



# UAS4 STEM

2024 BEGINNER DIVISION

RULEBOOK V-2

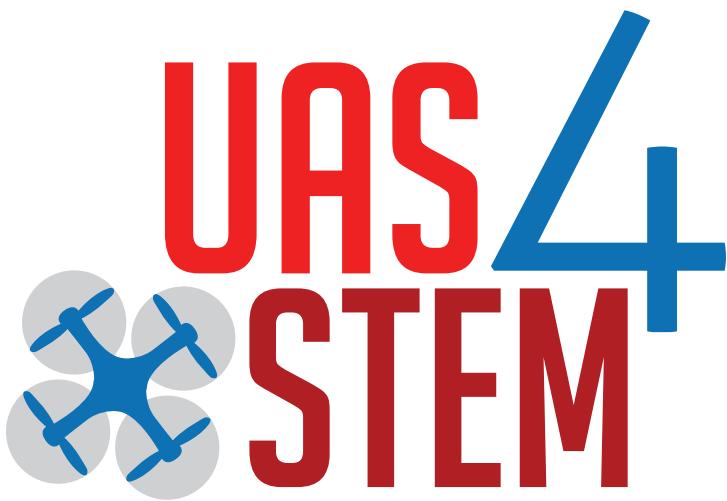


5161 E. Memorial Dr., Muncie IN 47302  
[modelaircraft.org](http://modelaircraft.org)

**UAS4STEM.ORG**

If you have questions about the UAS4STEM program,  
please contact the Education Department at [education@modelaircraft.org](mailto:education@modelaircraft.org),  
or 765-287-1256.

© Academy of Model Aeronautics.  
01/24/2024



### **How to choose a competition division:**

All new UAS4STEM teams are encouraged to choose the beginner division.

Returning teams are encouraged to choose the advanced division.

Any returning UAS4STEM team who has placed first, second, or third at finals within the past two years must select the advanced division. If a team feels that there are extenuating circumstances in regard to preferred division, reach out to the UAS4STEM competition staff.

#### **BEGINNER UAS4STEM DIVISION:**

- Video component (simplified)
- Basic search mission
- No pickup or dropoff

#### **ALL DIVISIONS:**

- Ground school
- Flight Readiness Review
- Virtual preliminaries
- International competition

#### **ADVANCED UAS4STEM DIVISION:**

- Video component (training)
- Multiple target search mission
- Delivery mechanism engineering challenge
- Includes pickup and dropoff portions

## **BEGINNER AWARDS\***

(per team)

**1st place: \$1250**

**2nd place: \$1000**

**3rd place: \$750**

## **ADVANCED AWARDS\***

(per team)

**1st place: \$2500**

**2nd place: \$2000**

**3rd place: \$1500**



5161 E. Memorial Dr., Muncie IN 47302  
[modelaircraft.org](http://modelaircraft.org)

**UAS4STEM.ORG**

If you have questions about the UAS4STEM program,  
please contact the Education Department at [education@modelaircraft.org](mailto:education@modelaircraft.org),  
or (765) 287-1256

\*Award amounts may be adjusted.

# TEAM RULEBOOK

## 1. CONCEPT OF OPERATIONS (CONOPS)

A small group of people require assistance. Your team has been called upon to provide rapid response, using an Uncrewed Aircraft System (UAS).

In order to support this mission, your UAS must comply with Special Instructions (SPINS) for departure and arrival procedures while also remaining within assigned airspace. It will be tasked to search an area for items of interest and to conduct point reconnaissance.

## 2. INTRODUCTION

The guiding principle of the UAS4STEM drone challenge is the safe application and execution of systems engineering principles to develop and operate a sUAS to successfully accomplish the mission tasks.

2.1.1 Teams who have competed in the previous two seasons of UAS4STEM and have placed in the top three are required to compete in the Advanced category. If a team feels that there are extenuating circumstances in regard to your preferred class, reach out to the UAS4STEM competition staff who will confer and determine on a case-by-case basis.

2.1.2. Off-the-shelf sUAS are not allowed to be flown for any scored UAS4STEM mission. As a training aid, pre-manufactured aircraft may be utilized.

## 2.2. OPPORTUNITIES AND RECOGNITION

Student teams will be judged based on their performance and that of their system. Awards and recognition will be given for top performances. Opportunities for interaction with aviation professionals and industry leadership will be provided.

## 2.3. RULES

The competition will be based upon the rules outlined within this document containing administrative and performance objectives. UAS4STEM staff reserves the right to make changes to these rules and issue clarifications, updates or addendums at any time.

## 3. SCHEDULE

See [www.uas4stem.org](http://www.uas4stem.org) or refer to UAS4STEM email and live stream communications for updated scheduling information.

