Advanced Quadcopter (Introduction)

1. Teams will first assemble their own quadcopter from a kit.
2. Teams will then configure the flight controller with a Mission Planner software running Ardupilot or Pixhawk firmware. (open source)
3. Teams will learn how the Mission Planner configuration interface works and will be challenged to integrate several sensors.

Examples of programmatic flight applications include:

- Video Surveillance/Security
- Autonomous waypoint flight for mapping a field or open area
- Search and Rescue – find an object using an automatously planned flight and reviewing the images
- Navigate an obstacle course indoors using the acoustic sonar sensor and optic flow sensors
- Using telemetry radios, students will monitor the drones flight, critical functions and mission status.
- Students should understand that these projects are difficult and may require 15 hours a week to be successfully completed.