



Sandia Engineering Design Award Rubric

How to use this rubric: Judges will evaluate the 5-page report (not including appendix/references) and assign raw scores to each category. The teams with the highest Report Score will advance to an oral presentation round. After the oral presentation, judges will assign an oral communication score to the project and the Overall Score will be calculated. The project with the highest Overall Score wins!

	Exceeds (3)	Meets (2)	Approaches (1)	Does Not Meet (0)
Demonstrate competency with the engineering design process	<ul style="list-style-type: none"> • Clear problem statement with all relevant contextual factors. • Identifies multiple approaches to solving problem. • Down-selects to a single concept and identifies reasoning. • Evaluate solution via modeling, prototyping, and/or testing. • Verification that design meets requirements. • Identifies areas of improvement. 	<ul style="list-style-type: none"> • Contains all elements but does not elucidate it clearly and logically. <p>OR</p> <ul style="list-style-type: none"> • Missing one major element but thorough discussion of other categories. 	<ul style="list-style-type: none"> • Missing a few major elements. 	<ul style="list-style-type: none"> • Missing multiple major elements and fails to elucidate completely.
Illustrate connection to or impact on a Sandia mission area and NAE grand challenge	<ul style="list-style-type: none"> • Clearly shows connection to a Sandia mission area and/or NAE grand challenge and shows design consideration efforts made towards it. • Demonstrates potential impact of project as a solution. 	<ul style="list-style-type: none"> • Shallow connection to mission area but shows strong impact. 	<ul style="list-style-type: none"> • Shallow connection to mission area or NAE grand challenges. 	<ul style="list-style-type: none"> • No mention or consideration taken for Sandia mission areas or NAE grand challenges.

Illustrate consideration for or impact on diverse communities	<p>Provides a statement that:</p> <ul style="list-style-type: none"> • Frames problem from the perspective of more than one worldview. • Describes how solution reflects multiple cultural perspectives. • Articulates how your project or team initiates and develops interactions with culturally different others. 	<p>Provides a statement that:</p> <ul style="list-style-type: none"> • Recognizes multiple worldviews. • Articulates how your project or team initiates and develops interactions with culturally different others. 	<p>Provides a statement that:</p> <ul style="list-style-type: none"> • Identifies own cultural rules and biases. • Identifies components of other cultural perspectives but responds in all situations with own worldview. 	<p>Provides a statement that:</p> <ul style="list-style-type: none"> • Provides minimal awareness for other worldviews. • Project or team does not develop interactions with culturally different others.
Demonstrate creativity and innovation	<ul style="list-style-type: none"> • Proposed solution is creative and clearly solves the problem. Sufficient description allows the reader to understand the magnitude of innovation compared to other known solutions. • Example metrics include quality, speed, cost, or complexity. 	<ul style="list-style-type: none"> • Incremental improvement • Sufficient description and analysis are provided of which indicate some innovation over known solutions. • Comparative baseline solutions and/or metrics are clear. 	<ul style="list-style-type: none"> • Alternative solutions • Different and creative methods to solve the problem are clearly shown, but do not necessarily improve upon known solutions. 	<ul style="list-style-type: none"> • Solutions presented do not appear to be creative or innovative in regard to some metric (e.g. quality, speed, cost, complexity). • Significant gaps exist which leave the reader unclear on the innovation.
Written communication	<ul style="list-style-type: none"> • Writing style is clear, logical, and concise. • Contains meaningful figures • Work is cited when appropriate. • Report is organized logically and flows. • Contains no grammatical errors. 	<ul style="list-style-type: none"> • Writing style is clear and logical. • Contains meaningful figures. • Most work is cited when appropriate. • Report is organized logically. • Contains few grammatical errors. 	<ul style="list-style-type: none"> • Writing style is generally readable. • Most work is cited when appropriate. • Some ideas are not presented in a logical order. • Report contains several grammatical errors. 	<ul style="list-style-type: none"> • Writing style is difficult to read or illogical. • Work is not cited when appropriate. • Report contains many grammatical errors.

Sandia Engineering Design Award – Oral Rubric

	Exceeds (3)	Meets (2)	Approaches (1)	Does Not Meet (0)
Collaboration	<ul style="list-style-type: none"> • Shared ownership of oral presentation. • Shared ownership of answers to questions when appropriate. 	<ul style="list-style-type: none"> • Mostly shared ownership of oral presentation. • Mostly shared ownership of answers to questions when appropriate. 	<ul style="list-style-type: none"> • Ownership of presentation is disproportionate. • Ownership of answers to questions is disproportionate. 	<ul style="list-style-type: none"> • Multiple team members do not participate in presentation or Q&A.
Questions	<ul style="list-style-type: none"> • Answers to questions are thoughtful and complete. • Answers to questions are focused and relevant. 	<ul style="list-style-type: none"> • Answers to questions are complete • Answers to questions are relevant and generally focused 	<ul style="list-style-type: none"> • Answers to questions are not complete. • Answers to questions are relevant. 	<ul style="list-style-type: none"> • Inappropriate or illogical answers to questions.
Content	<ul style="list-style-type: none"> • Presentation is focused and relevant. • Demonstrates understanding of “Big Picture”. • Use of jargon is audience appropriate. 	<ul style="list-style-type: none"> • Presentation is relevant and generally focused • Adequate understanding of “Big Picture” 	<ul style="list-style-type: none"> • Presentation is relevant. • Poor understanding of “Big Picture”. 	<ul style="list-style-type: none"> • Presentation lacks focus and relevance. • Inappropriate and/or excessive use of jargon.
Delivery	<ul style="list-style-type: none"> • Excellent eye contact, volume, pace, diction, posture. 	<ul style="list-style-type: none"> • Poor in one aspect. 	<ul style="list-style-type: none"> • Poor in some aspects. 	<ul style="list-style-type: none"> • Poor eye contact, volume, pace, diction, and posture.

Collaboration Score: _____

Questions Score: _____

Content Score: _____

Deliver Score: _____

Oral Score (average): _____

Section	Raw score	Weighting factor	Total = Raw score x weight
Demonstrate competency with the engineering design process		4	
Illustrate connection to/impact on a Sandia mission area and NAE grand challenge		1	
Illustrate consideration for or impact on diverse communities		2	
Demonstrate creativity and innovation		3	
Written communication		2	
Oral communication (for finalists)		4	

Report Score (total first 5 categories): _____

Overall Score (total all categories): _____

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