## 4. MAJOR ELEMENTS OF THE COMPETITION

### 4.1. REGISTRATION PROCESS

4.1.1. Once the team manager sends all requested team information and pays the registration fee, memberships are distributed for one team manager, one assistant manager, and up to

ten (10) student team members aged 11-19. Credentials for the virtual ground school will then be created.

4.1.1.1 Only registered UAS4STEM participants (not to exceed ten students per team) are allowed to compete or participate in scored competition activities.

4.1.2. It is required that all student members of the team successfully complete the virtual UAS4STEM Ground School course as a matter of safety. Failing to do so will result in disqualification.

4.1.2.1. All participants should comply with any national and local regulations regarding model aircraft and the national airspace.

4.1.3. By participating in the competition, the team, advisors, and all support members, as well as judges and volunteers, agree to have any pictures of persons, vehicles, or equipment photographed and released to the public.

4.1.4. Once a team has officially entered ten students on their roster, any changes to the roster that result in new members may be assessed an additional fee.

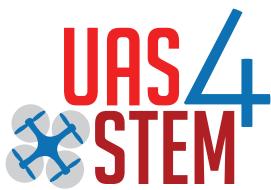
### 4.2. VIRTUAL PRELIMINARY COMPETITION

The virtual preliminary competition occurs in the spring. Each team will have the opportunity to schedule an appointment slot with the judges; UAS4STEM email communications and online live/recorded communications will contain information about this process. Appointments will be in Eastern Time, with flexibility offered across time zones. These will last approximately 50 minutes total.

4.2.1. Prior to the competition, a proof-of-flight video shall be submitted to verify that the team's aircraft can fly in a safe manner. This is a pre-requisite for possible advancement to nationals. The aircraft should be in full autonomous configuration and perform the following:

- 1) Take off
- 2) Fly to at least one waypoint a minimum





# UAS4STEM PRELIMINARY COMPETITION SCORING

Beginner Division (100 points\* available)

## FRR Presentation (maximum of 20 minutes)

PARAMETER	OBJECTIVE	PERCENTAGE
TEAM MEMBER INTRODUCTIONS	Introduction of all team members. Including flight mission roles and experience.	5%
VIDEO PRESENTATION	Showcase UAS4STEM in one of two categories: "Technical Advice" or "UAS4STEM Advertisement." Display technical prowess, quality of content, and creativity. Video shall not exceed 2 minutes in length and must be shown during FRR presentation.	10%
SYSTEM OVERVIEW	Identify flight tasks planned, expected performance, and risk evaluation.	10%
SYSTEM SAFETY	Identify design and operational strategies.	10%
DEVELOPMENTAL TEST RESULTS	Include test plan schedule (through ground testing to flight testing to mission performance testing), results of testing, and any corrective action taken to improve the effectiveness of mission completion.	10% *
EVIDENCE OF MISSION ACCOMPLISHMENTS	Show the judges what the team has achieved.	10% *
PRE-MISSION BRIEFING	Include personnel resourcing for the flight mission, communication procedures, and go/no-go criteria.	10% *

## Other Components

PARAMETER	OBJECTIVE	PERCENTAGE
Q&A	Judges may ask questions related to the presentation. Teams have no more than 5 minutes to answer five selected questions from the virtual ground school. Students may confer as a team prior to answering. Judges will also pose a hypothetical question to gather the team's sense of fallback plans should a technical issue arise during flight mission.	5%
MISSION PLANNER SOFTWARE ASSESSMENT	Teams will be presented with a mock mission. Teams will need to have ArduPilot Mission Planner software loaded onto the computer they are using for the virtual FRR presentation and will share their screen with the judges. Teams must program the mission planning software to achieve the mission objective. Failure to correctly execute command(s) will nullify the current and subsequent commands and the scoring will stop. Consider factors such as "automated take-off" and the setting of a home point as prerequisites to a successful mission. A judge will time the presentation, may provide a 2-minute warning, and cut off extended presentations as needed.	25% *
OTHER SCORING FACTORS	Aspects such as clarity, accuracy, logic, precision, relevance, depth, and suitability will be factored into the score.	5% *

\*Indicates these values are adjusted for the final competition.

In order to compete, each team member must successfully pass UAS4STEM ground school. In the case of a tie, team average ground school scores will be utilized to determine placement. Allowances for technical difficulties that may arise during virtual competitions will be at the discretion of the judges.

distance of 75 feet from launch

### 3) Return to launch for landing

4.2.1.1. The proof-of-flight video shall identify the school and the team name. The video shall show the ground control station screen and aircraft flight. A link to the team's video posted as a private video on the internet (YouTube is preferred) shall be submitted to the UAS4STEM staff prior to the virtual preliminary competition. The proof of flight video shall not exceed 3 minutes in length.

