



“The Drones are Coming”

Phase 1 Requirements + Timeline:

REQUIREMENTS:

Competition Disclaimer: The performance of teams based on the rules of this competition will determine the winner. Opportunities for interactions with industry professionals will be provided. These rules are intended to be of similar difficulty as university curricula. The competition creators reserve the right to modify the rules and issue addendums and updates as the year proceeds. GradFly and the creators of this contest are in no way liable for injuries or harm resulting from participants in this competition. Participation in this contest means that participants waive the rights to sue GradFly and the creators of this contest, for any damages or harm that occurs as a result of activities undertaken in connection with this contest.

Group Registration

- Three to five members.
- Members may be undergraduate students, graduate students,
- Groups must register no later than two weeks after the drone contest is announced.
- At registration, group must create a team name and list of members and majors (if applicable) must be submitted to GradFly team by submitting the information on the contest website (www.thedronesare.com/ng) or via email to Nicholas@gradf.ly
- *Submissions must be received by October 13th.*

Prize

- Cash prize of \$1000 dollars by check to the winning team.

"Drone" or Unmanned Self-propelled Vehicle Requirements

- Must be an original idea- will be reviewed by GradFly team to ensure no plagiarism.
- Drone can be aerial, aquatic, or terrestrial.
- Must address a social/economic issue. (Examples include: hypersalinity of road conditions during winter, monitoring invasive species in the Great Lakes region, monitoring of high crime areas, and so on.)
- Project must be feasible concept to fit limitations of readily available technology.

Final Projects

- Projects will be judged by a judging panel composed of UB Professors; STEM professionals, executives; and CEO of GradFly.
- Teams will pitch their ideas to the judging panel as if they were venture capitalists, or a board of directors looking to fund internal projects.

- Professionalism is expected throughout the process.
- Projects will be evaluated on creativity, thoroughness, lack of grammatical errors, and salesmanship during the presentation.
- A team's completed project will be selected at random to serve as the normalized score rubric.

DELIVERABLES: Group Must Document Progress on GradFly

Fact Sheet: Must list the goals and purposes of the drone, as well as a brief description of operational goals. The system must be able of withstanding full range of operational environment temperatures, externally and internally. **Drone concept is expected to fit the criteria expected of an actual build.**

Design Journal:

- requires title page with abstract,
- brief description of problem and approach,
- process of developing,
- mission requirements analysis,
- design rationale,
- expected performance
- programmatic risks,
- descriptions of vehicle design
- design descriptions of vehicle, method of autonomy, data link, payload, ground control station, mission planning and data processing.

Drone operational specs: Teams should focus on type of communication, control system, materials used, and the propulsion system.

All materials are due by 11:59 pm of the deadline, with no exceptions.

Concept: must show the group's finished drone will look like from several different angles

- AutoCAD, SolidWorks, or other means (Circuitry, functional block breakdown giving broad overview of system)

Presentation: should be well organized and properly display the summary, concept, brief summary of the design journal, and explain how the drone will combat the selected social problem. Focus should be on professionalism, organization, clarity, and descriptiveness.

Finalists of Phase 1 Continue to Phase 2 :

- Groups will be required to find a mentor, or they will be assigned one.
- Group must document development in GradFly
- Presentation to the panel to determine the 2015 winner

TIMELINE

Contest details announced after 1 week

- September 29th

Informational/Team Creation Session

- October 3rd

Groups must be formed by 2 weeks after that

- October 13th

Project overview/Fact Sheet due

- October 29th

Model/concept design and project development plan due

- November 7th

Description and presentation, project journal due

- November 20th

Judging to select the finalists for phase 2 due 13 weeks

- November 27th

Finalists announced

- November 29th

Finalist Phase TBA