

2019 AUVSI UAS Competition

Rank	Name	Mission	FRR	Journal	Prize Money
1	Ecole de Technologie Superieure	1	6	20	\$ 7,650
2	Flint Hill School	2	18	14	\$ 5,700
3	Yildiz Technical University	3	7	19	\$ 4,700
4	University of Cincinnati	4	8	18	\$ 3,100
5	Université de Sherbrooke	6	2	7	\$ 3,400
6	Indraprastha Institute of Information Technology	5	19	32	\$ 2,250
7	Cornell University	10	1	10	\$ 1,700
8	Istanbul Technical university	9	5	16	\$ 1,000
9	Royal Thai Air Force Academy	7	22	51	\$ 950
10	North Carolina State University	12	26	2	\$ 1,950
11	Palos Verdes High School	8	33	61	\$ 700
12	Rutgers University	13	11	42	\$ 700
13	Konya Technical University	11	44	58	\$ 700
14	University of Texas at Austin	15	16	3	\$ 1,200
15	Embry-Riddle Aeronautical University, Daytona Beach	14	27	40	\$ 700
16	Harvard University	19	32	27	\$ 700
17	Brigham Young University	25	3	5	\$ 1,750
18	University of Split	21	24	17	\$ 950
19	University of Hawai'i at Manoa	20	25	46	\$ 450
20	University of British Columbia	22	21	37	\$ 450
21	Virginia Tech	26	13	11	\$ 450
22	UCLA	27	14	4	\$ 850
23	Thomas Jefferson High School for Science and Technology	18	40	44	\$ 450
24	Concordia University	16	36	60	\$ 700
25	Loyola University Maryland	23	28	59	\$ 700
26	Vaughn College of Aeronautics and Technology	24	42	28	\$ 450
27	Rashtriya Vidyalaya College of Engineering	28	15	39	\$ 450
28	California State Polytechnic University, Pomona	29	17	35	\$ 700
29	Polish Air Force Academy	17	48	65	\$ 450
30	Mukesh Patel School of Technology Management and Engineering	31	4	12	\$ 400
31	Military Technical College	31	10	8	\$ 450
32	Monroe Community College	31	9	13	\$ -
33	SRM Institute of Science and Technology	31	23	1	\$ 1,450
34	Istanbul Sehir University	31	12	22	\$ 700
35	Institute of Technology, Nirma University	31	20	33	\$ -
36	Kansas State University	31	31	24	\$ -
37	University of New South Wales	31	30	31	\$ -
38	University of Alberta	48	35	9	\$ -
39	Kent State University	48	29	36	\$ -
40	Pennsylvania State University	48	34	29	\$ -
41	University of Maryland College Park	31	45	6	\$ 200
42	Kocaeli University	31	43	26	\$ -
43	Fr. Conceicao Rodrigues College of Engineering	31	41	34	\$ 500
44	Vellore Institute of Technology	31	38	49	\$ -
45	University of Arizona	48	37	56	\$ -
46	Norfolk State University	30	46	64	\$ 200
47	Christopher Newport University	31	39	67	\$ -
48	Bursa Technical University	31	47	52	\$ 450
49	University of Rome, La Sapienza	31	49	53	\$ -
50	McGill University	48	53	15	\$ -
51	University of California, San Diego	48	53	21	\$ -
52	University of Michigan	48	53	23	\$ -
53	M.S. Ramaiah Institute of Technology	48	53	25	\$ -
54	Purdue University	48	53	30	\$ -
55	Florida Institute of Technology	48	50	63	\$ -
56	Saint Louis University	48	53	38	\$ -
57	Michigan State University	48	53	41	\$ -
58	Duzce University	48	53	43	\$ -
59	University of Central Florida	48	53	45	\$ -
60	University of California, Irvine	48	53	47	\$ -
61	Virginia Commonwealth University	48	53	48	\$ -
62	Mississippi State University	48	53	50	\$ -
63	United States Naval Academy	48	53	54	\$ -
64	Clark College	48	53	55	\$ -
65	Southern Methodist University	48	53	57	\$ -
66	Calvert Hall College High School	31	51	66	\$ -
67	Karabuk University	31	52	68	\$ -
68	University of Minnesota Twin Cities	48	68	62	\$ -

Brigham Young University

SUAS 2019 - Flight Readiness Review

Feedback to School on Experience, Roles, Responsibility

Past experience should be more than just the time spent with the team.

