Brigham Young University

AUVSI Capstone Team (Team 45)

UGV Requirements Matrix

ID	Rev.	Date	Description	Author	Checked By
RM-001	0.1	10-23-2018	Initial requirements	Jacob Willis	Brady Moon
RM-001	1.1	10-26-2018	Better performance measures	Jacob Willis	Kameron Eves

		Units	kg	N	%	%	N	m/s	m	cnt
	Product: UAV Subsystem: PAYLOAD/Unmanned Ground Vehicle (UGV) Notes: *normalized by the fusalage diameter cubed **normalized by chord	**Subsystem Performance Measures**	Drop mechanism mass	Weight mechanism can support	Aircraft internal volume consumed*	Mounting distance from aircraft CG**	Stowed drop mechanism drag	Maximum landing velocity	UGV landing distance from target	Rule violations
	Target Design Requirements	**Importance**	1	2	3	4	5	6	7	8
1	Complies with competition rules	5	●							●
2	Capable of lowering the payload to the ground	5	●	●						
3	Lands UGV within landing zone	3						●	●	
5	Delivers UGV without damage	3		●				●		●
6	Deployable from airframe	4			●	●	●			
7	Does not interfere with takeoff/landing	3	●			●	●			
8	Causes minimal aerodynamic interference	3				●	●			
9	Drop mechanism does not interfere with UGV movement	2						●	●	
		Lower Acceptable	0	0.6	-	-100	0	0	-	-
		Ideal	0.1	1.3	0	0	0.3	1	0	0
		Upper Acceptable	0.6	-	100	100	1.5	5	22	1

Figure 1: Requirements matrix for the subsystem which will deliver the UGV to the ground.