

Technical Design Report: Scoring Rubric

2023 SeaPerch Season

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Scoring Guidelines:

Missing Components (0 points)

Requirements missing does not meet minimum requirements.

Good (2 points)

Always meets basic requirements. Average. (70%)

Mastery (3 points)

Meets all requirements with additional content. (85%)
Above Average.

Exemplary (4 points)

Always exceeds requirements with additional content, material, formatting. Superior (95%)

TEAM: _____

JUDGE: _____

TOTAL SCORE: _____

1. Abstract	0		2		4	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 (8 POINTS MAX): _____

2. Task Overview	0	1	2	3	4	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 (10 POINTS MAX):						

3. Design Approach	0	1	2	3	4	Points
Limited to 2 pages	Exceeds page limit.	XXXXXXX	Within page limit.			
Team's approach to the engineering design process (EDP)	No overview of team approach to EDP.	XXXXXXXXXX	Minimal discussion of team incorporation of EDP.	Solid discussion of team's approach to EDP.	Robust discussion of team's strategy to EDP.	
Design iterations	No discussion of design iterations.	XXXXXXXXXX	Basic discussion of design iterations.	Solid discussion and analysis of design iterations.	Robust discussion and analysis of design iterations.	
Conceptual drawings and/or graphics	No drawings or graphics.	XXXXXXXXXX	Includes graphic(s) with basic context within report.	Includes some graphic(s) with context within report.	Includes High-quality graphics with context and labels that enhance the report.	
Final design	No discussion of final design.	XXXXXXXXXX	Basic discussion of final design features.	Solid discussion of final design features and decisions.	Robust discussion of final design features and decisions with supporting reasons.	
Novelty of ROV design or approach	No discussion of design or approach novelty.	XXXXXXXXXX	Basic discussion of design or approach mentions novelty.	Solid discussion of design or approach discusses novelty.	Robust discussion and analysis of novelty of ROV design and approach.	
Scientific and engineering terms	No engineering terms.	XXXXXXXXXX	Includes 2-4 engineering terms.	Includes 5+ terms; not fully embedded or does not add to context	Includes 5+ engineering terms embedded in text that include context and enhance the section.	

TOTAL DESIGN APPROACH SCORE (25 POINTS MAX):

4. Experimental Results	0	1	2	3	4	Points
Limited to 1 page	Exceeds page limit.		Within page limit.			
In-water and/or simulated testing overview	No discussion of testing.		Basic overview and/or discussion of testing conducted.	Solid discussion and/or analysis of testing conducted.	Robust discussion and analysis of testing models utilized.	
Impact of testing on subsequent designs	No discussion of testing impact on design.		Basic discussion of how multiple designs were impacted by testing.	Solid discussion and some analysis of testing impact on multiple design iterations.	Robust discussion and thorough analysis of testing impact on multiple design iterations.	
Test results	No test results included.		Basic discussion of test results.	Solid analysis of test results supported by graphs and/or charts.	Robust analysis of test results supported by graphs and charts.	

TOTAL EXPERIMENTAL RESULTS SCORE (14 POINTS MAX):

5. Reflection & Next Steps	0	1	2	3	4	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.	Solid reflection including basic analysis of the design process.	Thorough and thoughtful reflection and analysis of the design process.	
Next Steps	No discussion of next steps.		Basic discussion of next steps for ROV and/or team.	Solid overview of future plans for ROV and team.	Robust overview of detailed future plans for ROV and team.	

TOTAL REFLECTION & NEXT STEPS SCORE (10 POINTS MAX):

6. Acknowledgements	0	1	2	3	4	Points
Acknowledgement of support	Not included in report.		Supporters recognized in report.			
TOTAL ACKNOWLEDGEMENTS SCORE (2 POINTS MAX):						

7. References	0	1	2	3	4	Points
References follow APA format	Does not follow APA format.		Follows APA format.			
Includes references to support report	No references or citations.		1-2 references that are cited in the report text.	At least 4 references that are cited in the report text.		
TOTAL REFERENCES SCORE (5 POINTS MAX):						

8. Budget	0	1	2	3	4	Points
Includes itemized budget	Section not included in report.		Section included in report.			
TOTAL BUDGET SCORE (2 POINTS MAX):						

9. Fact Sheet	0	1	2	3	4	Points
Includes fact sheet	Section not included in report.		Submitted in approved format.			
Fact sheet content	Required content not included.		Low-res/blurry images and some content included.		Hi-res images and content clearly supports report.	
TOTAL FACT SHEET SCORE (6 POINTS MAX):						

10. Writing Skills	0	1	2	3	4	Points
Organization	None or little Organization severely impacts ability to follow the report.		Organized discussion within each section.			
Readability	Report is inconsistent and difficult to follow.		Report is easy to follow with some graphics.		Report is concise and cohesive, easy to understand and supported by context and graphics.	
Spelling and Grammar	Significant spelling or grammatical errors (5+)		Several spelling or grammatical errors (3-5)		Minimal spelling or grammatical errors. (1-2 errors)	

TOTAL **WRITING SKILLS** SCORE (10 POINTS MAX):

11. Paper Format	0	-	5	-	10	Points
Follows all formatting guidelines: <ul style="list-style-type: none"> - 5 pages max (excluding sections 6-7 and appendices) - Page size: 8.5"x11" - Margins \geq 0.8 in. - Times New Roman 12pt - Single Spaced - Footer with team name and page # on all pages - Submitted in pdf format 	Does not meet all formatting guidelines.		Meets most of the formatting guidelines. (65%)		Meets all formatting guidelines (100%).	

TOTAL **PAPER FORMAT** SCORE (10 POINTS MAX):