2021 UAS4STEM Results

1.	Team SAR	111.7
2.	McIntosh Aeronautics	84.9
3.	Creekview High School	63.8
4.	St. Mary's CAP	63.4
5.	CAP Redstone	60.8
6.	G3 Drones for Good	40.3
7.	Broken Propeller Club	38

SEARCH AND RESCUE CHALLENGE

UAS4STEM Regional

August 19, 2017 → National July 2021

Team SAR

Total Points: 111.7

Oral Briefing of a Flight Rediness Review (FRR)

Criteria	Weighting	Points (0 to 10) Jdg 1	Jdg 2	Jdg3	Jdg4	Total	
4.5.6.2.1	1	10	10	10	9	19.5	
4.5.6.2.2	1	9	10	10	10	19.5	
4.5.6.2.3	1	10	9	10	9	19	
4.5.6.2.4	3	9	10	9	9	55.5	
4.5.6.2.5	1	8	9	10	10	18.5	
4.5.6.2.6	2	10	10	10	10	40	
4.5.6.2.7	1	10	10	10	9	19.5	
4.5.6.2.8	1	4	4	4	4	8	19.95

Flight Mission Demonstration

Stage	Max (Minutes)	Actual (Minutes)	Penalty	
4.6.4.1	15	15	0	
4.6.4.2	30	32	-2	
4.6.4.3	20	3	0	-2

Autonomous Flight Tasks

Segment	Max	Points			
Takeoff	4	0			
WP1	1	1	**Command 1**	1	
WP2	1	1	**Command 2**	1	
WP3	1	1	**Command 3**	1	
WP4	1	1	**Command 4**	1	
WP5	1	1	**Command 5**	1	
WP6	1	1	Command 6		
WP7	1	0	Command 7		
WP8	1	0	Command 8		
Landing	4	4			
		10		5	
					15
Overall Safety Score		9			9

Search

	Lat	Lon	Points	Classification	
T1	43.9687727	-88.5793195	1	1	
T2	43.9682209	-88.5792584	4	1	
T3	43.9686667	-88.5795295	5	1	
T4	43.9636256	-88.5791605	0		
T5	43.9686578	-88.5793004	1	1	
T6	0	0			
T7	0	0			
T8	0	0			
			11	4	15

Balloon Drop 0

	Distance		Bonus	
1	8'1"	5	15	
2	3'4"	5	15	
3	1'9"	5		
		15	30	45

Ground School Score

97.2	9.72	9.72

2021 National Competition
AirVenture - Oshkosh, WI

Judge: TERRI

Team Name: SAR

Autonomous Flight Tasks and Flight Mission Demonstration

See judging manual for descriptions of scoring criteria for each area

Autonomous Flight Tasks

Segment	Max	Points	Max	Points
Takeoff	4	X		
WP1/CMD	2	✓	2	
WP2/CMD	2	✓	2	
WP3/CMD	2	✓	2	
WP4/CMD	2	✓	2	
WP5/CMD	2	✓	2	
WP6/CMD	2	✓	2	
WP7/CMD	2	X	2	
WP8/CMD	2	X	2	
Landing	4	✓	4	

Comments

+ AUDIBLE BATT CALLOUTS (COMPUTER)

+ SCAN IN AUTOMATED FLT MODES

- FEW CREW/AUDIBLE CALLOUTS

+ ID'D/CALLED OUT PAX NO TGT

Flight Mission Demonstration

Stage	Minutes Max	Minutes Actual
Setup	15	15
Flight Time	30	~~29:30~~ 32:25
Post Processing	20	3:10

TGT

1 11'3", 8' 1"

2 7'11", 3'4"

3 7'0", 1'9"

Waypoint Mission - 2021 Nationals

1 Fly to Waypoint 43.968347, -88.579392 at 150' and make the aircraft rotate to face due south
2 Fly to Waypoint 43.968584,-88.579520 while climbing to 200' , then hold for 4 seconds
3 Fly to Waypoint 43.968932, -88.579894 while descending to 100' and then rotate the aircraft 2 turns in either direction
4 Fly to Waypoint 43.9682662, -88.5795155 at 150' while keeping the nose of the aircraft pointed at the takeoff point at 3 m/s speed
5 Fly to Waypoint 43.968455, -88.579828 at 175' and hold for 2 seconds and then climb to 200' once at the way point
6 Fly to Waypoint 43.968492°, -88.579292° at 125' and perform 2 circles around the point in either direction
7 Fly to Waypoint 43.968875°,-88.579879° at 190' and make the aircraft rotate clockwise to face due west
8 Fly to Waypoint 43.968301°-88.579209° at 130' and hold for 15 seconds and then RTL

