

2016 MATE ROV Competition Technical Documentation Rubric

Class (circle one): NAVIGATOR SCOUT Judge:_____ Team#:_____ School Name and #:_____

Technical Report Summary					
Category	Scoring Criteria				Points
Overall Presentation	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
Basic requirements	Report is 10 pages or less; includes a table of contents; all measurements are in SI units (exceptions include ½ PVC, etc.), excellent attention to grammar	Report is 10 pages or less; includes a table of contents; most measurements are in SI units (exceptions include ½ PVC, etc.), very good attention to grammar	Report is over or less than 10 pages; includes an inaccurate table of contents; some measurements are in SI units, good attention to grammar, some issues	Report is over or significantly under 10 pages; table of contents missing or inaccurate; SI units not used, poor attention to grammar, many typos, etc.	
Title page and abstract	Includes all elements as specified in the guidelines: Company name, school, club or organization name, city and state, members and roles, name of mentor, abstract 250 words or less and provides an excellent, clear and concise summary of work	Includes most elements as specified in the guidelines: Company name, school, club or organization name, city and state, members and roles, name of mentor, abstract 250 words or less and provides a concise summary of work	Includes some elements as specified in the guidelines: Company name, school, club or organization name, city and state, members and roles, name of mentor, abstract 250 words or less and provides an adequate summary of work	Many specified elements missing, abstract 250 words or less but is not clear nor concise	
Photos of ROV	Attractive photo of complete vehicle included, includes additional photos which fully capture vehicle design, excellent photo captions	Photo of complete vehicle included, includes additional photos which somewhat capture vehicle design, captions accompany photos	Photo of complete vehicle included, additional photos which do not capture vehicle design, captions accompany photos	Photos missing or not of high quality, captions missing	
Report design, professionalism and attention to detail	Report is extremely well thought through, logically organized and concise; demonstrates an excellent professional view of the company, team clearly spent a great deal of time working through details	Report is well thought through, logically organized and concise; demonstrates a good professional view of the company, some details missing or pieces which could have used more attention	Report is acceptable, issues with flow, logic, and/or concision; demonstrates an adequate professional view of the company, many pieces require more attention to detail	Report is not well written, many issues, not logical, not enough information; completely unprofessional, clearly very little time spent preparing the report	
Budget					
Accounting of funds, including donations	Budget included, math is accurate, any fundraising detailed, travel estimates very reasonable, acknowledgement of donations	Budget included, math is accurate, fundraising information included, travel estimates are reasonable, acknowledgement of donations	Incomplete budget, math has some inaccuracies, travel estimates have issues, no acknowledgement of donations	Poor description, poor use of funds, many math errors, travel unreasonable, no acknowledgment of donations	
Systems Integration Diagram and, if applicable, Fluid Power Diagram Total = 2 points					
	Created using CAD or neatly hand-drawn, discloses presence of fuse/circuit breaker, or includes fluid power diagram	Poorly drawn or prepared electrical diagram (-1 point) Diagram does not indicate presence of fuse/circuit breaker (-1 point) *If fluid power is not used, score as a 1			