4.2.2. The virtual preliminary competition will include these components: a Flight Readiness Review (FRR) presentation that includes a video showcasing UAS4STEM, a 5 minute question and answer component based on the ground school, and a 15 minute Mission Planner software assessment in which teams are required to use ArduPilot Mission Planner as if they are programming their UAS mission. The points available are referenced in the scoring guide.

4.2.2.1. The FRR is a presentation during which the teams substantiate, with data, their plans to safely accomplish the mission. The FRR shall not exceed 20 minutes in duration. A judge will time the presentation, may provide a 2-minute warning, and stop the presentation if needed.

## 4.3. INTERNATIONAL COMPETITION (FINALS)

The international competition is in-person and attendance is by invitation only, extended to the highest scoring teams from the virtual preliminary competition. Teams are responsible for all associated travel, room and board costs. **Any changes from the preliminary competition requirements are outlined below.** The finals consist of two separately scored elements, the FRR presentation and the flight mission.

### SPECIAL NOTE:

There may be funding opportunities available for teams that can help with the costs of attending the International competition (finals). Please reach out with any questions to the UAS4STEM staff.

### 4.3.1. FRR PRESENTATION

The FRR is a scored element worth 30% of the final score.

4.3.1.1. Teams may use their aircraft or ground control station to demonstrate various aspects of the briefing. Teams may have access to digital displays to present slides or brief video elements. TEAMS MAY NOT POWER UP THE AIRCRAFT. ONLY ONE ELECTRONIC DEVICE, LAPTOP OR TABLET MAY BE USED FOR BRIEFING.

4.3.1.2. Developmental Test Results parameter

now worth **(25%)**

4.3.1.3. Evidence of Mission Accomplishments

now worth **(15%)**

4.3.1.4. Pre-Mission Briefing, now worth **(15%)**

4.3.1.5. Other Scoring Factors now worth **(10%)**

4.3.1.6. There is no Mission Planner software assessment event following the FRR presentation.

Regarding presentations:

We may allow the general public to come in and view the oral presentations at nationals. Representatives from other teams (including students, team managers, parents) will not be allowed to view presentations of competitors during the event. Presentations may be recorded and made available for all teams and public to view next season. Your presentations represent the best of the best. We want new teams to have a great example to follow as they get started.

## 4.4. PRE-FLIGHT SAFETY INSPECTIONS

All UAS are subject to a safety inspection by designated officials. Safety inspections may include a physical inspection, a fail-safe check, and flight termination check.

4.4.1. The safety inspections are not a scored element. All decisions of the safety inspector(s) shall be final.

4.4.2. Physical inspection of the aircraft may include:

4.4.2.1. Verify all components are adequately secured to vehicle.

4.4.2.2. Verify rotor structural attachment integrity.

4.4.2.3. Visual inspection of all electronic wiring.

4.4.3.4. Verification of fail-safe mode operation covered by manual override and pilot-commanded flight termination.

4.2.3. If teams make any hardware changes to their UAS between prelims and finals, a new proof-of-flight video is required prior to final competition.

## 4.5. FLIGHT MISSION REQUIREMENTS

4.5.1. The flight mission evaluates the teams' ability to conduct a mission operation with their vehicle. This is the culminating event and a scored element of the competition.

4.5.2. A lead judge will be assigned to each team at the flight line. It is important that all team members follow the instructions of the judges. There will be additional judges assigned who are focused on different aspects of the competition (imagery, autonomy, safety, teamwork, etc.) depending on which tasks the team is planning to accomplish.

4.5.3. Only systems presented in the FRR, inspected by safety inspectors, and included in the preflight brief will be permitted to fly.

4.5.3.1 In order to compete, each team member must successfully pass UAS4STEM ground



### SAMPLE MAP

Red outline: No-fly-zone boundary

Blue outline: Waypoint sequence

Green outline: Search area

White star: Designated take/off and landing area

White circle: Payload delivery search area

school.

4.5.3.2 In the case of a tie, team average groundschool scores will be utilized to determine placement.

### 4.5.4. OPERATIONAL TIMELINE

4.5.4.1. Setup Time = 15 minutes maximum.

Setup time begins when the team arrives at the flight line. A lead judge will be assigned to each team and will start a dedicated stopwatch after communicating with the team. After the fifteen setup minutes have elapsed, the flight timer will start regardless of the team's readiness to launch the mission.

4.5.4.2. Flying Time = 30 minutes maximum.

4.5.4.2.1. Flying time shall start at the declaration of the UAS4STEM judge who will have a dedicated mission clock stopwatch. TEAMS MUST KEEP THEIR OWN TIME. ONCE ON THE CLOCK A TEAM MAY NOT ASK NON-STUDENT TEAM MEMBERS FOR REMAINING TIME. If flight is still being conducted past the 30 minute mark, judges will announce the termination of the mission and direct the team as to the correct landing procedure.