Team Name SAR

	Letter	GPS Coordinates	
1	N	43.9686256	-88.5791605
2	G	43.9685578	-88.5793004
3	I	43.9687727	-88.5793195
4	I	43.9686667	-88.5795295
5	C	43.9682209	-88.5792584

~~ICING~~

ICING

2021 National Competition
AirVenture - Oshkosh, WI

Judge: Arche

Team Name: SAR

Oral Briefing - Flight Readiness Review (FRR)

See judging manual for descriptions of scoring criteria for each area of the presentation

	Criteria	Weighting	Points (0-10)
4.4.6.2.1	Introductions	1	10
4.4.6.2.2	Overview	1	10 Thorough
4.4.6.2.3	Safety	1	10 Well emphasized
4.4.6.2.4	Test Results	3	10 Dev, R&D ✓ Result Docs
4.4.6.2.5	Mission	1	9
4.4.6.2.6	Briefing	2	10
4.4.6.2.7	Participation	1	10
4.4.6.2.8	5 Judges' questions (1 pt ea)	1	5 ✓

Comments

II Flight briefings

A/N/C ← Key

Aviate

Navigate

Communicate

* Great Presentation & Flow

- map drawing of tgt area
- Video Resolution
- Speak the aircrew language

2021 National Competition
AirVenture - Oshkosh, WI

Judge: Janet

Team Name: Some Assembly Required

Oral Briefing - Flight Readiness Review (FRR)

See judging manual for descriptions of scoring criteria for each area of the presentation

	Criteria	Weighting	Points (0-10)
4.4.6.2.1	Introductions	1	10
4.4.6.2.2	Overview	1	10
4.4.6.2.3	Safety	1	9
4.4.6.2.4	Test Results	3	10
4.4.6.2.5	Mission	1	9
4.4.6.2.6	Briefing	2	10
4.4.6.2.7	Participation	1	10
4.4.6.2.8	5 Judges' questions (1 pt ea)	1	1,1,1,1,— 4

Comments

#5

UAS4STEM

2021 National Competition
AirVenture - Oshkosh, WI

Some Assembly Required

Judge: TERRI

Team Name: S.A.R

Oral Briefing - Flight Readiness Review (FRR)

See judging manual for descriptions of scoring criteria for each area of the presentation

1. Nautical
2. False
3. Zulu
4. 100 mph
5. D

	Criteria	Weighting	Points (0-10)
4.4.6.2.1	Introductions	1	10
4.4.6.2.2	Overview	1	9
4.4.6.2.3	Safety	1	10
4.4.6.2.4	Test Results	3	9
4.4.6.2.5	Mission	1	8
4.4.6.2.6	Briefing	2	10
4.4.6.2.7	Participation	1	10
4.4.6.2.8	5 Judges' questions (1 pt ea)	1	4

Comments

Rockville MD 5yrs.
Humor
Good risk decision auto vs manual
Laser pointer!
Follow FAA regs.
Comms - "sterile cockpit" rule
COVID safety
Community outreach/safety

2021 National Competition
AirVenture - Oshkosh, WI

Judge: BEACH

Team Name: SOME ASSEMBLY REQ'D

Oral Briefing - Flight Readiness Review (FRR)

See judging manual for descriptions of scoring criteria for each area of the presentation

	Criteria	Weighting	Points (0-10)
4.4.6.2.1	Introductions	1	9
4.4.6.2.2	Overview	1	10 GREAT DESCRIP OF ROLES
4.4.6.2.3	Safety	1	9
4.4.6.2.4	Test Results	3	9 GLAD TO SEE A TEAM MBR DEDICATED TO RESULTS
4.4.6.2.5	Mission	1	10 GOOD DISCUSSION ON AUTO VS MANUAL
4.4.6.2.6	Briefing	2	10
4.4.6.2.7	Participation	1	9
4.4.6.2.8	5 Judges' questions (1 pt ea)	1	1111x

Comments

STRATEGIC TECHNICIAN?
DOES CAMERA ERROR VARY BY ALT? HOW DO YOU CORRECT?
REGULARLY INSPECT? (SCHEDULE?)

+ LOVE THE COMMUNITY OUTREACH HIGHLIGHT
+ STERILE COCKPIT!
+ GOOD VIS AIDES/PRESENTATION