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Design Rationale	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
Overall vehicle design presented in clear and logical manner	Excellent description in a clear, logical manner of how vehicle was built to perform specific tasks, decisions on shape, size, weight, and materials used	Good description in a logical manner of how vehicle was built to perform specific tasks, decisions on shape, size, weight, and materials used	Adequate description of how vehicle was built to perform specific tasks, decisions on materials used	Poor description or understanding of vehicle design	
Demonstrates step-by-step planning and design process	Described exactly, step-by-step the planning and design process, why design decisions were made, which materials were used and why	Described some design decisions and the planning process and which materials were used and why	Unable to thoroughly describe design and planning process and materials decisions	Lack of any thorough explanation of the planning and design process	
Describes problem solving	Thoroughly describes how the company brainstormed ideas to solve the mission tasks and evaluated those ideas against competing alternatives	Describes how the company brainstormed ideas to solve the mission tasks and evaluated those ideas against competing alternatives	Somewhat describes brainstormed ideas and evaluated those ideas against competing alternatives, information missing	Lacking description of any problem solving initiatives	
Safety	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
Safety features and philosophy highlighted	Thoroughly describes safety philosophy and specific safety features of vehicle	Describes safety philosophy and safety features of vehicle	Describes safety features of vehicle	Does not describe safety features	
Challenges/Lessons Learned	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
Describes at least one technical challenge faced by team, lessons learned, method to overcome	Excellent descriptions of at least one technical challenge and method provided, excellent description of lesson(s) learned or skills gained	Good descriptions of at least one challenge provided, good description of lesson learned or skill gained	Adequate descriptions of a challenge provided, adequate description of lesson learned or skill gained	Poor or missing descriptions	
Describes at least one interpersonal challenge faced by the team and the method to overcome, lessons learned	Excellent descriptions of at least one technical and one interpersonal challenge and method provided, excellent description of lesson(s) learned or skills gained	Good descriptions of at least one challenge provided, good description of lesson learned or skill gained	Adequate descriptions of a challenge provided, adequate description of lesson learned or skill gained	Poor or missing descriptions	
Reflections	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
	Thoughtful personal or professional accomplishments from competition participation presented as a team or as individual team members	Personal/professional accomplishments provided from competition presented as a team or as individual team members	A personal or professional accomplishments provided from competition presented as a team or as individual team members	Poor reflections	
Improvements	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
	Extremely thoughtful and logical discussion of at least one improvement	Thoughtful and logical discussion of at least one improvement	Vague discussion of at least one improvement	Missing discussion of at least one improvement	
Teamwork	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
Team assignments and schedule	Company provides an excellent description of the team assignments and schedule to design/build the vehicle	Provides a good description of the team assignments and schedule to design/build the vehicle	Vague description of assignments to design/build the vehicle or schedule or schedule missing	Poor or lacking description of the specific team assignments to design/build the vehicle	

References	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
Sources used and documentation	Provided a properly documented list of an books, journals, web sites, etc. used	Provided a list of an books, journals, web sites, etc. used as sources	Provided a few books, journals, web sites, etc., not properly documented	No references provided	
Acknowledgements	3 - Excellent	2 - Very Good	1 - Good	0 – Poor or missing	
	Well documented contributions of companies, individuals who contributed funds, equipment, and/or technical/moral support	Documented contributions of companies, individuals who contributed funds, equipment, and/or technical/moral support	Poorly documented contributions of companies, individuals who contributed funds, equipment, and/or technical/moral support	Missing documentation of contributions	
Score Sub-Total (50 points max)					

Discretionary Points (6 points max)				
Originality	3 - Excellent	2 - Very Good	1 - Good	Points
Vehicle exhibits unique concepts or innovations	Exceptional innovation described in vehicle design, or other feature	Very clever innovation in vehicle design, or other feature	Interesting innovation in vehicle design, or other feature	
Other – please provide written comments/explanation in the appropriate cell to the right				
Deductions (-9 points max)				
Deductions	- 3 Extreme	- 2 Moderate	- 1 Minor	
Commercial assistance	Vehicle was designed/created by a commercial company and lack of any justification	Some assistance was provided by a commercial company and some justification	Minor assistance was provided by a commercial company and with justification	
Interference	Significant contribution by coaches, mentors, or parents	Some contribution by coaches, mentors, or parents	Minor contribution from coaches, mentors, or parents	
Overuse of components	Significant overuse of commercial components without adequate justification and/or overuse of re-used components without adequate justification	Overuse of commercial components without adequate justification and/or overuse of re-used components without adequate justification	Some use of commercial components without adequate justification and/or overuse of re-used components without adequate justification	
TOTAL TECHNICAL DOCUMENTATION SCORE				