NASA Student Launch Team Score Sheet

2019 - 2020

Entity Information	University of California Los Angeles

Preliminary Design Review (20%)

	Summary	Score Earned	Score Possible	Score Weight	Points Earned
Team Summary	Included	1	1	1	1
Vehicle Summary	Included	1	1	1	1
Payload Summary	Included	1	1	1	1
Changes Since Proposal	Included	1	1	1	1
Milestone Review Flysheet	Included	4	4	1	4
Vehicle Criteria					
Preliminary Vehicle Design	Expected Quality	4	7	1.5	6
Preliminary Recovery System Design	Full Detail	4	4	1	4
Mission Performance Predictions	Needs Improvement	2	7	1	2
Payload Criteria					
Preliminary Payload Design	Needs Improvement	2	7	1.5	3
Safety					
Safety Officer Identified-Responsibilities Defined	Included	1	1	1	1
Analysis of Failure Modes	Some Improvement Necessary	3	7	1	3
Personal Hazard Analysis	Needs Improvement	2	7	1	2
Environmental Concerns	Improvement Required	1	7	1	1
Project Plan					
NASA Requirements Verification	Not Included	0	4	1	0
Team Requirements Derivation	Improvement Required	1	7	1	1
Team Requirements Verification	Improvement Required	1	4	1	1
Preliminary Budget	Some Improvement Necessary	3	7	0.5	1.5
Preliminary Timeline	Some Improvement Necessary	3	7	0.5	1.5
PDR Deliverables					
PDR Document Appearance	Strong Quality	5	7	1	5
PDR Presentation	Expected Quality	4	7	1	4
Presentation Professionalism	Expected Professionalism	7	7	1	7

PDR Earned	51
PDR Possible	105
PDR Percentage	48.57%
PDR Points (200)	**97.14**

2019-2020 PDR Comparison Data	
PDR Average Score	117.91
PDR Standard Deviation	24.22

Action Items

1. Conduct testing to determine if the nosecone bulkhead is able to handle typical flight and recovery forces.
2. Conduct testing to determine if the bulkhead access door is able to handle typical flight and recovery forces.
3. Utilize mechanical switches to turn on the flight computers.
4
5

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Critical Design Review (20%)

	Summary	Score Earned	Score Possible	Score Weight	Points Earned
Team Summary	Included	1	1	1	1
Vehicle Summary	Included	1	1	1	1
Payload Summary	Included	1	1	1	1
Changes Since PDR	Included	1	1	1	1
PDR Action Items	Fully Addressed	7	7	1	7
Milestone Review Flysheet	Included	4	4	1	4
Vehicle Criteria					
Final Vehicle Design	Superior Quality	6	7	1.5	9
Sub-scale Flight Test Results	Strong Quality	5	7	1.5	7.5
Final Recovery System Design	Effective Detail	3	4	1	3
Mission Performance Predictions	Some Improvement Necessary	3	7	1	3
Payload Criteria					
Final Payload Design	Superior Quality	6	7	1.5	9
Safety					
Analysis of Failure Modes	Needs Improvement	2	7	1	2
Personal Hazard Analysis	Some Improvement Necessary	3	7	1	3
Environmental Concerns	Some Improvement Necessary	3	7	1	3
Launch Concerns and Operation Procedures/Checklists	Some Improvement Necessary	3	7	1	3
Project Plan					
Vehicle Component Test Plans/Status	Some Improvement Necessary	3	7	1	3
Payload Test Plans/Status	Strong Quality	5	7	1	5
NASA Requirements Verification	Expected Quality	4	4	1	4
Team Requirements Derivation & Verification	Strong Quality	5	7	1	5
Budget Status	Strong Quality	5	7	0.75	3.75
Timeline	Expected Quality	4	7	0.25	1
CDR Deliverables					
CDR Document Appearance	Strong Quality	5	7	1	5
CDR Presentation	Strong Quality	5	7	1	5
Presentation Professionalism	Expected Professionalism	7	7	1	7

CDR Earned	96.25
CDR Possible	138.5
CDR Percentage	69.49%
CDR Points (200)	**138.989**

2019-2020 CDR Comparison Data	
CDR Average Score	121.12
CDR Standard Deviation	27.07

Action Items

1. Increase the safety factor of the locking mechanism. A factor of safety of 4 should be considered a minimum.
2
3
4
5

NASA Student Launch Score Sheet

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Flight Readiness Review (20%)

