

2019 MATE ROV COMPETITION ENGINEERING PRESENTATION SCORE SHEET - SCOUT

Judge Name (First Last):

Competition Class:

Scout

Team #:

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								
		Did our presentation highlight our ROV's safety features and our company's safety practices?	<input type="text"/>	0					<input type="text"/>
	Safety procedures								
		Did we describe safety protocols (e.g. safety checklist) and how we handle any safety issues (e.g. cut or other injury)?	<input type="text"/>	0					<input type="text"/>
	Safety measures								
		Did we describe point out labels and safeguards on potentially hazardous parts?	<input type="text"/>	0					<input type="text"/>
Team Presentation				0	52	0%	25%	0.00	
	Preparation								
		Did all of our team members participate in the presentation? Were we well prepared for the presentation?	<input type="text"/> <input type="text"/>	0 0					<input type="text"/> <input type="text"/>
	Delivery								
		Was our presentation was clear and informative? Did we have energy or were we boring? Did we convince the judges to buy our ROV?	<input type="text"/> <input type="text"/>	0 0					<input type="text"/> <input type="text"/>
	Insight/Creativity								
		Did we describe the technical (e.g. skills) and organizational (e.g. working as a team) challenges that we faced as we designed and built our ROV and prepared for the competition? Did we describe how we thought through and solved our problems?	<input type="text"/> <input type="text"/>	0 0					<input type="text"/> <input type="text"/>
	Understanding								
		Did we convince the judges that we understand how each of our ROV's systems (e.g. control box, motors, etc.) work? Did we explain how we came up with the design?	<input type="text"/>	0					<input type="text"/>
	Resources/Budget								
		Did we include how much our ROV cost and how we paid for it? Did we thank the people and organizations who gave us funds, materials, equipment, and cheered us on?	<input type="text"/> <input type="text"/>	0 0					<input type="text"/> <input type="text"/>

Category	Criteria	Scoring Requirements	Enter your scores here	Raw Score	Points Possible	Raw %	Weight	Category Score	Comments
	Teamwork								
		Did we describe the skills that we learned in order to design and build our ROV and prepare for the competition?		0					
		Did we convince the judges that we (and not our teacher or mentor) did the work and what role (job) each of us had?		0					
		Did we convince the judges that we work well as a team?		0					
		Did we convince the judges that we were excited to learn and helped each other along the way?		0					
Theme/Tasks				0	16	0%	10%	0.00	
	Content								
		Did we talk about the competition theme and mission tasks?		0					
		Did we describe the science (e.g. seafloor spreading) and technology (e.g. tidal turbines) that's involved with these tasks in the real world?		0					
	Understanding								
		Did we convince the judges that we understand the theme and what the tasks are about?		0					
		Did we convince the judges that we designed and built our ROV specifically to solve the tasks?		0					
Overall Design/Workmanship				0	16	0%	10%	0.00	
	Content								
		Did we describe how we came up our own ROV design? If we used a kit, did we describe how we thought through the design of the frame, placement of the motors, etc.?		0					
		Did we convince the judges that our ROV is sturdy and that it won't easily come apart or unwired and, if a repair is needed, that we can fix it on the pool deck?		0					
		Did we give some thought and describe why other people might want to buy and use our ROV?		0					
		Did we talk about how we tested the ROV and practiced before the competition?		0					
Build vs. Buy, New vs. Used				0	16	0%	20%	0.00	
	Justification								
		Did we explain why we chose to buy certain ROV parts and/or build others?		0					
		Did we explain why we chose to re-use certain old parts and/or build others?		0					
	Understanding								
		Did we convince the judges that we understand how the parts that we bought and those that we built work?		0					
		Did we convince the judges that we understand how the parts that we re-used and the parts that we built work?		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								
		Did we explain our overall ROV design in a way that made sense to the judges?		0					
		Did we show that we had a plan or schedule and followed it?		0					
		Did we convince the judges that we thought through our design and building choices?		0					
	Originality								
		Did we come up with any new ideas or make any changes along the way that improved how our ROV operated and saved us money?		0					
		Did we come up with any creative designs or tools and explain them to the judges?		0					
	Describes problem solving process								
		Did we explain how we brainstormed ideas?		0					
		Did we describe how we compared our ideas and came up with the "best" one?		0					
		Did we describe the criteria that we used to pick our "best" idea?		0					
	Systems approach								
		Did we convince the judges that we thought through how to assemble the individual ROV systems into one whole working vehicle?		0					
	Material and component decisions								
		Did we talk about how we chose the materials to use for our frame? Our control box? Our tools? Etc.		0					
		Did we convince the judges that we made good decisions on selecting our materials and ROV parts?		0					
	Vehicle structure								
		Did we describe any trade-offs that we made (e.g. homemade PVC gripper instead of a store-bought one) to keep our ROV at a certain cost or size?		0					
	Vehicle systems								
		Did we explain how we chose our materials and tools to keep costs down but yet still allow us to perform the mission tasks?		0					
		Did we explain how our design and/or tools changed over time as we discovered what did and didn't work?		0					

Category	Criteria	Scoring Requirements	Enter your scores here	Raw Score	Points Possible	Raw %	Weight	Category Score	Comments
	Control/Electrical system								
		Did we convince the judges that our control box was put together in a way that makes sense for how we operate our ROV?		0					
		Did we describe our ROV's control system, including the design of the switches/joysticks, wiring, and tether?		0					
		Did we convince the judges that we know how the control box works and describe any special features that we may have included?		0					
		Do all of our team members understand the basics of our ROV control box, switches/joysticks, wiring, and tether?		0					
		Did we convince the judges that we understand the purpose of our tether and how we came up with its length?		0					
		Did we come up with a way to manage our tether and describe it to the judges?		0					
	Propulsion								
		Did we describe the number and placement of our thrusters (motors)?		0					
	Buoyancy and Ballast								
		Did we convince the judges that we understand buoyancy and ballast?		0					
		Did we describe how ROV's buoyancy (e.g. foam noodles) and why we selected that specific type of buoyancy?		0					
	Payload and Tools								
		Did we explain why we did or did not use cameras?		0					
		Did we explain how our tools were designed to perform the mission tasks?		0					
		Did we explain why we did or did not use sensors and why sensors are or aren't needed for the tasks?		0					
		Did we convince the judges that we understand how our tools, cameras, and/or sensors work?		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
	Do we have a unique ROV design, tool, or other feature?			0					
	Did we design and build every part of our vehicle or did we buy or re-use every single part?			0					
Deductions			0-4 pts each	0	8		1	0	Deduction points
	Do the judges think that our teachers, mentors, and parents built most of the vehicle and wrote our presentation for us?			0					
	Did we use a lot of pre-built parts or parts from previous teams without explaining why?			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