

For each Robot Design criteria, clearly mark the box that best describes the ability of the team to demonstrate or provide evidence (such as analysis or test data) that their robot and processes meet that level of achievement. If the team does NOT describe a particular criteria at all, then put an 'X' in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve. Use the back for additional comments if needed.

		Beginning	Developing	Accomplished	Exemplary
Mechanical Design	Durability	Robot designed to maintain structural integrity and have the ability to withstand rigors of competition			
	N	quite fragile; breaks a lot	frequent or significant faults/repairs	rare faults/repairs	sound construction; no repairs
	D				
	Mechanical Efficiency	Robot designed to be easy to repair, modify, and be handled by technicians			
N	excessive time to repair/modify	inefficient to repair/modify	appropriate time to repair/modify	streamlined time to repair/modify	
D					
Mechanization	Mechanization	Robot mechanisms designed to move or act with appropriate speed, strength and accuracy for intended tasks (propulsion and execution)			
	N	imbalance of speed, strength and accuracy on most tasks	imbalance of speed, strength and accuracy on some tasks	appropriate balance of speed, strength and accuracy on most tasks	appropriate balance of speed, strength and accuracy on every task
	D				
Programming	Programming Quality	Programs are appropriate for the intended purpose and should achieve consistent results, assuming no mechanical faults			
	N	would not achieve purpose AND would be inconsistent	would not achieve purpose OR would be inconsistent	should achieve purpose repeatedly	should achieve purpose every time
	D				
	Programming Efficiency	Programs are modular, streamlined, and understandable			
	N	excessive code and difficult to understand	inefficient code and challenge to understand	appropriate code and easy to understand	streamlined code and easy for anyone to understand
D					
Automation/Navigation	Automation/Navigation	Robot designed to move or act as intended using mechanical and/or sensor feedback (with minimal reliance on driver intervention and/or program timing)			
	N	frequent driver intervention to aim AND retrieve robot	frequent driver intervention to aim OR retrieve robot	robot moves/acts as intended repeatedly w/ occasional driver intervention	robot moves/acts as intended every time with no driver intervention
	D				
Strategy & Innovation	Design Process	Developed and explained improvement cycles where alternatives were considered and narrowed, selections tested, designs improved (applies to programming as well as mechanical design)			
	N	organization AND explanation need improvement	organization OR explanation need improvement	systematic and well-explained	systematic, well-explained and well-documented
	D				
	Mission Strategy	Clearly defined and described the team's game strategy			
	N	no clear goals AND no clear strategy	no clear goals OR no clear strategy	clear strategy to accomplish well-defined goals	clear strategy to accomplish most/all game missions
D					
Innovation	Innovation	Team identifies their sources of inspiration and creates new, unique, or unexpected feature(s) (e.g. designs, programs, strategies or applications) that are beneficial in performing the specified tasks			
	N	No original feature(s)	original feature(s) with some added value or potential	original feature(s) with the potential to add significant value	original feature(s) that add significant value
D					

Comments

Great Job...

Think about...

*Some programming
Code.*



Innovation Project

Team Number Penjins
 Judging Room 8A

Mathew

Cheer Cargo

For each skill area, clearly **mark the box that best describes the team's accomplishments**. Teams should demonstrate everything at the level; if they are missing part, mark the level below. If the team does not demonstrate an area, put an 'X' in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve. Use the back for additional comments if needed.

