



BRIGHAM YOUNG UNIVERSITY
AUVSI CAPSTONE TEAM (TEAM 45)

Airframe Subsystem Requirements Matrix

ID	Rev.	Date	Description	Author	Checked By
AF-001	0.1	10-23-18	Initial Draft	Tyler Critchfield & Ryan Anderson	Derek Knowles
AF-001	0.2	11-06-18	Revisions for Final Submis- sion	Tyler Critchfield	Ryan Anderson

Airframe Subsystem Requirements Matrix

Product: UAS Subsystem: Airframe		Performance Measures																		Units
Market Requirements		Importance	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Capable of flight for extended period of time	9	●	●	●	●														Minutes
2	Capable of traveling an extended distance	9	●	●	●	●	●													Unitless
3	Minimize flight path deviation	9						●	●	●	●	●								Unitless
4	Components are protected	9											●	●						Kilograms
5	Complies with AMA safety code	9													●					Meters/second
6	Capable of carrying UGV and water bottle	3		●	●	●	●	●									●	●		Meters/second
7	Fast and cheap rebuild	3													●			●	●	Unitless
8	Looks decent	1																	●	Unitless
		Upper Acceptable	Ideal	Lower Acceptable																Units
		N/A	75	40																Minutes
		N/A	20	5																Unitless
		1	1	0.2																Unitless
		50	4	0																Kilograms
		30	15	10																Meters/second
		20	10	N/A																Meters/second
		-0.01	-0.05	-0.1																Unitless
		0.2	0.1	0																Unitless
		0.15	0.1	0.05																Unitless
		0	-0.1	-0.15																Unitless
		0	0	0																Unitless
		0	0	0																Unitless
		0	0	0																Unitless
		0	0	0																Unitless
		1	0.5	0.4																Unitless
		12000	10000	8000																Cubic centimeters
		4	0	0																Hours
		10	10	5																1-10 scale
		10	10	5																1-10 scale

Figure 1: Airframe subsystem requirements matrix. Note that sometimes ideal values are unrealistic; rather, they are ideal. E.g., the ideal required build time is not time at all. Realism will be incorporated into target values in a future version of the Requirements Matrix.