Question whether all students are part of class of 2019 as indicated in the Video, Concern with actual Flight Line responsibilities, since all 12 Team members were identified with roles but only 10 persons can be on the Flight Line

Straightforward introduction but missing each member's degree of experience with UAS technologies

Good selection of students with appropriate skills

Feedback to School on System Overview and Planned Tasks

Well-done

Outstanding Systems Overview, No reason provided for not completing UGB Drive Task Successfully

Good summary of all the system components.

Feedback to School on Developmental Testing

Well-done

Excellent description of testing conducted, Could use charts to synopsise data for better understanding, No mention of Localization algorithms

Great explanation on all aspects of developmental testing. I appreciated the footage of all of the testing done, especially the clip with someone holding the airframe fuselage right out of the window. My only complaint is that the imaging performance section should have included the team's strategy for ensuring the best image quality.

Some work needed to meet the competition requirements

Feedback to School on Mission Testing

Good

Excellent synopsis of Full Mission Testing and its value in discovering and resolving flaws to enable mission success, Slight concern that no Autonomous testing was completed prior to taping of FRR

Although full mission testing was not achieved, scores across various runs should have been included for each section on the rubric provided in the Mission Demonstration section of the rules.

More work needed for competition. Appears not fully ready.

Overall Feedback on Flight Readiness Review

Great presentation!!!

Overall an Excellent Review, which based on its 12:05 time length could be improved to further address the few concerns expressed

Overall, great presentation, and good luck at the competition! Though, next time you may want to tune down the intro/background music or remove it completely. While I did not factor that into your scores, judges have tended to dislike music in these presentations.

Overall ratings 65%

SUAS 2019 - Technical Design

Feedback on Systems Engineering Approach

A reasonable approach - seems to leverage much from previous experience or achievements; however, the system engineering principals are covered and woven into their analysis.

Mission Req Analysis: You have a list of requirements placed on the UAS but don't discuss the design trades for each requirement or what systems need to be built. Design Rationale: more details on design options/trades would help justify team decision. for example: a table comparing the diferent airframe designs charateristics. You state that your budet is \$3500 how did your design meet this budget. Same for man hours of 2500. What other drop methods did you consider and where is the data that shows your choice is best?

Very good section. Could have mentioned ground station/comms requirements.

Good work

One of the best system engineering approach I have read. Good flow and covered all the points very clearly and affectively. Just loved it.

Feedback on System Design

Good design and appears to be well thought out and validated. The consideration of trade space was an important reflection within the work.

autopilot; map capabilities to competition tasks comms; what antennas and link range Cyber; light on details

Impressive development and use of sim/testing data.

Good work

Block diagram of communication system and GCS image was missing. You could represent data in tabular for more clarity. Your imaging system does not tell more about resolution of image as per competition need. rest all was good.

Feedback on Safety, Risks, & Mitigations

Overall, seems to have covered the most significant risks and show stoppers.

Good to know your crash rate went from 100% to less than 5% after implementing the use of a checklist.

Any risks during system construction?

Good work

Font was way too small. Difficult to read and difficult to understand complex table structure.

Feedback on Overall Paper

A little more attention to details (e.g., verbiage or editing) when finalizing the paper.

the flow from your options to the design decision were always clear or supported by data

Excellent journal! Well written, meticulous attention to detail, and professional formatting. Got a little dense in a couple spots.

Keep up the good work.

Overall paper was very good. Some improvement would have made this one of the best. Happy flying ..

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Team Name: BYU

Feedback to Team:

Good team communication in flight

Work on altitude tuning

Range test telemetry links more

Amazing amount of development this year!