*Required for Award Consideration

		Beginning	Developing	Accomplished	Exemplary
Research	Problem Identification *	Clear definition of the problem being studied			
	ND	unclear; few details	partially clear; details missing	<u>mostly clear; detailed</u>	clear; very detailed
	Sources of Information	Quality and variety of data/evidence and sources cited			
	ND	minimal quality; variety limited	<u>quality OR variety need improvement; did not include professional(s)</u>	sufficient quality and variety; included professional(s)	extensive quality and variety; included multiple professionals
Research	Problem Analysis	Depth to which the problem was studied and analyzed by the team, including extent of analysis of existing solutions			
	ND	minimal study; no analysis	minimal study; some analysis	<u>sufficient study and analysis</u>	extensive study and analysis
Innovative Solution	Team Solution*	Clear explanation of the proposed solution and description of how it solves the problem			
	ND	<u>difficult to understand</u>	some parts confusing	understandable	easy to understand by all
	Innovation	Degree to which the team's solution makes life better by improving existing options, developing a new application of existing ideas, or solving the problem in a completely new way			
	ND	existing solution/application	<u>solution/application contains some original element(s)</u>	original solution/application; potential added value	original solution/application; demonstrated added value
Innovative Solution	Solution Development	Systematic process used to select, develop, evaluate, test, and improve the solution (Implementation could include cost, ease of manufacturing, etc.)			
	ND	process AND explanation need improvement	<u>process OR explanation need improvement</u>	systematic process included evaluation	systematic process included evaluation; implementation considered
Presentation	Sharing*	Degree to which the team shared their Project before the tournament with others who might benefit from the team's efforts			
	ND	shared with family / friends	shared outside family / friends (such as classmates)	shared with one audience who may benefit OR one professional	shared with multiple audiences who may benefit OR multiple professionals
	Creativity	Imagination used to develop and deliver the presentation			
	ND	minimally engaging OR unimaginative	<u>engaging OR imaginative</u>	engaging AND imaginative	very engaging AND exceptionally imaginative
Presentation	Presentation Effectiveness	Message delivery and organization of the presentation			
	ND	unclear OR disorganized	partially clear; minimal organization	<u>mostly clear; mostly organized</u>	clear AND well organized

Comments

Great Job....

- detailed statistics about problem
- nice work, heard from everyone
- really good problem

Think about...

- reference sources!
- not reading slides during presentation
- clarifying solution a little more - show solution
- help us understand impact

Directions: For each skill area, clearly mark the box that best describes the team's accomplishments. Teams should demonstrate everything at the level; if they are missing part, mark the level below. If the team does not demonstrate an area, put an 'X' in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve. *When you have completed the evaluation, please circle the team's areas of strength.*

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	Problem Analysis	Depth to which the problem was studied and analyzed by the team, including extent of analysis of existing solutions			
N D	minimal study; no analysis	minimal study; some analysis	sufficient study and analysis	extensive study and analysis	
Comments	PRESENTED PROBLEM BUT NEED TO PRESENT CURRENT IMPACT OF PROBLEM				
Innovative Solution	Team Solution *	Clear explanation of the proposed solution and description of how it solves the problem			
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Comments	NOT SURE WHAT WAS SOLUTION / RECOMMENDATION. - NEED FEEDBACK ON IMPACT OF PROBLEM + SOLUTION - UNCLEAR ON HOW THE WATER TOWER WAS PART OF THE SOLUTION, - USE OF GRAPHS TOO SMALL + NEED TO BE EXPLAINED.				
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Comments	NEED TO EXPLAIN SLIDE, NOT READ SLIDE. - COST SAVINGS NEED TO BE DEVELOPED				

Strengths:

Research

Innovative Solution

Presentation

*Required for Award Consideration



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Comments

Great Job....

- everyone spoke
- great context & detailed perspective
- great use of data / examples to describe the problem
- Good use of data visuals (charts, etc)

Think about...

- slow down when speaking / speak clearly
- everyone should answer questions
- get familiar w/ each slide & its content before presenting so not reading as much from slide

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Comments

- 1) NEED TO CLARIFY PROBLEM UP FRONT.
- 2) ENSURE ALL TEAM MEMBERS ANSWER QUESTIONS.
 Great Job.... Think about.
- 3) DEFINE SOURCE OF INFORMATION & BASIS OF RESEARCH.
- 4) GRAPHICS HARD TO READ.
- 5) FACE JUDGES.