be standard kitchen-type foil but may be either regular or heavy-duty.

Scotch tape (to be used for adhesive purposes only). Masses of tape are NOT to be used for added weight. Masses or wads of foil, taken from the original single sheet, may be taped, folded, or formed in place to adjust balance. Note: NO paper clips are allowed in this option.

CONSTRUCTION SPECIFICATIONS

All aircraft are to be folded or built by the student team members only. Materials used in the fabrication of the aircraft are strictly limited to those listed in the Material Options. The aircraft may be any size or shape excluding disks or saucers. The aircraft must be capable of aerodynamic glider flight. (NO rubber bands or other power sources. NO crumpled balls of paper or foil "flying" by ballistic inertia.) The aircraft must be of sufficiently sturdy construction to be hand-launched (thrown) by a team member. NO throwing-sticks, springs, or other mechanical devices may be used. *Special note for foil aircraft:* at least one small area of exposed scotch tape should be provided to allow the officials to initial the entry after inspection.

COMPETITION SPECIFICATIONS

During all phases of the competition, the decisions of the Judges are **FINAL**.

PRE-TEST-FLIGHT ACTIVITIES

The competition will run continuously during the Challenge hours, between 8:30 am and 12 noon.

The competition area will be marked and will be off-limits except for the Officials and any special assistants specifically designated by the Officials. Team members will only enter the competition area when it is their turn to fly their aircraft.

Prior to the testing, each competitor shall submit their aircraft to the Officials for inspection. After verifying that the entry complies with the contest Construction Specifications and matches the design document submitted at registration, the inspecting Official will initial the aircraft and place it on the designated staging table or area.

Each aircraft shall be registered to and flight-tested by one and only one team. No re-registration, sharing, or trading of planes is allowed.

Each team is responsible for visual security of their entry (watching from outside the off-limits area) and for being aware of when it is their aircraft's turn to be tested. No time will be spent looking for or waiting for teams not present when it is their turn. If a team is not present for their turn, that aircraft will be moved to the back end of the staging line (and may be eliminated from the competition by time limitations).

TEST-FLIGHT SEQUENCE

The fly-off will be held in an indoor facility with sufficient floor space and ceiling height (approximately 10 feet or 3.05 meters) for the tests and shall consist of a maximum of two (2) valid flights per entry.

There will be one team member designated as the launcher for each team. When the team's turn arrives, the launcher will retrieve the team's aircraft from the staging area and launch the plane from within a three foot (.914 m) diameter circle marked on the floor of the competition area. An Official (or assistant) will time the duration of each flight from release to the moment of first contact with the floor.

If the aircraft flies outside the designated area, and should touch a structure (wall, column, etc.) or spectator during flight, that test flight will be declared ended at that moment. If the aircraft fly's inside the designated area, and touches or is interfered with by a spectator (other than the owning team) during flight, that test flight will be declared invalid and will not count against the team's 2 flight maximum.

If the aircraft touches, is aided by, or interfered with by a member of that entry's owning team during flight, that test flight will be considered VALID but a duration of ZERO (0) seconds will be noted for that flight.

Between test-flights, the owning team may straighten, refold, and/or adjust their aircraft but NO new material is to be added (the plane should be sturdy enough to survive a normal flight without needing major repairs). The Officials may allow exceptions to this rule in extreme cases, such as for damage caused on purpose by spectator interference.

JUDGING AND SCORING

For each entry, the longest valid flight duration will be recorded and the Judges will determine a First, Second, and Third Place winner for each of the three student divisions. The winning team members need not be present when winners are announced.

GENERAL

The contest is limited to six (6) entries per division per school. Each entry may be an individual or a team project, conducted by teams of up to two students.

Registration will be done via the TECh web page which can be accessed through www.tulsaengineer.org. Questions? E-mail: tulsatechchallenge@gmail.com

PRIZES

Prizes will be awarded for three divisions as follows: Upper Division (9th thru 12th) for the Middle Division (7th thru 8th) and Lower Division (6th grade and under). In the event of a tie, prizes will be equally distributed between winning entries.

First Place:	$50 cash and $25 for their classroom.
Second Place:	$40 cash and $25 for their classroom.
Third Place:	$25 cash and $25 for their classroom.

Cash prizes will be awarded by a bank check and issued to the teacher/school listed on the registration to be cashed and distributed to the winning student(s). We will mail a check to the address listed on the registration within a few weeks of the competition. If you do not receive your prize or certificates within a few weeks, please email info@tulsaengineer.org with your team name, school, and competition won.

SPECIAL NOTE:

To help in your development efforts, you may be interested to know that the winners of the first National Contest turned in a performance of 10.2 seconds in the duration competition.