

3D Printed Aircraft Competition held at UTA

Frequently Asked Questions

1. Does the overall design of the vehicle need to be an original design or can an existing concept be used? If we do use propellers, can we use part files we find online if sourced, or do we need to design/CAD our own propellers?
An existing concept design may be used but the detailed design should be your own
2. Would the use of deployable wings be against the rule in regards to “all lifting surfaces must remain fixed”?
Deployable wings are acceptable for the fixed wing category as long as they remain fixed with respect to the airstream once deployed
3. How is the grading and judging performed and how are the points earned or calculated? Are there any other criteria involved with the grading other than the maximum time in the air. Is it enough to just keep the aircraft in air or we should display its ability to hover and change its coordinates across the field space?
The only metric is flight time but aircraft or flights may be disqualified if they violate a rule or are deemed unsafe. No bonus points are given for maneuverability, speed, or other capabilities but innovative designs will be considered for the Altair Most Innovative Design Award
4. Any kind of controller, motor and propulsion should be cut off after 5 seconds. Is that right? Is there any particular rule to un-power the aircraft after specified 5 seconds duration? What does powered or unpowered flight for a maximum of 5 seconds mean?
The aircraft can only be powered for a cumulative maximum of 5 seconds and must be unpowered after 5 seconds for the remainder of the flight.
5. Rule says, 'There are no size, configuration, weight or material restrictions...' , Since, there are no configuration restrictions, does combination of fixed and rotary wing designs fall into the Rotary Wing Category? (for example: adding wings or fins in Rotary aircraft).
In this case the team can submit a petition to the judging committee prior to the competition to have the aircraft considered to compete in either the fixed or the rotary wing category but not both. The judging committee will make the final determination of which category the aircraft will compete in.
6. Could part of the aircraft fall off and the time count until the second part falls?
Flight time stops when any part of the aircraft first touches the ground.
7. Can we shave off or manipulate the 3D printed part?
3D printed parts may be post-processed with finishing operations such as filing or sanding but no non-3D printed materials may be added to the airframe during post-processing
8. When saying "prize for longest duration flight", is this path independent, or is the total distance of the flight path taken into consideration?
The only metric is flight duration, regardless of distance
9. Is there a design deadline?
A design report following the provided template must be submitted by the entry deadline to be eligible for the Altair Most Innovative Design Award and to receive t-shirts
10. It says a team of any size; does that include a "team" of one individual?
A team may consist of only one individual

11. Can an incoming freshman be included in a student team?
All team members must have been undergraduate or graduate students enrolled either Spring or Summer Term at an accredited university
12. There's a possibility that the vehicle could go briefly out of bounds several times during flight. Is this accounted for by totaling the amount of time out of bounds, rather than resetting the timer with each infraction?
The boundary violation time restriction is cumulative for all violations
13. Will the location be indoors or out on a football field? This will affect how much flight control authority I need for my design. When will we find out about the venue time and location for presentations, competition, etc.?
The fly-off site is an outdoor football field in Texas in the summer. Environmental conditions could include wind, rain, or heat.
14. I understand that the aircraft might be autonomous vehicle or we can control it for its navigation.
Yes, the aircraft may be controlled or uncontrolled but must remain within the given boundaries
15. Can students be removed or added to a competition team post registering names on January 31st?
Team membership can be changed up until the design submission, which is due May 31, and must list the final team composition along with each members contribution to the design effort. There is no limit to the number of students on a team but prize money is awarded as a team and would be split by all team members.
16. How crucial is it that the students attend the competition?
A minimum of one student is required to attend the competition to pilot the aircraft.
17. It mentions that aircraft may be unpowered or they may be powered using a safe propulsion method. Is using an electric motor or some kind of electrical thing considered a safe propulsion method?
Yes, electric propulsion is considered safe. We mostly want to avoid open flames but the judging committee has final say regarding what is safe.
18. Are aircraft launched from a certain height or just thrown from ground level?
Aircraft may launch from whatever height can be achieved from a human launch without any apparatus or equipment (e.g., no ladders, stools, catapults, etc.—only humans).