4.5.4.2.2. A team may elect to cycle through the takeoff and landing sequence during the flying time more than once for a variety of valid reasons (change batteries, load payload, etc). No points will

be lost, but flying time continues to be used.

4.5.4.2.3. Flying time stops when the vehicle has completed flight (landed, crashed, or terminated) and the team has disconnected flight battery. The lead judge will confirm with the team captain that the flying time period has stopped.

4.5.4.3. Post processing time = 10 minutes maximum.

4.5.4.3.1 Post processing time begins immediately after the flying time stops. This time is for data processing. No Radio Frequency (RF) transmission shall be performed during post processing time.

4.5.4.3.2 The system shall be swiftly disassembled and transported off of the flight line to the post processing area immediately at the beginning of the post processing time.

4.5.4.3.3 Post processing time stops when the team captain hands in the scoring sheets, or when the maximum post processing time is exceeded.

### 4.5.5. MISSION LIMITATIONS

#### 4.5.5.1. Mission Boundaries

During the entire mission, aircraft shall remain in controlled flight and within the no-fly-zone boundary. A specific no-fly-zone boundary definition will be provided to teams prior to conducting the flight mission. Any vehicle appearing uncontrolled or moving beyond the no-fly-zone boundary during autonomous flight will be subject to immediate manual override. Failure of manual override will result in flight termination. A maximum flight altitude of 200 ft. AGL is standard unless otherwise specified.

#### 4.5.5.2. Takeoff

4.5.5.2.1. Takeoff shall take place within the designated takeoff/ landing area, shown on the competition map.

4.5.5.2.2. Takeoff under manual control with transition to autonomous flight will be permitted but does not count as an autonomous takeoff.

4.5.5.2.3. The first takeoff will be scored, regardless if it is manual or autonomous. Only a successful autonomous takeoff attempt on the first takeoff will earn points for that component.

#### 4.5.5.3. Landing

4.5.5.3.1. Landing shall take place within the designated takeoff/landing area shown on the competition map.

4.5.5.3.2. Landing under manual control is



## FLIGHT OPERATIONS SCORING

PARAMETER	OBJECTIVE	POINTS
GCS DISPLAY ITEMS	Accurately display current aircraft position. GCS must also display airspeed and altitude to operators and judges. <b>This is a minimum requirement for flight approval.</b>	N/A
INITIAL AUTONOMOUS TAKEOFF	On first takeoff attempt, teams must achieve a controlled autonomous takeoff. Takeoff is complete when drone reaches an altitude > or = 100 ft. and hovers for a minimum of 5 seconds. Team must initiate the takeoff. Takeoff must take place within the designated takeoff and landing area.	Failure to meet objective = 0 points Autonomous takeoff = 4 points  Maximum 4 points
WAYPOINT NAVIGATION MISSION	SPINS will be provided to teams at the beginning of the flight operations. Teams must capture waypoints and commands in sequence based on the SPINS. Waypoints and commands will not be within 50 ft. of any "no-fly-zone" boundary. While in autopilot control waypoints must be accurate to within 50 ft. accuracy, and maintain navigation within 50 ft. along the planned flight path. Any mission planner command may be utilized. Failure to complete previous command will nullify subsequent commands. Team must announce to the judges which waypoint and command is being attempted. Flight operations outside of takeoff and landing must maintain an altitude of >=50 feet.	Each successful command in sequence = 1 point  Maximum 10 points
SEARCH MISSION	Six Points Of Interest (POIs) will be in the flight area. The UAS shall search for these POI. Each POI will be located within the search area. Each POI will be printed on a 4'x4' vinyl banner material and contain either a letter or a number. Flight operations outside of takeoff and landing must maintain an altitude of >=50 feet.	Points defined in POST PROCESSING section of this chart.
AUTONOMOUS LANDING	Team must achieve a controlled autonomous landing. Team must initiate the landing. Landing must take place within the designated takeoff and landing area.	Failure to meet objective = 0 points Autonomous takeoff = 4 points  Maximum 4 points
POST PROCESSING TARGET LOCALIZATION	Each Point of Interest (POI) will be printed on a 4'x4'vinyl banner material and contain either a letter or a number. Determine up to six Point Of Interest(s) location within 50 ft. Points are given based on accuracy of location.	Each GPS coordinate may provide: 0-10 ft. = 5 points 10-20 ft. = 4 points 20-30 ft. = 3 points 30-40 ft. = 2 points 40-50 ft. = 1 point  Maximum 30 points
POST PROCESSING CLASSIFICATION	Identify POI item(s) by numeral or letter.	Each correct POI identity = 1 point  Maximum 6 points
POST PROCESSING IMAGERY	Capture clear image of POI	POI correctly identified = 1 point  Maximum 6 points
POST PROCESSING COMPLETE SOLUTION	Correctly combine all POIs into a word or acronym having to do with UAS4STEM	Failure to meet objective = 0 points Correct word = 5 points  Maximum 5 points
POST PROCESSING BONUS OPPORTUNITIES	Teams have 10 minutes to complete their post processing. Teams that complete post processing in a timely manner receive bonus points so long as they correctly provide at least one scorable GPS coordinate.	0-5 minutes = 2 points  Maximum 2 points
OVERALL SAFETY SCORE	Between zero and ten points are awarded at judge's discretion as to the safety considerations incorporated by teams.	Maximum of 10 points

