

PJAS Engineering Rubric

Draft V2.0

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	5	4	3	2	1
Engineering Approach	<ul style="list-style-type: none"> ○ Problem scope is well-defined and serves a clear purpose ○ Proposed solution is novel ○ Project addresses all aspects of the problem ○ Shows an exceptional ability to reason from findings to suggest additional work 	<ul style="list-style-type: none"> ○ Problem scope is defined and serves a purpose ○ Proposed solution is somewhat novel ○ Project addresses most aspects of the problem ○ Can reason from findings to suggest additional work. 	<ul style="list-style-type: none"> ○ Problem scope and purpose is moderately focused ○ Proposed solution represents a new approach to an old design ○ Project addresses several key aspects of the problem ○ Can reason from findings to suggest alternative solutions 	<ul style="list-style-type: none"> ○ Problem scope and purpose has a small amount of focus ○ Proposed solution is of limited originality ○ Project address key aspects of the problem ○ Little evidence of reasoning ability 	<ul style="list-style-type: none"> ○ Problem scope is not well defined or purpose not clear ○ Proposed solution lacks originality ○ Project addresses none of the aspects of the problem ○ Not able to suggest modifications to or applications of current plan
Procedural Plan	<ul style="list-style-type: none"> ○ Design process appropriate, thorough and elegant ○ Design process well-supported by documentation ○ Construction is feasible, cost effective, and well explained 	<ul style="list-style-type: none"> ○ Design process appropriate and complete ○ Design process documented ○ Construction feasible and cost effective 	<ul style="list-style-type: none"> ○ Design process appropriate and mostly complete ○ Design process documented for most of the project ○ Construction is somewhat feasible or cost effective 	<ul style="list-style-type: none"> ○ Design process appropriate but exhibits little evidence of completion ○ Design process is poorly documented ○ Construction feasibility or cost effectiveness is questionable 	<ul style="list-style-type: none"> ○ Design process inappropriate and/or no evidence of completion ○ Design process documentation is missing ○ Construction not feasible or cost effective

Analytical Approach	<ul style="list-style-type: none"> ○ Rationale for solution clear, appropriate, and well-supported ○ Mathematical approach included, appropriate statistical analysis correctly executed and understood well enough to explain 	<ul style="list-style-type: none"> ○ Rationale for solution is clear ○ Mathematical approach included, statistical analysis correctly understood 	<ul style="list-style-type: none"> ○ Rationale for solution needs some clarification ○ Mathematical approach included, appropriate statistical analysis correctly executed but not fully understood 	<ul style="list-style-type: none"> ○ Rationale for solution needs extensive clarification ○ Mathematical approach included but severely incomplete 	<ul style="list-style-type: none"> ○ Rationale for solution lacking ○ Mathematical approach missing
Presentation	<ul style="list-style-type: none"> ○ Presentation was clear ○ Slides were well thought out and to the point ○ Presenter was knowledgeable and confident ○ Presenter rarely looked at notes ○ Presenter's answers to questions indicated an exceptional understanding of the research topic 	<ul style="list-style-type: none"> ○ Presentation was clear ○ Slides were understandable and enhanced the presentation ○ Presenter spoke clearly ○ Presenter referred to notes but didn't read notes ○ Presenter could answer questions to judges' satisfaction 	<ul style="list-style-type: none"> ○ Presentation was clear ○ Slides were understandable ○ Presenter spoke clearly ○ Presenter referred to notes but didn't read notes ○ Presenter could answer most questions to the satisfaction of the judges 	<ul style="list-style-type: none"> ○ Presenter was unsure of the research and his or her work ○ Slides were difficult to read or understand ○ Presenter read most of the presentation from notes ○ Presenter could answer some questions 	<ul style="list-style-type: none"> ○ Presenter was totally disorganized ○ Slides were missing or existed without apparent reason ○ Presenter was unable to answer questions ○ Presentation exceeded time limit or was too short to be effective
Judge's Opinion	<ul style="list-style-type: none"> ○ The project was of excellent quality in all areas ○ The project is appropriate for a student beyond the presenter's current grade level 	<ul style="list-style-type: none"> ○ The project was of proficient quality in all areas ○ The entire project is appropriate for a student at the presenter's current grade level 	<ul style="list-style-type: none"> ○ The project was of good quality in all areas ○ The entire project is appropriate for a student slightly below the presenter's current grade level 	<ul style="list-style-type: none"> ○ The project was of below average quality ○ The entire project is appropriate for a student well below the presenter's current grade level 	<ul style="list-style-type: none"> ○ The project was of poor quality ○ The project was inappropriate for this competition or category