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BRIGHAM YOUNG UNIVERSITY
AUVSI CAPSTONE TEAM (TEAM 45)

UGV Requirements Matrix

ID	Rev.	Date	Description	Author	Checked By
RM-002	0.1	10-23-2018	Initial requirements	Jacob Willis	Brady Moon
RM-002	1.1	10-26-2018	Better performance measures	Jacob Willis	Kameron Eves

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Product: UAV Subsystem: PAYLOAD/Unmanned Ground Vehicle (UGV) Notes: *normalized by the fusalage diameter cubed **normalized by chord	Subsystem Performance Measures	Units	Drop mechanism mass (kg)	Weight mechanism can support (N)	Aircraft internal volume consumed* (%)	Mounting distance from aircraft CG** (%)	Stowed drop mechanism drag (N)	Maximum landing velocity (m/s)	UGV landing distance from target (m)	Rule violations (cnt)
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						●	●	
	Upper Acceptable		0.6	-	100	100	1.5	5	22	1
	Ideal		0.1	1.3	0	0	0.3	1	0	0
	Lower Acceptable		0	0.6	-	-100	0	0	-	-

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