permitted.

4.5.5.2.3. Any autonomous landing inside of mission time can be scored. This can be as part of a mission or as a Return to Launch mode landing.

## 5. APPROVED COMPONENTS

### Laptop guidelines

- Each team must provide their own laptop computer.
- Only a single laptop will be allowed on the flight line and with the team during the oral presentation.
- One additional monitor may be used on the flight line. This monitor may only display information from the computer and may NOT be used as an additional video viewing device. Example. You may duplicate a display on a laptop, or this can be the primary display for a desktop. It may not display video from the aircraft.

**5.1.** Teams will need to purchase UAS components that comply with provided specifications (see appendix for additional detail).

**5.2.** Reminder, a maximum of 2 video displays may be used during the competition.

**5.3.** Teams are provided shade, a folding table, chairs and a single electrical power extension cord. Teams should plan to provide their own power strip, if required.

## 6. ADDITIONAL FLIGHT OPERATIONS DETAIL

The flight mission has been divided into a series of parameters. Teams do not need to complete every parameter. The available parameters are listed in the Flight Operations Scoring Chart.

## 7. SAFETY REQUIREMENTS

### 7.1. FLIGHT OPERATIONS

7.1.1. Flight operations of any type involve some level of risk to personnel and property. It is the responsibility of all personnel involved in and around flight operations to identify, evaluate, and mitigate risks to the maximum extent possible.

7.1.2. When teams are conducting flight tests, extra precautions must be in place to protect team members and others.

7.1.3. It is recommended that teams use an experienced RC pilot to act as their safety pilot for test flights. The safety pilot for competition flights must be a student team member.

### 7.2. OTHER

7.2.1. No more than ten (10) team members will be allowed in the mission area.

7.2.2. Closed toe shoes are required to be worn during safety inspections, flight line operations, or when rotors are powered. Anyone wearing open-toed shoes will not be allowed to participate in any activity on the flight line.

**Officials have the right to disqualify an individual or a team for any reason.**



# APPENDIX

## AIRFRAME SPECIFICATIONS

- Quadcopter configuration (4 motors)
- 625mm maximum frame size (measured from one side of an arm to the other)
- Additional processors are allowed, but must cost less than \$250 USD.
- Autopilot system must cost less than \$500 USD Manufacture Suggested Retail Price (MSRP), including the Global Positioning System (GPS)
  - This is a retail cost, meaning that even if a more expensive autopilot is donated, it is not allowed.
  - It does not have to be a Pixhawk variant, but still recommended
- Maximum of 8 channels
  - These include 4 for the motors, leaving four open to be utilized as the team sees fit
- Maximum 4S 5200 battery size (any “C” rating) Batteries may be changed as often as necessary during the competition
- Maximum propeller size 11”
- Up to a 1080p video camera
  - MSRP must be less than \$100 USD
- Digital video is allowed
  - Camera and receiver MSRP must be less

than \$250 USD combined

- Up to a 250mw video transmitter
- Any antenna may be used for the video feed system
- 2.4 Ghz RC control system. Any brand legal in the US
- One primary Ground Control Station (GCS) – Meaning only 1 laptop allowed on the flight line
- Maximum of 2 video receivers allowed during the competition
  - One can attach directly to the GCS
- Recommended telemetry radio RFD 900+
- One additional sensor may be utilized. Sensor must be less than \$50 USD MSRP.

## COMPLETE DRONE COMPONENT SOLUTIONS

To purchase a complete bundle of drone components for UAS4STEM, we have partnered with ReadymadeRC as well as John Beavers who supplies equipment to UAS industry partners. Visit [www.readymaderc.com](http://www.readymaderc.com) and search “UAS4STEM” or [www.quadzilladrone.com](http://www.quadzilladrone.com) to learn more about available options.

