

SkyQuest: Aerial Drone Mastery Challenge

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1. Introduction

1.1 About the Competition

The SkyQuest: Aerial Drone Mastery Challenge is a robotics competition that challenges teams to design, program, and pilot autonomous drones capable of performing aerial tasks and challenges.

1.2 Objective

The primary objective of the competition is to promote drone technology and innovation by simulating real-world scenarios where drones must navigate and perform tasks in an aerial environment.

1.3 Eligibility

The competition is open to students, drone enthusiasts, and technology enthusiasts of all ages. Each team can have a minimum of 2 members and a maximum of 4 members.

1.4 Competition Dates and Location

The competition will take place on [Date] at [Venue]. Detailed schedules and event information will be provided to registered teams.

1.5 Organizers and Sponsors

The competition is organized by [Organizing Entity], in collaboration with [Sponsors]. The organizers are committed to providing a fair and exciting competition environment.

1.6 Contact Information

For inquiries and additional information, please contact [Contact Name] at [Contact Email] or [Contact Phone].

2. Competition Overview

2.1 Aerial Arena Design

The competition arena will feature an aerial course with various challenges, obstacles, targets, and waypoints. The arena will be designed to test the capabilities of the participating drones.

2.2 Drone Specifications

- Drones must be capable of autonomous flight and pre-programmed before the competition.
- Drones should adhere to [Dimensions] size limits and [Weight Limit].

- Sensors, cameras, and other technologies can be used for navigation and tasks.
- Drones should be equipped with mechanisms to interact with challenges and complete tasks.

2.3 Team Composition

Each team can have a minimum of 2 members and a maximum of 4 members. Teams are responsible for designing, building, programming, and piloting their drones.

3. Rules and Guidelines

3.1 Drone Design and Build Rules

- Teams are responsible for designing and building their own drones.
- Drones should adhere to size and weight limits specified in the rules.
- Drones must be safe to operate and should not pose a danger to participants, spectators, or judges.

3.2 Autonomous Flight

- Drones must be capable of autonomous flight and navigation through the aerial challenges.
- Pre-programming should be done before the start of each match.

3.3 Sensors and Technologies

- Teams can use a variety of sensors, cameras, and technologies to navigate challenges.

3.4 Aerial Challenges

- Drones must complete various aerial challenges and tasks as outlined in the competition guidelines.
- Challenges may include obstacle courses, target hits, precision landings, and more.

3.5 Scoring and Objectives

- Points are awarded for successfully completing challenges and tasks.
- Bonus points may be awarded for exceptional performance or completing challenges in less time.
- Scoring is based on points earned and completion time.

3.6 Safety Regulations

- Safety of participants, spectators, and judges is a top priority.
- Drones should not pose any danger to people or other drones.

3.7 Fair Play and Conduct

- Teams are expected to follow the competition rules and exhibit good sportsmanship.
- Any attempts to gain an unfair advantage may result in disqualification.

3.8 Referees and Judge Decisions

- Referees oversee the matches and enforce the rules.
- Judges evaluate drones based on their performance and adherence to rules.

3.9 Penalties and Disqualifications

- Penalties may be applied for rule violations or unsafe behavior.
- Serious violations may lead to disqualification from the competition.

4. Competition Rounds

4.1 Match Structure

- Each team gets multiple attempts to complete challenges and tasks.
- The team's drone starts from a designated starting point.

4.2 Starting Point and Drone Activation

- Drones are activated from the starting point using pre-programmed instructions.

4.3 Autonomous Flight and Navigation

- Drones must autonomously navigate through the aerial challenges.

4.4 Completion and Time Limit

- Drones are scored based on their completion time and accuracy.

5. Scoring and Rankings

5.1 Scoring Criteria

- Points are awarded for successfully completing challenges and tasks.
- Higher points may be awarded for exceptional performance or precision.

5.2 Bonus Points

- Bonus points may be awarded for completing challenges with exceptional skill.
- Bonus points may be awarded for completing tasks in less time.

5.3 Tiebreaker Rules

- In case of tie scores, the team with the shortest completion time wins.

5.4 Announcement of Winners

- Winners will be announced at the award ceremony.

6. Safety and Regulations

6.1 Participant Safety

- Participants must adhere to safety guidelines and instructions.
- Proper attire and safety gear are required in designated areas.

6.2 Drone Safety

- Drones must be designed to operate safely in the competition environment.
- Drones should not pose any danger to people or other drones.

6.3 Emergency Procedures

- In case of emergencies, participants must follow instructions from event staff.

7. Registration and Participation

7.1 Team Registration

- Teams must register for the competition by the specified deadline.
- Registration details and forms can be found on the official website.

7.2 Team Responsibilities

- Teams are responsible for their own transportation, accommodation, and equipment.

7.3 Drone Inspection

- Drones must undergo an inspection to ensure compliance with the rules.
- Inspection checklist and requirements will be provided to teams.

8. Judging and Evaluation

8.1 Judging Panel

- Referees and judges evaluate drones based on performance and adherence to rules.

8.2 Evaluation Criteria

- Scoring is based on completion of challenges, accuracy, and bonus tasks.

8.3 Transparency and Appeals

- Referees' decisions are final, but appeals may be considered based on merit.

9. Prizes and Awards

9.1 Prize Categories

- Prizes will be awarded to top-performing teams in various categories.

9.2 Award Ceremony

- The award ceremony will take place after the competition rounds.

10. Media and Documentation

10.1 Media Coverage

- Participants may be photographed or filmed during the competition for media coverage.

10.2 Documentation Requirements

- Teams are required to submit documentation detailing their drone's design and algorithms.

11. Code of Conduct

11.1 Professionalism and Respect

- Participants are expected to behave professionally and treat others with respect.

11.2 Sportsmanship

- Good sportsmanship is expected throughout the competition.

12. Appendices

12.1 Glossary of Terms

- Definitions of key terms used in the rule book.

12.2 Arena Diagram

- Diagram illustrating the layout of the aerial competition arena.

12.3 Drone Inspection Checklist

- Detailed checklist for drone inspection.

[End of Rule Book]