

2019 MATE ROV COMPETITION ENGINEERING PRESENTATION SCORE SHEET - NAVIGATOR

Judge Name (First Last):

Competition Class:

Team #:

Navigator

COMPANY/SCHOOL NAME: N/A

Category	Criteria	Scoring Requirements	Enter your scores here	Raw Score	Points Possible	Raw %	Weight	Category Score	Comments
				by category					
Safety				0	12	0%	10%	0.00	
	Content								
		Presentation highlighted safety features and philosophy		0					
	Safety procedures								
		Described safety protocols (e.g. safety checklist) and procedures for dealing with safety issues		0					
	Safety measures								
		Noted warning labels and safeguards on potentially hazardous parts		0					
Team Presentation				0	52	0%	25%	0.00	
	Preparation								
		All team members participated in the presentation		0					
		Team was well prepared for the presentation		0					
	Delivery								
		Presentation was dynamic, clear, and informative		0					
		"Sold" judges on purchasing the product		0					
	Insight/Creativity								
		Clearly described technical challenges and innovative, thoughtful solutions during design, construction, and operation		0					
		Clearly described organizational challenges and innovative, thoughtful solutions during design, construction, and operation		0					
	Understanding								
		Demonstrated an understanding of their ROV system design, specifications, and functions		0					
	Resources/Budget								
		Described process for developing and adhering to budget		0					
		Acknowledgement of donors of funds, materials, equipment		0					

Category	Criteria	Scoring Requirements	Enter your scores here	Raw Score	Points Possible	Raw %	Weight	Category Score	Comments
	Teamwork								
		Described skills gained to improve capabilities and meet challenges		0					
		Demonstrated project was a team effort with clear roles and influence of each team member		0					
		Team seems cohesive, inclusive, and supportive		0					
		Team demonstrates self-teaching as well as mentoring among team members		0					
Theme/Tasks				0	16	0%	10%	0.00	
	Content								
		Presentation clearly linked to the theme and mission tasks		0					
		Described the real world mission behind the tasks		0					
	Understanding								
		Demonstrated detailed understanding of the science/industry mission		0					
		Demonstrated an understanding of how their ROV's systems, specifications, and functions were designed to perform to the mission tasks		0					
Overall Design/Workmanship				0	16	0%	10%	0.00	
	Content								
		Overall design is team's own, well-conceived, and carried out (both functionally and aesthetically)		0					
		The vehicle is robust and shows skill in putting it together		0					
		Demonstrates thought to marketability and use by others		0					
		Discussed the extent to which the vehicle was tested prior to the event		0					
Build vs. Buy, New vs. Used				0	16	0%	20%	0.00	
	Justification								
		Provided justifications for build vs. buy decisions		0					
		Provided justifications for new vs. re-used decisions		0					
	Understanding								
		Demonstrated understanding of engineering principles of both their built and bought components		0					
		Demonstrated understanding of engineering principles of both their new and re-used components		0					

Category	Criteria	Scoring Requirements	Enter your scores here	Raw Score	Points Possible	Raw %	Weight	Category Score	Comments
System Design				0	108	0%	25%	0.00	
	Engineering Design Rationale								
		Overall vehicle design presented in clear and logical manner		0					
		Demonstrates step-by-step planning and design and building process		0					
		Design choices demonstrate thoughtful and balanced trade-offs		0					
	Originality								
		Team made innovations or modifications resulting in increased function at reduced costs		0					
		Demonstrated innovation in vehicle design, tools, or other features		0					
	Describes problem solving process								
		Thoroughly describes how the company brainstormed ideas		0					
		Evaluated ideas against competing alternatives		0					
		Used rational process (data, trade study) to evaluate alternatives		0					
	Systems approach								
		System reflects significant and thoughtful design, i.e., is not simply an assembly of mostly purchased parts		0					
	Material and component decisions								
		Discussed process and factors for making material, component, and other choices		0					
		Provided sound reasoning for their choices		0					
	Vehicle structure								
		Described trade-offs and rationale for vehicle cost, size, and weight		0					
	Vehicle systems								
		Described logically and clearly how components and materials were selected to perform specific tasks in a cost effective way		0					
		Described how the design evolved to meet the competition requirements		0					

Category	Criteria	Scoring Requirements	Enter your scores here	Raw Score	Points Possible	Raw %	Weight	Category Score	Comments
	Control/Electrical system								
		Control scheme as designed by the team is sensible, efficient, and logical		0					
		Provided a good description of control system design, including cabling		0					
		Demonstrated complete understanding of control system functions and features		0					
		All team members understand control system design		0					
		Demonstrated understanding of tether design and requirements		0					
		Developed and presented a tether management protocol		0					
	Propulsion								
		Sensible rationale provided for number, type, and placement of thrusters		0					
	Buoyancy and Ballast								
		Demonstrated understanding of buoyancy and ballasting principles		0					
		Gave a sensible rationale for the type of buoyancy used		0					
	Payload and Tools								
		Gave a sensible rationale provided for number, type, and placement of cameras		0					
		Payload tool designs meet functional and mission requirements		0					
		Sensors used are appropriate for vehicle operation and tasks		0					
		Demonstrated an understanding of theory and design of sensors/instrumentation		0					
				0	220	100%		0.00	Base Score
				Raw Score	Max Points (cat)	Total % (check:100)			

Category	Criteria	Scoring Requirements	Enter your scores here	Raw Score	Points Possible	Raw %	Weight	Category Score	Comments
							Weight		
Discretionary Points			0-4 pts each	0	8		1	0	Discretionary points
	Exceptional design and innovation demonstrated in vehicle design, tools, or other feature			0					
	Team demonstrated remarkable effort to design and manufacture every component of the vehicle			0					
Deductions			0-4 pts each	0	8		1	0	Deduction points
	Significant interference by coaches, mentors, parents providing assistance during presentation and/or design process (with exception of language barriers)			0					
	Significant overuse of commercial or re-used components without adequate justification			0					
								0	Final Score
Other Comments									

Scoring Rubric (applies to all score items)	Outcome	Criteria	Score
	Missing	Not included, can't evaluate	0
	Needs work	Effort made, meets some key requirements. Understanding or treatment of key requirements needs more depth. Judges had to question deeply to find answers.	1
	Partially meets requirement	Response demonstrates understanding and addresses most key requirements. Simple prodding from judges encouraged team to answer.	2
	Meets requirement	Response demonstrates thorough understanding and addresses all key requirements. Team addressed topic with little to no prompting.	3
	Exceeds requirement	Response extends beyond key requirements, demonstrating exceptional depth and breadth of understanding.	4

Discretionary Points Rubric	Degree	Points
Criteria: - Novelty - Depth of Understanding - Depth of Analysis - Effectiveness (functions as intended) - Quality of Implementation	None	0
	Minor	1
	Fair	2
	Good	3
	Extraordinary	4

Deductions Rubric	Degree	Deduction
Criteria: - Extent to which team relied on outside help, existing work and/or purchased components and services	None	0
	Minor	1
	Fair	2
	Medium	3
	Extreme	4