Technical Design Report – Scoring Rubric

2022 SeaPerch Season   *www.seaperch.org*

Scoring Guidelines:
Missing Component *(0 points)*: Requirements missing.
Good *(1 points)*: Average
Mastery *(2 points):* Above Average
Exemplary *(3 points)*: Superior. Top 5%

TOTAL SCORE _____

TEAM NUMBER *(if used)*	_____
TEAM	_____
ORG./SCHOOL	_____
CLASS/DIVISION	_____
JUDGE	_____

1. Paper Format	0	4	8	Points
Follows all formatting guidelines: - Page size: 8.5"x11" - Single Spaced - Margins: >0.8" - Footer with team name and page # on all pages	Does not meet all formatting guidelines.	Meets most of the formatting guidelines.	Meets all formatting guidelines	
TOTAL **PAPER FORMAT** SCORE (<u>8 POINTS MAX</u>):				

2. Abstract	0	1	2	Points
Limited to ½ page	Exceeds page limit.		Within page limit.	
Report summarization	Does not summarize main points of the report.		Includes a clear overview of the report.	
Unique ROV design and/or design process	No discussion of ROV design or process	Overview of design and/or process with some focus on unique traits	Robust discussion of unique design and process	
TOTAL **ABSTRACT** SCORE (6 <u>POINTS MAX</u>):				

3. Task Overview	0	1	2	Points
Limited to ½ page	Exceeds page limit.		Within page limit.	
Overview of the competition tasks	No overview of competition tasks.	Good overview of obstacle <u>or</u> mission course.	Detailed discussion of all tasks for both courses.	
Design approach justification	No discussion of task influence on design.	Basic discussion of how tasks impacted design.	Robust, detailed discussion of design justification.	
TOTAL **TASK OVERVIEW** SCORE (<u>6 POINTS MAX</u>):				

robonation
Robotics Community

4. Design Approach	0	1	2	3	Points
Limited to 2 pages	Exceeds page limit.		Within page limit.		
Team's approach to engineering design process (EDP)	No overview of team approach to EDP.	Little discussion of team approach to EDP.	Good discussion of team's approach to EDP.	Robust discussion of team's strategy to EDP.	
Design iterations	No discussion of design iterations.	Basic discussion of design iterations.	Good discussion and analysis of design iterations.	Robust discussion & analysis of design iterations.	
Conceptual drawings and/or graphics	No drawings or graphics.	Includes graphic(s) within report.	Good graphic(s) with context within report.	High-quality graphics with labels that enhance text	
Final design	No discussion of final design.	Basic discussion of final design features.	Good discussion of final design features/decisions	Robust discussion of final design features/decisions.	
Novelty of ROV design or approach	No discussion of design or approach novelty.	Basic discussion of design or approach novelty.	Good discussion of design or approach novelty.	Strong discussion & analysis of ROV design & approach novelty.	
Scientific and engineering terms	Includes no engineering terms.	Includes 2-4 engineering terms.	Includes 5+ terms; not fully embedded or lacking context	Includes 5+ terms embedded in text & enhancing the section.	
			TOTAL **DESIGN APPROACH** SCORE (<u>20 POINTS MAX</u>):		

5. Experimental Results	0	1	2	3	Points
Limited to 1 page	Exceeds page limit.		Within page limit.		
In-water and/or simulated testing overview	No discussion of testing.	Basic overview & discussion of testing conducted.	Good discussion & analysis of testing conducted.	Exceptional analysis of testing models utilized.	
Impact of testing on subsequent designs	No discussion of testing impact on design.	Basic discussion of how testing impacted multiple designs.	Good discussion & analysis of testing impact on multiple design iterations.	Robust analysis of testing impact on multiple design iterations.	
Test results	No test results included.	Basic discussion of test results.	Good test results analysis supported by graphs and/or charts.	Robust test results analysis supported by graphs & charts.	
			TOTAL **EXPERIMENTAL RESULTS** SCORE (<u>11 POINTS MAX</u>):		

6. Reflection & Next Steps	0	1	2	3	Points
Limited to 1 page	Exceeds page limit.		Within page limit.		
Reflection on the design process	No reflection on the design process.	Basic reflection on the design process.	Good reflection and basic design process analysis.	Thoughtful design process reflection & analysis.	
Next Steps	No discussion of next steps.	Basic discussion of next steps.	Good overview of future plans for ROV and/or team.	Robust overview of future plans for ROV and team.	
TOTAL **REFLECTION & NEXT STEPS** SCORE (8 POINTS MAX):					

7. Acknowledgements	0	1	2	3	Points
Acknowledgement of support	Not included in report.		Supporters recognized.		
TOTAL **ACKNOWLEDGEMENTS** SCORE (2 POINTS MAX):					

8. References	0	1	2	Points
References follow APA format	Does not follow APA format.		Follows APA format.	
Includes references to support report	No references or citations.	1-3 references that are cited in the report text.	4+ references that are cited in the report text.	
TOTAL **REFERENCES** SCORE (4 POINTS MAX):				

9. Budget	0	1	2	Points
Includes budget	Section not included.		Section included.	
TOTAL **BUDGET** SCORE (2 POINTS MAX):				

10. Fact Sheet	0	1	2	Points
Includes fact sheet	Section not included.		Submitted in approved format.	
TOTAL **FACT SHEET** SCORE (2 POINTS MAX):				

![seaperch logo]

11. Writing Skills	0	1	2	Points
Organization	Organization severely impacts ability to follow the report.	Minimal organization with section headers.	Good organization of discussion within each section.	
Readability	Report is inconsistent and difficult to follow.	Report is well written and easy to follow.	Concise and cohesive report that is easy to understand.	
Spelling and Grammar	Significant spelling or grammatical errors (5+)	Minimal spelling or grammatical errors (1-5)	No spelling/ grammatical errors.	
TOTAL **WRITING SKILLS** SCORE (6 POINTS MAX):				