If there are any questions about an airframe or components, please contact UAS4STEM National Director Archie Stafford at [archies@modelaircraft.org](mailto:archies@modelaircraft.org)

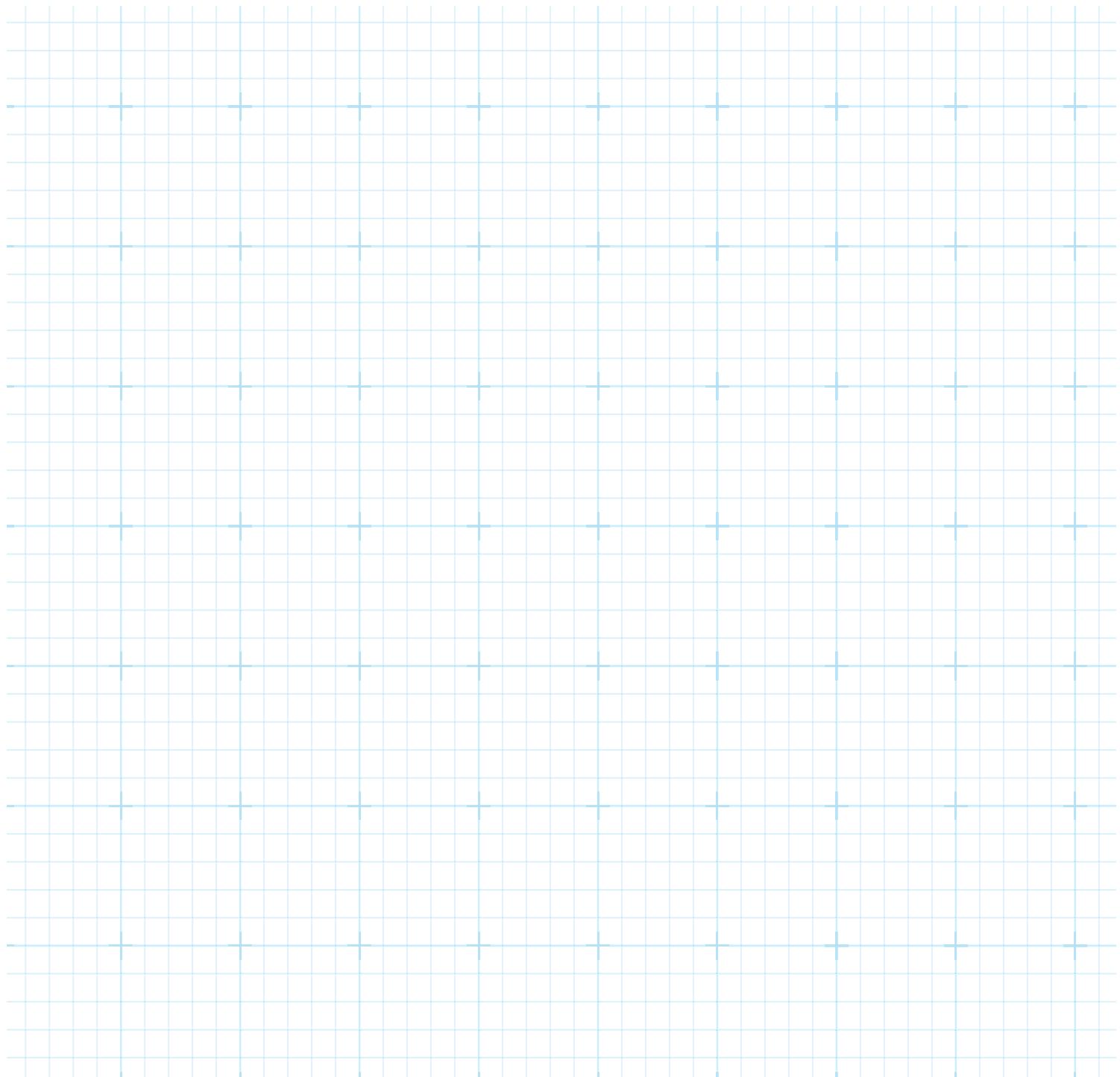


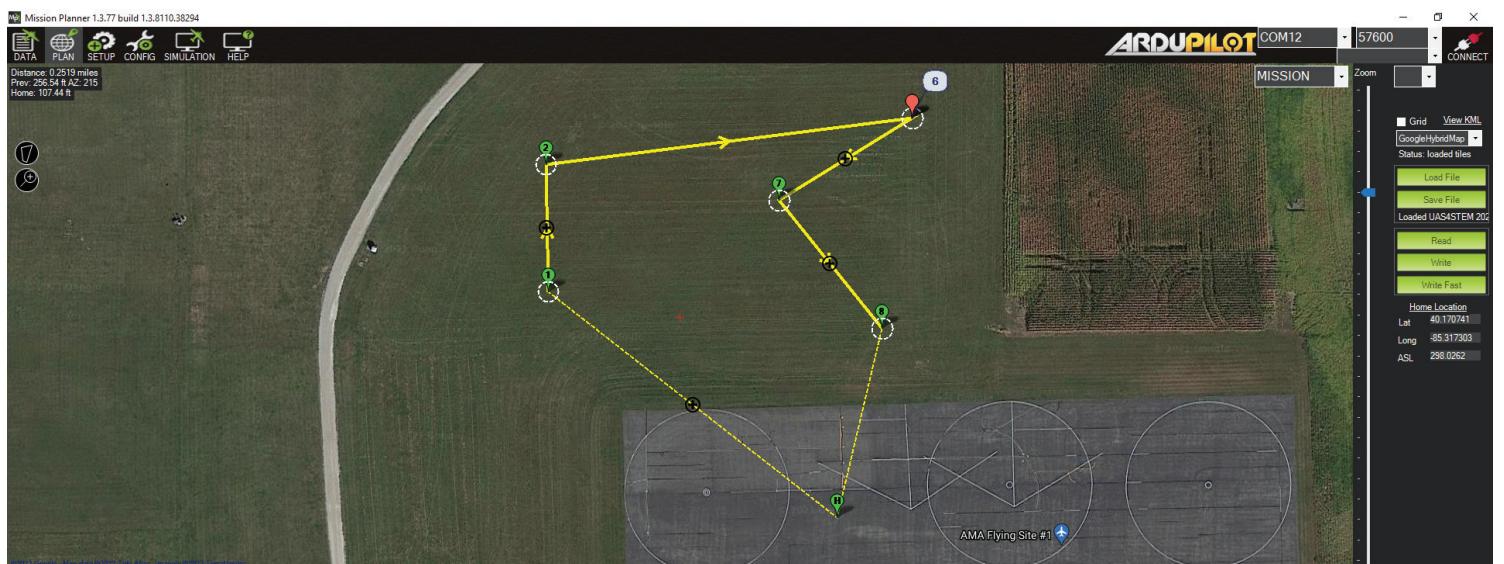
## SAMPLE MISSION SET:

1. Fly to Waypoint 40.171337°, -85.318303° at 90' and hold for 3 seconds
2. Fly to Waypoint 40.171674°, -85.318312° while climbing to 175' and make the aircraft rotate to face due north upon arrival at waypoint
3. Fly to Waypoint 40.171797°, -85.317044° while descending to 100' and perform 2 circles around the point in either direction
4. Fly to Waypoint 40.171580°, -85.317505° descending to 75' while pointing the nose at the previous waypoint
5. Fly to Waypoint 40.171242°, -85.317147° while climbing to 100' and stop for 15 seconds