	Summary	Score Earned	Score Possible	Score Weight	Points Earned
Team Summary	Included	1	1	1	1
Vehicle Summary	Included	1	1	1	1
Payload Summary	Included	1	1	1	1
Changes Since CDR	Included	1	1	1	1
CDR Action Items	Fully Addressed	7	7	1	7
Milestone Review Flysheet	Included	4	4	1	4
Vehicle Criteria					
As Built Vehicle Design and Construction	Strong Quality	5	7	1	5
Recovery System Design	Effective Detail	3	4	1	3
As Built Mission Performance Predictions	Expected Quality	4	7	1	4
Payload Criteria					
Payload Design and Construction	Expected Quality	4	7	1	4
Demonstration Flights					
Full Scale Demonstration Flight Test Results	Some Improvement Necessary	3	7	1.5	4.5
Safety					
Analysis of Failure Modes	Some Improvement Necessary	3	7	1	3
Personnel Hazard Analysis	Some Improvement Necessary	3	7	1	3
Environmental Concerns	Some Improvement Necessary	3	7	1	3
Launch Operations Procedures					
Preparation and Launch Operations Procedures/Checklists	Expected Quality	4	7	1	4
Project Plan					
Component and Subsystem Testing Results (Vehicle)	Needs Improvement	2	7	1	2
Payload Testing Results	Some Improvement Necessary	3	7	1	3
NASA Requirements Verification	Expected Quality	4	4	1	4
Team Requirements Verification	Some Improvement Necessary	3	7	1	3
Budget Status	Expected Quality	4	7	1	4
FRR Deliverables					
FRR Document Appearance	Strong Quality	5	7	1	5
FRR Presentation	Expected Quality	4	7	1	4
Presentation Professionalism	Expected Professionalism	7	7	1	7

FRR Earned	80.5
FRR Possible	131.5
FRR Percentage	61.22%
FRR Points (200)	**122.433**

2019-2020 FRR Comparison Data	
FRR Average Score	117.34
FRR Standard Deviation	25.37

Action Items
1
2
3
4
5

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STEM Engagement (5%)		Points Earned	Points Possible
Number of Events Completed	1 pt - Minimum Requirement Met	1	5
Number of Participants Engaged	5 pts - Requirement Met But Not Exceeded	5	10
Quality of Reports	5 pts - Expected Quality	5	10
	SE Earned	11	
	SE Possible	25	
	SE Percentage	44.00	
	SE Points (50)	**22.00**	

Flight and Recovery (10%)		Points Earned	Points Possible
Range Professionalism Exhibited	Needs Improvement	0	10
Range Safety Rules Followed	Needs Improvement	0	10
Successful Launch	No	0	10
Successful Recovery	No	0	20
	FR Earned	0	
	FR Possible	50	
	FR Percentage	0.00%	
	FR Points (100)	**0.00**	

Final launch event cancelled.
This section was not scored.

Altitude (10%)		
Altitude	Altitude Obtained in Feet	0
	Target Alt	4100
	Alt Target Delta	4100
	Altitude Score	DQ
	Alt Points (100)	**DQ**

Final launch event cancelled.
This section was not scored.

Post Launch Assessment Review (15%)		Points Earned	Points Possible
Analysis of Flight	Not Included	0	7
Analysis of Vehicle	Not Included	0	7
Analysis of Payload Experiment	Not Included	0	7
Experiment Performance	Not Successful	0	14
	PLAR Earned	0	
	PLAR Possible	35	
	PLAR Percentage	0.00	
	PLAR Points (150)	**0.00**	

Final launch event cancelled.
This section was not scored.

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Penalties		Points To Be Deducted
Team Social Media Info Late Submission	No	0
PDR Report Late Submission	No	0
PDR Presentation Late Submission	No	0
CDR Report Late Submission	No	0
CDR Presentation Late Submission	No	0
FRR Report Late Submission	No	0
FRR Presentation Late Submission	No	0
Motor Change After Deadline	No	0
PLAR Late Submission	No	0
	Total Penalty Points	**0**

Totals (1000 pts.)		
Preliminary Design Review	20%	97.14
Critical Design Review	20%	138.99
Flight Readiness Review	20%	122.43
STEM Engagement	5%	22.00
Flight and Recovery	10%	0.00
Altitude	10%	DQ
Post Launch Assessment Review	15%	0.00
Penalties	Max 170 pts	0.00
	Total Score	380.57

Total Score	380.57

Final Rank	22nd of 46 teams
Rookie Team Final Rank	2nd of 8 teams