*(Solution located on next page)*

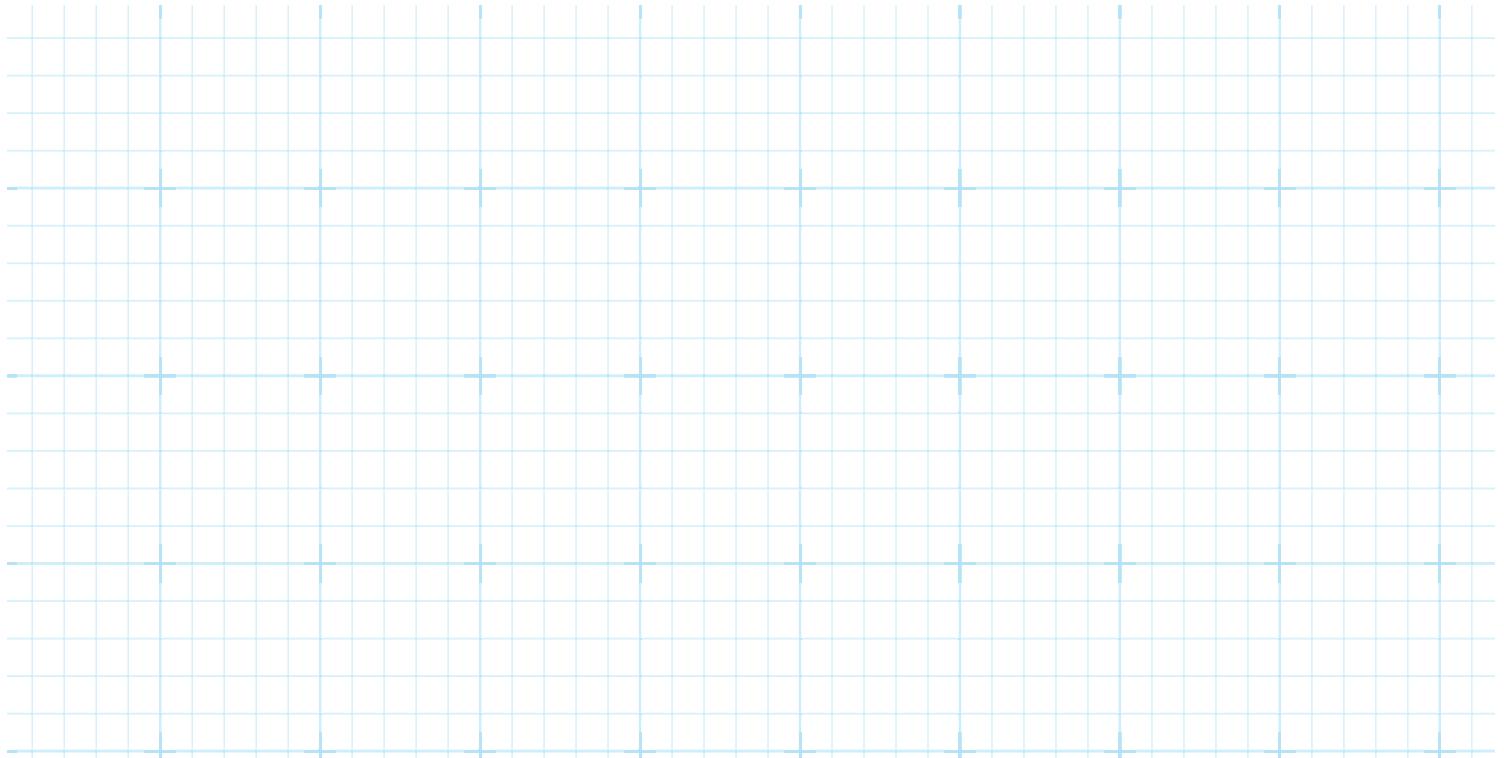
## NOTES





WP Radius	Loiter Radius	Default Alt	Relative	Verify Height	Add Below	Alt Warn	Spline	Frame	Delete	Grad %	Angle	Dist	AZ	
10	50	400	Relative	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0	<input type="checkbox"/>		X	25.5	14.3	364.8	308	
1	WAYPOINT	3	0	0	0	40.171337	-85.318303	90	Relative	X	69.1	34.7	149.5	359
2	WAYPOINT	0	0	0	0	40.171674	-85.318312	175	Relative	X	0	0	0	0
3	CONDITION_YAW	0	0	0	0	0	0	0	Relative	X	-21.0	-11.9	364.1	83
4	WAYPOINT	0	0	0	0	40.171797	-85.317044	100	Relative	X	0	0	0	0
5	LOITERURNS	2	0	5	0	0	0	0	Relative	X	49.7	26.4	168.5	238
6	DO_SET_ROI	0	0	0	0	40.171797	-85.317044	0	Relative	X	15.8	9.0	160.6	141
7	WAYPOINT	0	0	0	0	40.17158	-85.317505	75	Relative	X				
8	WAYPOINT	15	0	0	0	40.171242	-85.317147	100	Relative	X				

## NOTES





SCAN ME



# CHALLENGE



## UAS4STEM is a drone engineering challenge like no other!

Students work in a team to build, code, and fly. It's a drone competition for everyone, with both beginner and advanced categories. Our competition allows you to participate from ANYWHERE in the world!

### THE MISSION:

Your team has been called upon to provide rapid response using a small Uncrewed Aircraft System (sUAS) that can support a special mission. Beginner teams must search and locate points of interest, while Advanced competitors must also retrieve and deliver supplies.

### THE CHALLENGE:

Teams must come together to design and build their drones, successfully complete the UAS4STEM ground school, learn to safely operate their aircraft, conduct manual and autonomous operations, and incorporate AI to maximize points within the challenge.

### BENEFITS TO STUDENTS:

- A career path to an emerging STEM field
- Interactions with aviation professionals
- ~100 hours of technical skills experience
- Individual insurance coverage included
- Optional 2.5M primary site insurance
- AMA membership for all participants
- EAA membership for lead manager
- Leadership development
- Time management skills
- Troubleshooting skills
- Communication skills
- Public speaking skills
- Teamwork skills
- Prize funding

THESE STUDENTS ARE  
PERFECTLY SUITED  
TO TAKE ON THE CHALLENGES  
PRESENT IN UNCREWED AVIATION.  
THEY COULD HANDLE  
ONE OF OUR MISSIONS  
NO PROBLEM.

-AFSOC DRONE PILOT



Visit [WWW.UAS4STEM.ORG](http://WWW.UAS4STEM.ORG) for  
more information and to register your team!



[WWW.UAS4STEM.ORG](http://WWW.UAS4STEM.ORG)